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Armed Force in the Teispid-Achaemenid Empire

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Acknowledgements

As I write these words, I flip through a copy of an article which arrived by interlibrary loan more than a decade ago on the other side of the world. Any academic project depends on a network of systems and helpers, only a few of which can be recognized in an acknowledgements section or footnotes. I will list a few here and give some idea of what they have done without claiming to name everyone who helped or acknowledge every way in which they contributed.

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This dissertation was written a twelve-hour flight away from my private library. Any scholar who has travelled will know the limited power of notes and borrowed books to replace the physical and tactile knowledge of one's own eclectic collection. I apologize for any failures to document the ultimate origins of my ideas, which are shaped by many years of reading, much of it outside the traditional boundaries of ancient history and ancient near eastern studies.

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Bibliographic Abbreviations and Editions

This field draws on work in historical linguistics, classics, and Assyriology, each of which have their own conventions.

Ancient sources are abbreviated in the styles of the *Oxford Classical Dictionary* and the *Reallexikon der Assyriologie*. I have avoided abbreviating journal titles because what is clear in one field in one decade can be confusing in a neighbouring field a generation later. A few encyclopaedias and dictionaries (the *Encyclopaedia Iranica*, EncIr., the *Cambridge History of Iran*, CHI, and *Chicago Assyrian Dictionary*, CAD) are abbreviated using the style of the *Reallexicon der Assyriologie* (RlA).

Classical literary sources are cited through convenient editions and translations, often the Loeb Classical Library. My first encounters with Herodotus were through Waterfield 1998. The sources for quotations, if not my own translation, are indicated in the footnotes. In my view, the kinds of arguments which I am making are not ones where slight differences in the text are likely to be crucial: or from another point of view, I am not convinced that most previous researchers carefully examined the *apparatus criticus* of a good edition before citing Herodotus as 'proof' of a Persian military practice. Careful text-critical work might reveal new things, such as Brian Bosworth's discovery that a type of Maccedonian infantry called ἀσθέταιροι had been removed from the text of Arrian by overzealous editors (Bosworth 1973, for later research see Anson 2010), but this dissertation is a work of ancient history more than philology.

For the *Hellenica Oxyrhynchia*, I used the parallel-text edition in Behrwald 2005.

Most work on the Achaemenid royal inscriptions focused on the Old Persian version, despite the fact that it is by no means clear that this was in any way 'official' or the 'original language' and that very few Old Persian texts other than the royal inscriptions survive. I am most familiar with the Akkadian text of DB published in von Voigtlander 1978, and the text of DNb in Hintz 1969.

Cuneiform tablets are published in three stages: a sketch or transcription, a transliteration into Latin letters, and a translation. Texts published before 1980 are usually cited by the *editio princeps* which often contains only a sketch, but more complete editions are usually available (often unprinted, but sometimes available on the Internet or by email). Rylke Borger's *Handbuch der Keilschriftliteratur* covers editions and comments up to 1975 but nobody has continued his work.

Neo-Assyrian documents and letters are published in transliteration and English translation in the series *State Archives of Assyria* (SAA) while royal inscriptions appear in other, incomplete series with their own acronyms.

Akkadian texts in J.N. Strassmaier's series Nbk. (Nebuchadnezzar), Nab. (Nabonidus), Cyr. (Cyrus), Camb. (Cambyses), and Dar. (Darius I) are often available in transliteration and French translation on the achemenet website under Sources Textuelles (http://www.achemenet.com/fr/tree/?/sources-textuelles), although finding them can be difficult. Most texts from the Murašû archive from Nippur are transliterated and translated in Stolper 1985. Moore 1935 has transliterations and English translations of TCL 12 and TCL 13. A variety of letters

appear in transliteration and German translation in Hackl et al. 2014. A handful of letters from the Long Sixth Century are translated into English in Oppenheim 1967.

Most Aramaic texts cited in this thesis are published and translated in either the *Textbook of Aramaic Documents from Ancient Egypt* (TADAE) or in Naveh and Shaked 2012 (ADAB).

A variety of sources are translated in Kuhrt 2007 which has an *index locorum* and cites other editions of and comments on the same texts.

ORACC, the Open Richly Annotated Cuneiform Corpus, part of the Cuneiform Digital Library Initiative, is a convenient source of photos of tablets or sketches from early editions http://oracc.museum.upenn.edu/ Tablets are occasionally cited by their number in ORACC in addition to their accession number or the *editio princeps*. Similarly, a variety of Sumerian literary texts are available in the Electronic Text Corpus of Sumerian Literature (ETCSL) http://etcsl.orinst.ox.ac.uk/ and links to this edition are often included.

Philological Abbreviations and Transliteration Conventions

Table 1: Abbreviations (Language Names)

Aram. Aramaic	Lat. Latin
Akk. Akkadian	LBab. Late Babylonian
El. Elamite	Med. Median
Gr. Greek	OP Old Persian
Hbr. Hebrew	Sum. Sumerian

Specialists in the ancient near East use a variety of conventions to represent the spelling (orthography) and pronunciation (phonetics) of ancient languages. The details vary from scholar and scholar and field to field and are not always defined. The following is a guide to the conventions used in this thesis and the most common alternatives. It is meant to help readers pronounce all the ancient words in the thesis, and to name the accented or non-standard characters used to transcribe ancient languages in the Latin alphabet, not to be a precise guide to the phonetics of any ancient languages (but see the further reading).

Table 2: Notation from Historical Linguistics

> “becomes”	* non-standard form
< “comes from”	<> orthographic form
+ reconstructed form	[] phonetic form

Examples: Latin *vinum* > French *vin*; Aramaic *hkl* < Sumerian *e2-gal*; Proto-Indo-European *+k^{w}ek^{w}lo* “wheel”; English **dunno* “do not know”; Babylonian <{m}Da-ri-ia-muš>; Babylonian [Darijawuš]

Note that some writers use * before both reconstructed forms and non-standard forms.

Philologists worry about distinguishing words written according to their native orthography and words written as phoneticists see them. Specialists in ancient languages have their own conventions. Words in languages whose native writing system was an alphabet (Latin, Greek) are usually transcribed in that alphabet. Words whose native writing system is an abjad are transcribed into the Latin alphabet as a sequence of consonants. Their reconstructed forms can be identified by the addition of vowels and the replacement of some of the consonantal signs with the vowels which they stand for. Words whose native writing system is cuneiform (Sumerian, Akkadian, Old Persian) are written orthographically as a sequence of phonograms and logograms joined by dashes. Their phonetic equivalents can be identified by the absence of dashes, the indication of vowel length with diacritical marks, and sometimes the differentiation of [j] (pronounced as in Latin or German) and [i].

Foreign words and phrases embedded in English sentences are written in italics. Translations of words or short phrases are written in quotation marks.

Table 3: Special Characters Used for Transcribing Ancient Languages

Transcription	Name	Approximate Pronunciation	IPA
ʾ	Aleph (Hbr.) n/a	Very brief constriction of the throat as between the syllables of *uh uh*	ʔ
ʿ	Ayin (Hbr.) n/a	No English equivalent	ʕ
ç	n/a C with cedilla	Possibly <s> as in English *sap*	n/a
ĝ	n/a G with circumflex	<ng>as in English *running*	ŋ
ḫ	n/a H with breve below	Classical Greek *chi*, <ch> as in Scots *loch*, German *ich*	x
ḥ	Chet (Hbr.) H with underdot	A breathy <h> sound	ħ
q	Qoph (Hbr.) Q	A strong <k> sound	kˤ
r̥	n/a R with ring below	Possibly <uhr> or <ahr> (OP R̥taxšaçā- = Lat. Artaxerxes)	ər
ṣ	Tsade (Hbr.) S with underdot	<ts> as in English *bits*	ts
š	Shin (Hbr.) S with caron	<sh>as in English *fish*	ʃ
ś	Sin (Hbr.) S with acute accent	A strong <s> sound	s
ṭ	Tet (Hbr.) T with Underdot	A strong <t> sound	tˤ
θ	n/a Theta (Gr.)	<th> as in English *thing*	θ
x	n/a X	In Old Persian, <ch> as in German *auch* (not [ks] as in English *hex*)	x

This is a rough guide to how these characters are usually pronounced, named, and typed. Specialists in the phonology of a particular language are likely to interpret some characters differently (eg. there are questions whether š was aspirated in Neo-Assyrian, and hints that word-medial <m> was pronounced <w> in Late Babylonian). A chart of the International Phonetic Alphabet with recordings of pronunciations is available at http://www.internationalphoneticalphabet.org/ipa-sounds/ipa-chart-with-sounds/

Conventions for Transcribing Cuneiform

My transcriptions of cuneiform follow the conventions of the Oracc Akkadian Stylesheet http://oracc.museum.upenn.edu/doc/help/languages/akkadian/akkadianstylesheet/index.html These include the use of numbers after a syllable to indicate which sign with that pronunciation is meant,

the transliteration of logograms in capital letters and of phonograms in lowercase letters, and the writing of determinatives in {curly brackets}. Note that some writers transcribe characters read phonetically in italics, characters read as logograms in plain font, and determinatives in superscript and use *accent aigut* á and *accent grave* à to indicate the second and third most common signs with a given pronunciation. This is not very accessible for readers with poor eyesight, and it is hard to proofread.

Long vowels in Akkadian words are marked with macron <ā> or with circumflex <â> depending on their etymology.

Sumero-Akkadian cuneiform, like the scripts of Classical Latin and many Semitic languages, does not distinguish between [j] and [i].

Note that aleph is sometimes written with an apostrophe ' or a half-ring ʾ. Transcriptions of Akkadian sometimes write <ḫ> as <h> because Akkadian lacks a soft <h>.

Note that some writers transcribe Aramaic in the Hebrew square script. Adding another writing system to a thesis written for historians rather than philologists did not seem like it would be helpful.

Further Reading

Phonetics and transcription of Aramaic: Takamitsu Muraoka and Bezalel Porten, *A Grammar of Egyptian Aramaic* (Leiden: Brill, 1998) Part I {no IPA equivalents provided}

Phonetics and transcription of Sumerian: Abraham Hendrik Jagersma, *A Descriptive Grammar of Sumerian* (PhD Dissertation, Leiden University, 2010) § 3 Phonology

Phonetics and transcription of Akkadian: Wolfram Von Soden, *Grundriss der Akkadischen Grammatik* {The classic grammar but not by a phoneticist}, Erika Reiner, *A Lingistic Analysis of Akkadian* {brief comments using slightly different names than Anglophone linguists use today}, Robert Hetzron (ed.), *The Semitic Languages* {Prints the letters from transcriptions in the order of an IPA chart}

Phonetics of Old Persian: Rüdiger Schmitt, “Altpersisch“ in Rüdiger Schmitt (ed.), *Compendium Linguarum Iranicarum* (Dr. Ludwig Reichert Verlag: Wiesbaden, 1989) §2.2.5 pp. 66-70, Otto Skjaervo, *An Introduction to Old Persian.* Second version (unpublished PDF file, 2002)

Linguistic jargon and notation: Lyle Campbell, *Historical Linguistics: An Introduction.* Third Edition. Edinburgh University Press: Edinburgh, 2013.

Most textbooks of Latin or Classical Greek describe the reconstructed phonology of those languages.

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Chapter 1: A History of Research

1.1 Introduction

Achaemenid military history has often been studied, but rarely for its own sake. Whereas Greek military history and Roman army studies have developed into their own fields since the 19th century, Achaemenid military history has usually been studied as part of research into Greek history, Iranian philology, or Babylonian economic history. This has several unfortunate effects. One is that work by scholars from different disciplines which touch on the Achaemenid army has not always been integrated. Whereas students of the Roman army are expected to combine art, documents, literature, experiment, comparative evidence, and material remains in making an argument, work on the Achaemenid army tends to focus on a single kind of evidence. Another is that there has been little reflection in writing about the general direction of research and the various methods and assumptions which are used. To my knowledge, the only published overviews of research on the Achaemenid army, as distinct from overviews of the results of that research, are chapter II.C of Stefan Bittner's PhD thesis and some short research notes in Pierre Briant's writing.[1] When a number of people work on similar problems, criticizing each other's work and suggesting their own favourite methods, research tends to progress. When such a scholarly community is absent, this does not always happen.

This chapter considers some of the most influential studies of the Achaemenid army published since the end of the nineteenth century. It does not claim to be comprehensive: for example, work on the wars in Ionia around 400 BCE and on the Macedonian conquest and succession struggles is neglected in favour of works on Xerxes' invasion of Greece. For the purpose of identifying themes and trends, studies of any one of these wars would be sufficient, but Herodotus' description of the Persian army has encouraged modern scholars to include their own description. The introductions to later chapters will discuss sources and scholarship for specific points in more detail. What this chapter does claim to be is an overview of how previous scholars have approached the Persian army, and what methods and assumptions they have used.

1.2 Early Classical Scholarship: Delbrück, Meyer, and the Specialists.

Hans Delbrück's comparison of Herodotus on the vast Persian army to Swiss chroniclers on the vast Burgundian army has become part of the folklore of ancient military history.[2] He pointed out that Swiss chroniclers said that they had been outnumbered by the terrible Burgundian army, while

1 Bittner, *Tracht und Bewaffnung*, 73-83 and Briant, *Cyrus to Alexander*, 961 (*ad capitulum* 13/5 on Xerxes), 979, 980 (*ad capitulum* 14/7 on Darius II), 986-989 (*ad capitulum* 15/2 on Artaxerxes and Cyrus), 1034-1038 (*ad capitulum* 17/3 on Darius III); remarks on military affairs are scattered throughout Briant, *BHAch I* and *BHAch II*. There are some general comments by an outsider on the revolution of Achaemenid studies in the 1980s and 1990s in McCaskie 2012.

2 Hans Delbrück, *Die Perserkriege und die Burgunderkriege: Zwei kombinierte kriegsgeschichtliche Studien* (Berlin, 1887)

documents implied that Swiss armies were larger than Burgundian ones. If the Swiss could distort the facts, then so could the Greeks. If documents on the size of the armies were not available, he suggested that a historian should consider the nature of the two armies, whether they were near to or far from home, and other practical factors to determine the likely size of each. While his specific points are not often accepted, later writers have accepted that Herodotus' figures for army size are doubtful, and most have estimated that the Persian army was much smaller than Herodotus claims. Delbrück had great influence on later researchers into military history, introducing methods such as population estimates and practical criticism (*Sachkritik*). Unfortunately I am not familiar with any systematic study of his influence on modern writing about ancient warfare.[3]

Delbrück chose to begin his *Geschichte der Kriegskunst* with the Persian Wars. In his preface he explained that while there were much earlier sources from Egypt and the neighbouring peoples, nevertheless these were not quite sufficient for a complete picture, and that while the stories about the Persian Wars preserved by Greek writers contained some legends, it was nevertheless possible to reconstruct the outline of events.[4] According to the fashion of his time, Delbrück understood the art of war as something which was exemplified by great land battles in the open. He also assumed that he should tell a story which began with the Greeks, progressed through the Romans and Charlemagne and the medieval kingdoms, and culminate with war in Europe in his own day. Starting with the fifth century BCE was a reasonable choice when Delbrück wrote, since the study of ancient Near Eastern texts, art, and archaeology were at an early stage. Yet this choice cut the Achaemenids off from earlier Near Eastern history, and Delbrück was not very interested in their possible influence on later armies.

Delbrück's vision of the Achaemenid army in the early fifth century BCE accepted the Greek tradition that Persian and Greek soldiers were equipped very differently, added the idea that Persian and Greek soldiers were arranged in combat very differently, and rejected the Greek tradition that Persian armies were tremendously large. For the first he appealed to Aeschylus' topos of "the battle of spear against bow" and Herodotus' descriptions of Persian soldiers and emphasis that the Persians had cavalry and archers while the Greeks had few or none. He believed that these different armaments suggested very different deployments on the battlefield, because spearmen are most effective in a deep, continuous line, while archers are naturally inclined to spread out and cannot shoot effectively when they are stationed in deep formations. He rejects the Greek tradition that the Persians recruited soldiers from their "unkriegerische" subject peoples such as the Egyptians, Mesopotamians, and Anatolians. Instead, he imagines the Persian army as composed of Iranian peoples who followed the teachings of Zarathrustra, and emphasizes that much of Iran was desert or wasteland which could not support a large population. Garrisons of Iranians were stationed about the empire and supported by tribute and tax-in-kind. He also compares the Persian army to the Muslim armies which conquered much of the Roman and Sasanid empires, and suggests that both were "quality armies" recruited from nomads, and compares the Persians to the small number of Frankish warriors and German knights who dominated much of the former Roman empire in the

3 Keegan1976: 53, 55 has some casual but worthwhile remarks on Delbrück's influence on British and American writing about war. I am told that Konijnendijk 2017 talks about the influence of 19th century German works in general.

4 Hans Delbrück, *Geschichte der Kriegskunst* 3rd ed. (Berlin: Walter de Gruzter, 1964) I, 1-2

early middle ages. In his view, the Persian army was a professional or knightly army, and such armies are always small relative to the population from which they come. In contrast, he saw Greek armies as militias and suggested that militia armies are large relative to the community to which they belong.

Delbrück's next detailed comments on the Persian army appear in his discussion of Alexander's war with Darius III. He repeats that the sizes of Persian armies in the Greek sources are arbitrary, but sometimes speculates about the relative size of different armies based on geography, his knowledge of the Persian army, and the narratives in the Greek sources. He characterizes Darius' army as comprised of hoplites, bowmen, and horsemen and very similar to Alexander's, except that the ratios between the different types of soldiers may have been different.[5] He is impressed by the tradition that Darius equipped his army at Gaugamela with new weapons, but thinks that the Persian soldiers did not have time to learn to use their new weapons effectively; in his view only Greeks and Macedonians could form a proper phalanx. Although he considered Arrian his best source, he did not accept Arrian's picture of Darius as a cowardly and incompetent leader. With Alexander's victory at Gaugamela, the Persians vanish from Delbrück's book except for a few comments in his chapter on the Parthians.[6]

Despite his best efforts, Delbrück's treatment of the Persian army was strongly shaped by his Greek and Latin sources. He concentrated on the aspects of the Persian army which they emphasized, ignored earlier armies in the same region, and ended his story with Darius III. On the other hand, his emphasis on comparative evidence, especially the practical difficulties of gathering hundreds of thousands of soldiers in one place, was a promising approach. While Delbrück emphasized the difference between Greek and Persian armies, he also mentioned similarities and compared Persian armies to European ones. In principle, scholars could have further developed his approach, using evidence on other armies and Southwest Asian documents as they became available.

While Delbrück sought to reinterpret Persian history in light of later evidence, Eduard Meyer was trying to put Greek and Roman history into the long context which excavations in the Near East were revealing. His great *Geschichte des Altertums* sought to bring together Greek, Mesopotamian, Iranian, Jewish, and Egyptian sources to tell the story of the ancient world up to the fourth century BCE. His study of the Achaemenid empire includes eleven pages on the army.

Meyer's interests were broader than Delbrück's, and his discussion of the army reflects this. Where Delbrück is impressionistic, Meyer comments on many different areas and tries to reconcile his sources. Meyer discusses recruitment, the involvement of different peoples, musters, parades, pay and provisions, the appointment of leaders, the relationship between satraps and generals, weaponry and the relative importance of spear and bow, the role of nations such as the Lydians and Assyrians who fought as hoplites, cavalry in battle, the size and deployment of armies, and other forces such as scythed chariots, camel riders, ships, and marines. Perhaps his boldest speculation is that the four contingents in Artaxerxes' army in 401 BCE corresponded to four military districts,

5 Delbrück, *Geschichte* I, 179
6 Delbrück, *Geschichte* I, 475 ff.

which with the addition of Egypt and Anatolia might relate to the six generals in Xerxes' army.[7] He imagines that the Persian archers would barrage the enemy with arrows and then the cavalry would charge them, an idea which has been widely repeated despite a shortage of evidence.[8] He accepts the Greek tradition that Persian armies were too large to fight effectively while rejecting the specific numbers in Greek sources.[9] He is not interested in the organization of Persian units, ignoring the documentary evidence from Elephantine and Herodotus' and Xenophon's statements about decimal organization and remarking that "die Trennung der Reiter, Bogenschützen und Lanzenkämpfer in besondere Abteilungen wird bereits auf Kyaxares zurückgeführt (Herod. I 103); zu einer weiteren organischen Gliederung aber ist man nicht gelangt."[10] Despite his knowledge of many ancient languages and monuments, the only sources which he cites are Greek and Latin literature and the Behistun inscription. He mentions the Elephantine papyri in a footnote. J.N. Strassmaier had already published a few tablets dealing with military matters in his *Inschriften von {Name}, König von Babylon* series in the 1890s, and a tablet dealing with the equipment of a cavalryman was first published a few years before Meyer's death in 1930.[11]

Meyer also described particular military operations as part of his general narrative. He does not devote many words to narrating Cyrus' war with Lydia or Cambyses' conquest of Egypt, although he does ponder how a king from the hills like Cyrus could conquer such a great kingdom as Lydia. His description of Marathon, Thermopylae, Plataea, and Mycale follows Herodotus without many general remarks beyond his dismissal of the Greek tradition about vast Persian armies. His account of the revolt of Cyrus the Younger and the Battle of Cunaxa is lengthy but also keeps close to the Greek sources.[12] Why did Cyrus think that his revolt could succeed? "Die militärische Überlegenheit der Griechen über die asiatischen Truppen hatte Kyros mit eigenen Augen kennengelernt; mit Recht war er überzeugt, daß ein hinlänglich starkes griechisches Söldnerkorps auch die stärkste Armee besiegen werde, die sein Bruder aufbringen könne." Why did Tissaphernes let the Greeks escape into Armenia? "Tissaphernes war zu schwach und zu mutlos, um einen entscheidenden Kampf zu wagen." Although Meyer ends his project in the middle of the fourth century BCE, it is likely that his account of Alexander's wars would have also summarized the Greek sources and their interpretations.

Meyer's approach to the Achaemenid army as an institution was promising, and his study was thorough and fair-minded. Yet his account was almost entirely written on the basis of Greek and Latin literature. Despite his encyclopaedic knowledge of the ancient Near East, he does not try to connect or compare the Achaemenid army to earlier armies in the same region. Given the state of the evidence and the shortage of secondary literature in his day, this would have been a formidable task, but it is to be regretted that he did not attempt it. Not all of his generalizations and conclusions are convincing. Meyer's study provided a base from which other scholars could build.

7 Meyer, *Geschichte des Altertums*, 4.1.I, p. 70
8 Meyer, *Geschichte des Altertums*, 4.1.I, p. 71, 73
9 Meyer, *Geschichte des Altertums*, 4.1.I,, p. 353
10 Meyer, *Geschichte des Altertums*, 4.1.I, 72-73
11 For the other text, see Lutz 1928
12 Meyer, Geschichte des Altertums, 5.4.IV pp. 171-179

In addition to these broad studies, many articles on specific questions were published at the beginning of the twentieth century. Many of these studies, such as Whatley on methodologies for reconstructing ancient battles, Kromayer and Veith with their studies of battlefields, W.W. Howe on arms and tactics in Xerxes' invasion, and Maurice on the water supply in the Hellespont, are still useful for understanding the Persian army. Most of these studies were conceived as part of Greek history, and they were often successful exegesis of their chosen authors. Yet they rarely used other kinds of ancient evidence, and tended to assume that their task was either to describe Greek history or to place it in context with more recent events. Several believed that events in recent wars and the professional knowledge of soldiers would help clarify the ancient sources, as when Whatley reminded his readers how difficult it had been to understand what was happening during the First World War or Maurice used his training in logistics to decide what size of army the water and roads in the Hellespont would support.[13]

By the early 20th century, many studies on the Achaemenid army as presented in Greek literature had been published. Most were written by classicists and historians who were most comfortable with Greek and Latin literary evidence. The natural next step would have been to build on these studies, combining them with other kinds of evidence and acknowledging the purposes and perspectives of the main Greek sources. Unfortunately, in the next hundred years few scholars took this step.

1.3 Broad Works 1962-1983: Hignett, Burn, Green, Rahe, and Cook

Between 1962 and 1970, three ancient historians wrote very influential books in English on Xerxes' invasion of Greece. These books serve as a good example of the knowledge of the early Achaemenid army amongst specialists in ancient Greek history. Each book reflects decades of thought about Greek history and Greek writers. These books both represent the views of classicists and have influenced them, since most people interested in Greek history read about Xerxes' invasion early in their education.

Hignett's book *Xerxes' Invasion of Greece* was based upon 45 years of teaching the Persian Wars at Oxford.[14] In his view, his basic methodology was fixed when he encountered the ideas of Whatley in 1919 and Kromayer in 1924, although his opinion on points of detail did change over time. Hignett strongly insists that comments on the Persian Wars based on ancient writers later than the fifth century BCE should be ignored, so his account is based upon Herodotus and ends where Herodotus' account does.[15] His select bibliography is equally focused on the Greeks. He does cite A.T. Olmstead`s book on the Achaemenid empire, but his short bibliography of about 100 items contains no other works by orientalists. His knowledge of Southwest Asian sources seems to come through modern writers such as Olmstead, How, and Wells.

A.R. Burn's book appeared slightly before Hignett's, but does not claim such an age for its ideas. Burn begins with the eighth century BCE and the Neo-Assyrians, reminding readers what a

13 Whatley, "Possibility of Reconstructing Marathon," 121
14 Hignett, *Xerxes' Invasion of Greece*, preface
15 Hignett, *Xerxes' Invasion of Greece*, v, vi, 25

formidable army and organized empire they already had.[16] He is more willing than Hignett to credit sources other than Aeschylus and Herodotus, whom he describes as a great storyteller and reporter with primitive, personal ideas of causation, and quick to compare modern and ancient Greeks.[17] He also quotes many texts from Southwest Asia. Unfortunately his remarks on the army are brief and focused on criticizing Herodotus' numbers and relating the "satrapy list" and "catalogue of nations."[18] He believes that all of Herodotus' nations participated, but that the worse-armed ones may have been brought in token numbers to plunder and burn.[19] Burn is careful to put the Achaemenids in context with Southwest Asia in the first millennium BCE, and even imagines what the battles between Cyrus and Croesus might have been like. He makes it clear that armies in ancient Southwest Asia were no lightly-armed mobs of "unkriegerisch" peasants. Yet his treatment of the Persian army does not go beyond a fair reading of Herodotus supplemented with later parallels, technical knowledge about logistics and camping, and experience with the unreliability of figures for the size of enemy armies. After sternly resisting the temptation to retell the myths of the Persian wars in the main part of his book, Burn ends his book with a meditation on what would have happened if the Persians had won, where he describes the later Achaemenid empire as economically depressed, ruled by a decadent aristocracy, and reliant on Greek mercenaries to replace the native infantry who had lost the wealth or moral qualities to be good soldiers.[20] This picture obviously owes a great deal to the moralistic literature of the fourth century BCE, and has been the subject of heavy criticism since the 1980s.

Green's book was aimed at a large audience, with enough research behind it to give it some scholarly weight. It is lightly referenced, confident, and full of modern parallels. Green insists that Xerxes' invasion threatened to end political and intellectual liberty, not just in classical Greece but everywhere and for all time, and that defeat in Greece "rocked the empire of Darius and Xerxes to its very foundation."[21] Since he ends his history shortly after the battles of Plataea and Mycale, the reader is deprived of the chance to see Green justify this last statement. Like the other authors in this section, Green relies on Herodotus, although he is willing to use details from later sources which Hignett rejects. Amongst modern scholars he relies overwhelmingly upon specialists in Greek or military history. His original bibliography of about 200 entries has only half a dozen by specialists in Mesopotamia or Iran or scholars who try to ask questions from a Persian perspective rather than a Greek.[22] His book contains no systematic discussion of the Persian army, and his comments on it paraphrase Herodotus except in the matter of numbers.

16 Burn, *Persia and the Greeks*, 24-25.

17 Attitude to sources: Burn, *Persia and the Greeks*, 1-17. Assessment of Herodotus: Burn, *Persia and the Greeks*, 130 (but is Herodotus' idea that joining Europe and Asia went against the order of things and that great things always shrink and decline any more primitive than the modern idea that Greece was a bit too far from the centre of the empire to hold and that no empire lasts forever?) , 193. Greeks ancient and modern: Burns, *Persia and the Greeks*, 132, 426, 552

18 Comments on the army: Burn, *Persia and the Greeks*, 40 (reconstructed battle between Persians and Lydians), 84-86 (invasion of Egypt), 120-122 (satrapy list and catalogue of nations), 250 (Marathon), 322-332 (Xerxes' army), 411 (Thermopylae), 519 (Plataea). 548 (Mycale).

19 Burn, *Persia and the Greeks*, 326

20 Burns, *Persia and the Greeks*, 565-567

21 Xerxes' threat to freedom: Green, *Greco-Persian Wars*, 4-5; quote, Green, *Greco-Persian Wars*, 10

22 Eleven pages of bibliography at 18 entries per page gives about 198 entries.

Green's vocabulary reflects two inconsistent models of the Persian army. Sometimes he carefully chooses words with Persian connotations, rendering Greek *akinakes* as "scimitar." Having seen the reliefs at Persepolis, he surely knew that an *akinakes* is short, straight, and two-edged while a scimitar is long, curved, and single-edged, but chose to suggest that ancient and modern Persians are more or less the same. Other times he picks words from modern military jargon, such as "commando," "to infiltrate" (in the sense "to send soldiers forward quietly in many small groups") and "pioneer corps" (soldiers who clear a path for the army to march over). This implies that the Persian army was something like a 20th century European army, and occasional words like "commissar" suggest that he has a particular army in mind.[23] While each of these strategies is powerful, they work against each other, for it is difficult to see how Xerxes' men could at the same time be medieval Persians and the Red Army.

These three books differ in methodology and interpretation, but their approach to the Persian army is similar. They rely on Herodotus, supplemented with contemporary art, later Greek or Latin writers, and commentaries to Herodotus. If they use other kinds of evidence for the army, it is only to supplement the father of history. While Burn was scrupulous about reading the most important sources from outside the Greek world himself and finding experts in other fields for advice, neither Green nor Hignett made much use of scholarship on Egypt and Southwest Asia, let alone of sources from those areas.

In 1980 Paul Rahe published an article which has been widely cited since.[24] Rahe proposed that at the end of the fifth century BCE, the Persians lacked good heavy infantry but had plenty of cavalry and light-armed troops. Western governors began to combine their own troops with Greek hoplites and acquired military power out of proportion to their wealth. Furthermore, soldier land in Babylonia had become partitioned and divided, so that the occupiers could not afford the time and equipment to practice military skills. Cyrus the Younger therefore realized that if he rushed into Babylonia with "a Greek hoplite army" and "a corps of barbarian cavalry" he might force his brother to fight with poorly trained local soldiers, or at least seize control of Babylonia and raise a larger army there. Cyrus failed, but Spartans and Macedonians later combined cavalry and hoplites and imitated his march inland.

Rahe's thesis is not built on the strongest evidence. His Greek literary sources naturally emphasize the deeds and prowess of Greek soldiers, and Persian infantry at the end of the fifth century BCE usually stood up to Greek hoplites. It is not clear that the troubles of the debtors of the Murašû meant that all the soldiers in Babylonia were poorly armed and trained: as we will see in chapter 4, bow estates were only one source of soldiers. Cyrus had only three thousand cavalry against 13,000 Greeks and a similarly-sized force of infantry from Anatolia, and he told his governors to hire "Peloponnesian men" not "Peloponnesian hoplites."[25] Yet because of the scarcity of other broad theories, because he used cuneiform sources for support, and because the theory

23 King's Eye as commissar: Green 1996: 8

24 Rahe 1980

25 Xen. An. 1.1.6 ὁπόσας εἶχε φυλακὰς ἐν ταῖς πόλεσι παρήγγειλε τοῖς φρουράρχοις ἑκάστοις λαμβάνειν ἄνδρας Πελοποννησίους ὅτι πλείστους καὶ βελτίστους, ὡς ἐπιβουλεύοντος Τισσαφέρνους ταῖς πόλεσι. On the size of Cyrus' army see Manning, *Service and Supply*, 118-130 with reference to earlier literature and methodological problems.

seemed reasonable to readers raised on the Greek sources, Rahe's article has been often cited with approval. Sekunda specifically cites it as an example of recent research at the beginning of his book, Briant refers readers to it with some warnings about details, and other writers often refer readers to it as a source of facts.[26] The strongest criticism is by Philip Sabin, who remarks that as Cyrus' cavalry were few and outmatched, Rahe's idea that Cyrus combined powerful infantry and effective cavalry is "perhaps a little premature."[27]

In 1983, most writing on the Achaemenid army by classicists and military historians was centred on Greek and Latin literary sources and the events, processes, and institutions which they highlighted. Much was by writers who were not mainly interested in the Achaemenid empire or ancient warfare, but who touched on the subject because of their interest in classical Greece. Broad statements about the Achaemenid army were seldom criticized in print, except where they touched on accepted debates such as the size of Xerxes' army.[28]

1.4 Alternatives to the Classical Tradition

In parallel to this classical tradition, at least three families of postwar scholarship touched on military questions. One was the study of early Iran, with the impressive Swedish polyglot Geo Widengren being especially prolific. Widengren worked within the frameworks of *Indogermanistik* and the idea of eternal national character, happily citing classical writers, the Old Testament, and Middle Persian romances next to one another. In his view, ancient Iranian armies were feudal, and the documents from Achaemenid Babylonia reflected this:

> En principe, on peut dire que dans la société iranienne, pendant l'époque des Achémenides, les fiefs étaient exempots de tribut en revanche de la livraison des soldats de différentes catégories, cavaliers, archers et conducteurs de chars ... Il semble aussi que l'inféodé ait toujours posséde le droit d'engager son fief ... Nous avons là, évidemment, un héritage des jours de Mitanni et pour cette raison nous pouvons renvoyer aux documents de Nuzi." (Widengren 1956: 108)

Widengren's understanding of "Iran" was obviously a wide one. A review of one of Widengren's later books expressed respect for Widengren's knowledge of so many languages and texts, but serious doubts about his methods and his confident statements based on very limited sources scattered across a long stretch of time and space.[29] While his writing on warfare seems to have had little influence, Pierre Briant cited one of his lists of sources in 1996, and works with similar methods continue to appear on the fringes of academe.[30]

A number of studies on Old Iranian vocabulary as attested in names and loan-words (*Nebenüberlieferungen*) appeared in the postwar era. Walther Hintz published a new vocabulary in

26 Citations: Sekunda 1992: 1; Briant 2002: 961 "Arms and Tactics", 980 line 6; Lincoln 2009 n. 1; Christesen 2006: notes 32, 39; Gaebel, *Cavalry Operations in the Ancient Greek World* 55, 156, 307

27 Sabin, *Lost Battles*, 108

28 Eg. was Egypt a land of reluctant and disloyal soldiers (Omlstead 1948: 244) or one which contained "the difficult delta country with its warlike inhabitants" CHI ii.335

29 Schlerath 1976

30 eg. Farrokh 2007

1975 which took advantage of the archives from Persepolis and Akkadian texts from Babylonia.[31] This contained a reasonable number of reconstructed military terms, such as words for commanders of ten, one hundred, one thousand, and ten thousand men. Most of these terms had been mentioned in earlier books and articles, but Hintz gathered them in one place. An *Iranisches Personennamenbuch* meant to cover onomastics as preserved in all ancient languages was launched in Vienna in the 1970s. This lead to a number of studies by Rüdiger Schmidt and other scholars on Iranian names in classical texts. This kind of research had a long history, but beginning in the 1980s it became increasingly widely cited by researchers interested in armies and force.

Another body of scholarship focused on the plentiful documents which survive from the Neo-Babylonian, Teispid, and Achaemenid periods. In the early 20th century and into the postwar period, this research was part of a broader Assyriological project to map Mesopotamian history and culture from the invention of writing to the abandonment of cuneiform under the Parthians. Many famous Assyriologists wrote something on military matters in the 7th, 6th, and 5th centuries, including Guillaume Cardascia, E. Ebeling, and A. Leo Oppenheim. The postwar period saw the publication of the first comprehensive dictionaries of Akkadian, Wolfram von Soden's *Akkadisches Handwörterbuch* and the *Chicago Assyrian Dictionary*, and systematically gathering and analyzing examples of terms for types of soldier, Realien, and military operations. Another popular area of research was identifying foreigners in Babylonia through onomastics and the rare use of ethnic terms to describe individuals. Many of these individuals seem to have served in the army. Ran Zadok and Muhammad Dandamayev were two especially prolific researchers. Specialists in Jewish history or Egyptology touched on the archives from Elephantine on the Nile which have been discussed above, as well as other Aramaic texts from Egypt. The garrison archive contains many details of social history and community organization but less about equipment or military activity.

However, this kind of research tended to address armies and warfare in brief specialized studies, rather than writing syntheses or engaging with works in the classical-ancient historical tradition. Guillaume Cardascia's series of papers on the Murašû archive from Nippur brought order to this large body of texts and was framed within a French tradition of comparative historical research and the idea of feudalism. (He also published the first reasonably accurate translation of the "Gadal-yama contract" UCP 9/3 269ff., a text which we will encounter again). Matthew Stolper's study of the same archive, first published in 1985, focused on the social and economic aspects.

Archaeologists also made important discoveries. While the Achaemenid period was difficult to identify at many sites, the excavations at Sardis, Deve Hüyük (not a controlled excavation), Pasargadae, and Persepolis revealed many remains of weapons. Sardis was one of only several fortified sites where destruction layers seem to correspond to campaigns described by Herodotus. Tombs in western Anatolia contained many spectacular carvings and paintings of soldiers, and cylinder seals or seal impressions continued to appear in excavations and on the art market. Postwar prosperity and improvements in photography and printing made it easier to share artwork. The discovery of two archives at Persepolis, the Persepolis Fortification and Persepolis Treasury Texts, created a new field specialized in interpreting these mainly Elamite texts, and suggested to many readers that Widengren's picture of a feudal, rural empire was insufficient. However, these

31 Hinty 1975

archives contained little which was directly relevant to military matters, and after an initial group of publications in the 1950s and 1960s publication of the remaining texts slowed.

These traditions of research provided sources and interpretation which were very relevant to the kinds of questions posed by classicists and military historians, and a few classicists responded eagerly: David M. Lewis' study *Sparta and Persia* (1977) emphasizes the importance of the Persepolis texts as a side of the empire which readers of the classical literary sources would hardly have suspected.[32] Yet as we have seen, in the early 1980s, broad works on Achaemenid warfare kept them on the margins. J.M. Cook was an archaeologist who worked in Turkey, but his 1983 survey of the Achaemenid empire relies upon the works of classicists and philologists to describe armies and warfare.[33] He apologizes for being unable to read Russian or Akkadian, then brings various kinds of evidence together on topics such as the organization of the army, the Immortals, and the relative importance of the spear and the bow. In the last case he notes that the royal inscriptions do not seem to support Aeschylus and Herodotus' contrast of the Greek spear and the Persian bow, but generally he addresses topics covered by Eduard Meyer and aims at synthesis and harmonization of sources. In particular, he does not question the picture in Herodotus and Aeschylus of 480 BCE as a turning point, after which the empire transformed from a dangerous menace into a decadent empire which survived by "intrigue and bribery" rather than "vigour."[34] This kind of language leaned heavily upon broader ideologies and stereotypes about the east, and after decolonization these ideas were becoming harder to justify.

The volumes of the *Cambridge History of Iran* dealing with the ancient world also appeared between 1983 and 1985. The *History* was envisioned as a thorough and scholarly but compact study of Iranian history and culture from the earliest times to the present (it also brought scholars from both sides of the Iron Curtain together). Each volume has a special editor and is divided into chapters written by specialists, and the project resembles the more famous *Cambridge Ancient History*. Like many edited collections, the volume on early Iran is uneven. Most of the authors took a conservative approach, with painstaking studies of topics like weights and measures which assume that ancient currencies worked like the "gold standard" of the early 20th century. The narrative sections were written by scholars with a classical orientation such as J.M. Cook, A.R. Burns, and Ernst Badian, while the sections on Egypt and Babylonia pay more attention to Scythian arrowheads, documents from Memphis and Elephantine, and tablets from Babylonia.

The late 1970s and early 1980s were the time of the overthrow of Mohammad Reza Pahlavi and the establishment of an Islamic Republic under Ayatollah Khomeini in Iran. The first volume of the *Cambridge History of Iran* (1968) contains a fawning acknowledgement of the Shah whose National Iranian Oil Company paid half the costs of production. Many educated Iranians fled the country, and since then Iranian expats have been important readers and sponsors of work on early Iran.

32 Lewis 1977: 4-5; he returns to this theme later in the book
33 Cook 1983: 101-113
34 Cook 1983: 107

1.5 The Achaemenid History Workshops and the Encyclopaedia Iranica

Several projects in the 1980s lead to the establishment of Achaemenid history as a distinct field with its own tools, assumptions, and methods. Scholars in this period greatly expanded our knowledge of the Achaemenid empire and created an outline for further work. The study of the Achaemenid army was not unaffected by these changes.

Between 1981 and 1990, a series of annual conferences on Achaemenid history were held at Groningen, London, and Ann Arbour Michigan.[35] Organized by Heleen Sancisci-Werdenburg, each workshop gathered about thirty scholars to reconsider Achaemenid history in light of Greek and modern ideology. It is difficult to overstate the influence of these workshops, both on the study of Achaemenid history and on the broader study of Achaemenid history. They lead to the recognition of Achaemenid studies as a distinct speciality, to increased contacts between researchers working on different aspects of the Achaemenid empire, and to the reconsideration of established verities, such as the existence of a powerful Median Empire which Cyrus the Great conquered. It is to be doubted whether Pierre Briant's very influential and wide-ranging book, *Histoire de l'Empire Perse*, would have been written without the workshops. Many of the papers from the conference were published in the eight volumes of conference proceedings, which have been followed by seven more volumes on different aspects of Achaemenid history.

Several participants in the Achaemenid history workshops contributed papers on military matters. The most important include Sekunda's three articles on evidence for military settlements in western Anatolia, Tuplin's very long and thorough study of evidence for garrisons around the empire, and Wallinga's analysis of the origins of the Persian navy. Sekunda's and Tuplin's articles are built around dense catalogues of literary, epigraphic, onomastic, documentary, and archaeological evidence. While Sekunda seems to have found less evidence than he hoped for, and Tuplin was impressed with the difficulty of reconciling other sources with the literary ones, both accepted the premise that one should begin by systematically gathering all kinds of evidence rather than picking and choosing from Greek literary sources. Not all of these articles were lucky in their publishers; Sekunda's articles appeared spread across different venues, and Tuplin's was printed as a jumble of place names, numbered lists, and abbreviated references with some paragraphs which stretch across three pages.[36] The difficulty of reading it, and of tracking down the diverse sources and research which it cites, may have discouraged other scholars from imitating him. In addition to his conference papers, Sekunda also published other studies, including an analysis of Old Persian military jargon and a study of the career of the Persian general Datames. The former seems to be the only study of specifically military terms in Old Persian, although Sekunda modestly states that most of the contents of the article are known to specialists.[37] Although the works of Sekunda, Tuplin, and Wallinga are important, military topics were not central to the Achaemenid History workshops. Rather than being the focus of an article, military events and institutions tended to be

35 For a summary see http://www.iranicaonline.org/articles/sancisi-weerdenburg-heleen (note that the workshop of 1983 was the first to receive a conference proceedings)

36 Eg. Tuplin, "Garrisons," pp. 201-203

37 Sekunda, "Achaemenid Military Terminology," 69 (Tavernier 2007 has a short section on Iranian military terms attested in languages other than Greek and Latin)

mentioned in studies which focused on cuneiform sources, political history, or the problem of separating facts from literary conventions and ethnic stereotypes.

In 1986, the first volume of the *Encyclopaedia Iranica* appeared. The *Encyclopaedia Iranica* project meant to provide a comprehensive encyclopaedia in many volumes for all aspects of Iranian history, culture, and languages. An especially important decision was the creation of the Encyclopaedia Iranica Online in 1996, which hosts all of the printed articles (and some unprinted ones) and is accessible without a subscription. *Encyclopaedia Iranica* is a very valuable resource, with bibliographies which cover sources in many languages and many specialities. While the quality and scope of individual articles naturally varies, they usually have extensive bibliographies which draw together works published in many languages by scholars in different specialities. Articles are also rewritten as the printed volumes are published, and this helps to keep the content up to date. It is perhaps unfortunate that the entry for "ARMY i. Pre-Islamic Iran" was published in the first volume, before the new approach championed by the Achaemenid History Workshops had spread. The article, written by A. Shahpur Shahbazi, a well known historian of early Iran, was organized into chapters on the Avestan period, the early first millennium BCE, the Achaemenid period, the Parthian period, and the Sassanian period.[38] Alexander and the Seleucids are absent, which implies that Seleucid armies were "Greek" or "Macedonian" but not "Iranian." Shahbazi discusses all the areas commonly discussed by classicists with the exception of specific battles and campaigns. He discussed terms in Old Persian, the evidence of Greek art, sculpture from Iran, remains of weapons, and one cuneiform document. Shahbazi's article is a good short overview with a sympathetic approach to the Persian army, and uses a broader range of evidence than many studies, but because it is a short overview it closely reflects scholarship by classicists and the Greek and Latin literary sources.

Like many other new and insecure groups, the Achaemenid History Workshops looked for a constitutive other against which to define themselves and their project. For many participants, this was credulous, Hellenocentric scholarship by classicists, who supposedly presented a negative view of Persian decadence based on superficial readings of part of the evidence. In many ways the workshops were a postcolonial project, but with a twist: since the Achaemenids could not speak for themselves, some participants in the workshops took it upon themselves to defend them (the fact that the Achaemenid empire was itself an imperialistic great power loomed in the background). Research coming out of the workshops increasingly focused on topics like kingship and ideology, and on thematic studies over chronological narratives.

1.6 Western and Eastern Ways of War

At about the same time as the Achaemenid History Workshops, but quite independent from them, another perspective on the Achaemenid army was crystallizing. This was the "Western Way of War" theory, exemplified by Victor Davis Hanson's book of the same name.[39]

38 Shahbazi, "Army i."
39 Hanson, Western Way of War

At its simplest, the Western Way of War theory states that Greek culture lead to a unique and effective way of war which later European countries and their colonies inherited. This way of war was based upon great battles between dense formations of heavily armed infantry who were politically free. Thus war is important to the study of ancient Greece because it was central to their culture, and studying ancient Greece is important to us because we inherited their culture and, in particular, their way of war. Hanson popularized this idea, and John Keegan, another historian who wrote for a large audience, enthusiastically accepted it.[40] A group of famous military historians published the *Cambridge Illustrated History of Warfare: The Triumph of the West* which also accepted this theory as a basic framework. Hints of these ideas can be found much earlier: Aeschylus and Herodotus contrasted the free Greek with his spear and the slavish Persian with his bow, W.W. How saw Xerxes' invasion of Greece, the Roman invasions of Parthia, and the Crusades to the Levant as examples of struggles between the cavalry of the East and the infantry of the West, and Paul Rahe's article contrasts "the infantry of the West" and "the cavalry of the east."[41] Yet Hanson and Keegan developed these ideas at length with great rhetorical art, and in the heady atmosphere of the late Cold War and the following decade of peace their ideas found a large audience in the United States.

The Achaemenid army appears in two contexts in *The Western Way of War*. The first is embroidered, emotive passages full of words like "always" and "never" which contrast the Greeks or the West with everyone else. Hanson repeatedly cites the description of how the Greeks fight which Herodotus attributes to Mardonius (Hdt. 7.9) as saying something profound about Greek and Persian warfare. Early in the book he glosses Mardonius' words as follows:

> Herodotus' account suggests awe, or perhaps fear, in this man's dismissal of the Greek manner of battle and the Greek desire to inflict damage whatever the costs. Perhaps he is suggesting that Mardonius knew well that these men of the West, for all their ordered squares, careful armament, and deliberate drill, were really quite irrational and therefore quite dangerous. All the various contingents of the Grand Army of Persia, with their threatening looks and noise, had a very different and predictable outlook on battle. In Herodotus' view here, the Persians suffered from that most dangerous tendency in war: a wish to kill but not to die in the process.[42]

Hanson also agrees with the Greek sources that Greek armies were usually outnumbered by foreign enemies, and he sees them sharing this disadvantage with many other "western" armies. In his view, Greeks, Romans, crusaders, conquistadores, and European colonial troops all faced much more numerous enemies. "Outnumbered Western commanders have never been dismayed by the opportunity to achieve an incredible victory through the use of superior weapons, tactics, and cohesion amongst men."[43] His discussion of the paradox of a rational, organized Apollonian army which must commit wild acts of Dionysian violence in combat leads to another contrast of Greeks

40 Eg. John Keegan, *History of Warfare*, pp. 244 ff. (Hanson is "the foremost historian of the tactics of the Greek city states" and knows from experience that it would be hard to permanently damage Greek farmland); compare John Keegan, *The Mask of Command* (Viking Penguin: New York, 1987), chapter1 which follows Arrian in portraying Darius as a helpless coward.

41 How "Arms, Tactics and Strategy" p. 118, Rahe, "Cunaxa," p. 88

42 Hanson, *Western Way of War*, 10

43 Hanson, *Western Way of War*, 15 (with the crew of *H.M.S. Pinafore*, one is tempted to ask "what, never?")

and Persians. "To the Persians, who reversed these concepts- their disordered, moblike frightening hordes had no fondness for methodical killing- the approach of a Greek column was especially unsettling."[44] Hanson's logic is difficult to follow (which army is supposed to kill with Dionysiac frenzy, and which with Apollonian coolness?) but perhaps the real point is that whatever the Greeks did, the Persians must have done the opposite. He also quotes with approval a story that Antiochus the Arcadian ambassador told the Arcadians that he had not found any men who could stand up to Greeks at the Persian court.[45] In this context, the Persians serve as a symbol of all foreigners who dared to stand up to "Westerners" in battle, and their gruesome deaths are used to glorify the heroes.

The second context where Hanson mentions the Persians is in discussions of specific problems in Greek battle, where Persian exempla are used alongside Greek, Macedonian, and Roman ones. Thus he wonders why outnumbered Greek armies did not plant the butts of their spears in the ground to receive a charge as the Persians at Mycale did; when considering whether or not Greek soldiers literally pushed their enemies he quotes Xenophon's description of how Egyptians used their tall shields to push; he mentions Napoleonic and Persian parallels for the practice of viewing the bodies of dead enemies after the battle.[46] These passages are written in a cool, objective style and assume that all ancient armies are comparable. Yet Hanson is not interested in going beyond Greek and Latin *sources* for ancient armies. The body of his book does not cite a single text or artifact from the Ancient Near East. His condensed bibliography of 120 items cites only three which concentrate on warfare in the ancient Near East: Yigael Yadin's *The Art of Warfare in Biblical Land*s, a book by Arthur Ferrill which will be discussed below, and J. Harmand's *La Guerre Antique de Sumer à Rome*.[47] His bibliographical essay to the 2001 edition adds an article comparing New Kingdom Egyptian and Hippocratic Greek texts on skull surgery, a report on weapons excavated at Sardis as proof that Greek equipment was distinctive, an article on greaves in the ancient world to show that Greek equipment was widely imitated, a book by Gabriel and Metz which tries to quantify ancient military history, an edited volume which contains a single chapter on battle in New Kingdom Egypt, and some works of world history.[48] Although he cites new translations of important Greek texts, he does not cite a single edition of any text in an ancient language other than Greek or Latin. While Hanson's comments on the Greeks are backed by precise citation of sources and a thorough knowledge of modern research, he relies on loose references to Greek literature and introductory works by modern scholars to support his views on other cultures.

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44 Hanson, *Western Way of War*, 16

45 Hanson, *Western Way of War*, 17 (= Xen. *Hell.* 7.1.38, where the ambassador goes on to make a childish joke that the King is not rich because his golden plane tree is too small to shade a grasshopper. Xenophon is reporting abusive rhetoric not sober observation).

46 Hanson, *Western Way of War*, 136 (Mycale), 174 (pushing), 202 (viewing the enemy dead)

47 Size of bibliography: Four pages at thirty items per page

48 General works by Parker, Keegan, Huntington, and Diamond. Specific works include P. Proreschi, "Skull Trauma in Egyptian and Hippocratic Medicine," *Gesnerus* 50 (1993), 167-178, C. Greenewalt Jr., "Arms and Weapons at Sardis in the Mid Sixth Century B.C.," *Arkeoloji ve Sanat* 19.79 (1997), 2-20, Elfrieded.R. Knauer, "*Knemides* in the east? Some Observations on the Impact of Greek Body Armour on 'Barbarian' Tribes," in R. Rosen and J. Farrell eds., *Nomodeiktes: Greek Studies in Honour of Martin Ostwald* (University of Michigan Press: Ann Arbour: 1993) 235-254, Gabriel and Metz, *From Sumer to Rome* (Westport, 1991), A.B. Lloyd ed., *Battle in Antiquity* (London: Duckworth, 1996),

In his introduction to *The Cambridge Illustrated History of Warfare*, Parker excused the authors' "Eurocentric approach" on the grounds that there was insufficient space to cover more cultures properly, and that "over the past two centuries the western way of war has become dominant all over the world" so "the rise and development of this dominant tradition, together with the secrets of its success, therefore seem worthy of examination and analysis."[49] Yet unless one studies a range of cultures, how can one tell what made a particular culture or group of cultures unique?

The Western Way of War theory is colourful, but has many limitations as a serious model. In particular, theorists are often vague about which societies are "western" and on exactly how this Greek military tradition was passed down to them.[50] Not all European warfare in the past three thousand years has the characteristics which Hanson considers to define western warfare, and some warfare outside of Europe has most of these characteristics. Antithesis is attractive, but it is much too simple for a rigorous academic model. John Lynn and Peter Turchin have published detailed critiques of Hanson's ideas.[51] For the purpose of this study, however, it is more important to consider what this theory meant for the study of the Achaemenid army. Theorists often had occasion to speak about the Achaemenid army, and they typically used it as an example of un-Western warfare. All whom I have read seem to rely on the Greek sources and the sort of scholarship discussed above. Keegan had already been entranced by Arrian's picture of a cowardly, ineffective Darius, and in *A History of Warfare* he paraphrased Hanson's view of Greek warfare in approving terms and called Persia "an empire whose style of warmaking contained elements both of primitive ritual and of the horse warrior's evasiveness" and which relied on obsolete chariots instead of modern infantry and cavalry.[52] Most were specialists in European history of the last few hundred years, and relied on broad works by other scholars for their understanding of war in other places and times.

Western Way of War theory popularized a negative view of the Achaemenid army, and it sparked a lively if single-minded scholarship in Greek military history before Alexander. As the original example of the barbarian 'other,' the Achaemenid army was used to symbolize the "eastern way of war" rather than being studied independently. Since the theory depended on Greek warfare being distinctive, it was naturally tempting to emphasize the contrast between Greek and Achaemenid armies. Because it saw the Achaemenids as rhetorical foils rather than an object of study, Western Way of War theory discouraged scholars from closely examining the Achaemenid army. Hanson

49 Parker ed., *Cambridge Illustrated History of Warfare*, viii

50 Thus Western Way of War theorists tend to pay little attention to the middle ages, where armies of free farmers fighting on foot are scarce, and where several distinct civilizations all inherited the Roman military tradition. The authors of the *Cambridge Illustrated History of Warfare* avoided this difficulty by working with Bernard Bachrach, who sees early medieval warfare as a continuation of that described by Amianus Marcellinus and proscribed by Vegetius.

51 Lynn 2003 and Peter Turchin, "The West and the Rest: The Science of the Great Divergence," *Cliodynamics: The Journal of Theoretical and Mathematical History* 4.1 (2013), 76-81. (For analysis of how Hanson's view of contemporary politics shapes his description of the ancient world, see Francisco Javier González García and Pedro López Barja de Quiroga, "Neocon Greece: V. D. Hanson's War on History," *International Journal of the Classical Tradition* 19 (2012), 129-151).

52 Already entranced: Keegan, *Mask of Command*, chapter 1 and Keegan, *History of Warfare* p. 389 (Alexander's career is real history "as narrated by Arrian"); ritual and evasiveness, Keegan, *History of Warfare*, p. 389; based on chariots, Keegan, *History of Warfare*, p. 178

stressed the relevance of his work to American politicians and soldiers, and many in the public agree. T.C. McCaskie put it well:

> Pressfield's best-selling *Gates of Fire* is a novel about Thermopylae, but the Spartans in it talk like U.S. Marines. This seems relatively harmless if mindless until one looks at Pressfield's busy website "Agora." This used to be called "It's the Tribes, Stupid" and it was created to increase awareness of "the tribal mind-set in Afghanistan.' These claim that "Agora" and *Gates of Fire* furnish insights into the Eastern (and undifferentiated), barbarian (and now Islamic) enemy.[53]

Similarly, when Peter Green assures his readers that "Modern Europe owes nothing to the Achaemenids. ... fundamentally static ... theocratic ... hostile (where not blindly indifferent) to original creativity ... inexplicable miracle ... democratic institutions ... free scientific inquiry, free political debate"[54] it should be no surprise that people in the wider culture use the Persian Wars to rally their countrymen against the latest frightening foreigners who cover too much of their bodies with clothing. While it is useful to separate the history of research from the history of reception, some scholars write for both worlds.

1.7 Ferrill and Hellenistic War as Cultural Synthesis

In 1985 Arthur Ferrill proposed an alternative to beginning the study of military history with the Greeks or seeing Greek and Near Eastern warfare as opposed.[55] His book was relatively short, lightly referenced, and based on secondary literature, but its central idea is worthy of serious thought. Ferrill observed that weapons specifically designed to fight other humans, fortifications, and pictures of combat between groups appear in the Neolithic, and that by the third millennium BCE warfare in Egypt and the Near East was clearly organized and sophisticated. Thus war has a long history before Classical Greece, but Greece was cut off from this tradition by the collapse at the end of the Bronze Age. The Greeks perfected armies centred around simple formations of heavily armed infantry, but these armies had many limitations. In the fourth century some Greek and Macedonian generals adopted the basic elements of Near Eastern warfare, producing armies which were about as sophisticated and effective as those of the Napoleonic Wars. Ferrill concludes that “Historians have often ironically remarked that the Persian army defending the empire against Alexander's invasions in the fourth century BC contained in the centre of its line a Greek hoplite phalanx, implying that the ancient Near East had learned an important military lesson from the Greeks. Much more ironic is the fact that Alexander's army owed a vastly greater debt to Persia than the Persian army to Greece.”[56] In Ferrill's view, classical Greek armies were like Archilocus' hedgehog with its one good trick, but they became most effective when they learned from the Persian fox with its many tricks. Although other writers had suggested that the Persian invasions

53 McCaskie 2012: 167

54 Green 1996: 5 (hopefully most readers of Herodotus can agree that in his world all leaders pay close attention to the will of the gods if they know what is good for them, and that his despots often sponsor great works of scientific enquiry such as the circumnavigation of Africa and Psammetichos' experiment?)

55 Arthur Ferrill, *The Origins of Warfare*. Second edition. Westview Press: Boulder, CO, 1997.

56 Ferrill, *Origins of Warfare*, p. 33

forced the Greeks to develop a more sophisticated way of fighting, Ferrill developed this idea at length and backed it with knowledge of warfare in the ancient Near East.[57]

Ferrill's thesis is subversive to the Western Way of War theory, since it implies that the split between Greek and Near Eastern warfare was a temporary accident and that Greek soldiers became more effective when they learned from the Near East. *The Origins of Warfare* received three approving reviews by American scholars, and a reference in a literature review on anthropologists' attitude to war.[58] Hanson included Ferrill's book in the short bibliography of *The Western Way of War* but did not engage with it explicitly. He did agree with Ferrill that Xerxes' invasion confronted simple, specialized Greek armies with a much more sophisticated and versatile way of war, but his whole book is opposed to the idea that modern warfare owes more to Alexander and the Ancient Near East than to Archaic Greece.[59] William R. Thompson accepted Ferrill's basic ideas in his study of strong military powers in western Eurasia from the Neolithic to the end of the twentieth century.[60] In Thompson's study, "the west" comprises Bronze Age Egypt and Mesopotamia, classical Greece and Rome, and the Carolingian empire and its successor states, and the basic elements of Keegan's western way of war were probably present in the ancient Near East. Gwynne Dyer suggests a similar idea, that war involving battles between dense formations of soldiers appeared with the first cities and spread over Eurasia in the Bronze Age, in his book on why there are competing alliances threatening each other with nuclear weapons.[61] Dyer suggests that the methods and stakes of warfare remained broadly the same from the third millennium BCE until the combination of mass production and mass recruitment allowed wars to become much more destructive in nineteenth century Europe and North America, culminating in the firebombings of WW II and the nuclear arsenals of the late Cold War. Ferrill's book was reprinted with a new introduction in 1997, and Dyer's received a new edition in 2005. Nevertheless, Hanson and Keegan were more influential. It would be difficult to catalogue just the academic works which acknowledge their perspective, whereas Ferrill and Dyer achieved modest fame but few imitators.

1.8 The First Monographs: Bittner, Head, and Sekunda

The 1980s saw some impressive works within established traditions of Acheamenid studies, but also a radical challenge to those approaches from within the Achaemenid History Workshops. Within the classical tradition which dominated studies of Achaemenid armies and warfare, two programs for future work had appeared: one calling for researchers to engage more with Near Eastern sources and put Greek warfare in the context of world history, and the other suggesting that what classicists should really work on was Greek hoplites and their heritage. The success of each of these approaches would depend both on open arguments, and on private decisions about where to

57 "Other writers" ef. F.E. Adcock, *Greek and Macedonian Art of War*, pp. 11, 12

58 See reviews by Charles D. Hamilton in *The American Historical Review* 92.1 (1987), A.M. Devine in *The Classical World* 81.5 (1988), and John Karl Evans in *Technology and Culture* 29.1 (1988); for literature review see Keith F. Otterbein, "A History of Research on Warfare in Anthropology," *American Anthropologist*, New Series, Vol. 101, No. 4 (1999), 801

59 Partial agreement with Ferrill: Hanson, *Western Way of War*, 37; distaste for Alexander and the Roman emperors, Hanson, *Western Way of War*, xviii, xviii (a thorough reading of his writings would produce many other examples but I do not have enough of his books to hand)

60 Thompson 2006

61 Dyer 2006

spend limited research time. Three books and one chapter published between 1985 and 1992 let us trace how this unfolded.

In 1985 Stefan Bittner published the first book ever dedicated to the Achaemenid army. Bittner's book is the longest of these surveys, but also the most specialized, being an adaptation of his dissertation on Persian clothing and military equipment.[62] This distinguishes it from the many chapters and popular books which have been written on the Achaemenid army. His bibliography contains almost 600 items, from the 1710 edition of Barnabas Brissonius' Latin treatise to an article by A. Greifenhagen published in 1982.[63] Methodologically, his dissertation is purely classical and philological: he relies on the classical literary sources, and supplements them with artwork and surviving weapons. Bittner complained about a lack of specialized studies and the tendency for statements about Persian armies and clothing to be offhand assessments rather than careful and backed with sources: „von ‚asiatischem Gesindel' über ‚Qualitätskrieger ersten Ranges' bis hin zu einem ‚Heer von Helden' sind alle Einschätzungen vertreten."[64] Most of his work comprises a detailed analysis of pieces of clothing and outfits in the sources and speculation about their significance, such as the idea that the two styles of robe in the reliefs from Susa might distinguish mobile troops and town guards.[65] He is particularly interested in separating "Median" and "Persian" fashions, in understanding the significance of slight variations on each, and in matching Greek words to paintings and scuptures. He imagines that when Cyrus conquered the Persians, some sort of army reform such as Xenophon describes in the *Cyropaedia* took place, and tries to reconstruct the equipment of particular groups of Persians mentioned in the Greco-Latin sources such as the *homotimoi* "peers" and the *syngeneis* "kinsmen." Bittner takes a "maximalist" view of his chosen sources, trying to reconcile as many as possible rather than assume that some are in error or depict different things. Thus his picture of the Medes and Persians which Xerxes lead into Greece combines the *homotimoi* from the *Cyropaedia*, Greek vase paintings with barbarians in one-piece garments, the reliefs from Persepolis, and the famous passage in Herodotus book 7.[66] He does not seem to have been aware of the Achaemenid history workshops, whose first proceedings appeared in 1987.

Bittner's book assembles and organizes many written and artistic sources, and his criticism of previous scholarship is fair and precise. However, when he moves on to present his own theories, his trusting approach to the classical literary sources and neglect of Near Eastern texts and archaeology make it much harder to use his works. Bittner's model of the Persian army is centred around the *homotimoi* from the *Cyropaedia*, although he acknowledges that the reforms which Xenophon describes might not be historical.[67] Since the *homotimoi* may be thinly disguised Spartan *homoioi*, and the army reform in *Cyropaedia* an excuse to discuss the merits of different types of

62 Stefan Bittner, *Tracht und Bewaffnung des persischen Heeres*. 2. Aufgabe (Verlag Klaus Friedrich, München, 1987)
63 Number of items: 44 pages x 13.5 items per page = 594 items
64 Bittner, *Tracht und Bewaffnung*, 77
65 Bittner, *Tracht und Bewaffnung*, 310
66 Bittner, *Tracht und Bewaffnung* 269-271
67 Doubts eg. Bittner, *Tracht und Bewaffnung*, 242 n. 1, 253 (J.K. Anderson's book, which sees the military matter in *Cyropaedia* as invented for pedagogical purposes, appears in his bibliography)

troops and how one might improve the Spartan army, this is an uncertain choice.[68] He is also harshly critical of Darius III based on the story that he equipped his soldiers with new kinds of equipment before the battle of Gaugamela.[69] In his view, the two years which Darius had to prepare were not enough time to train infantry as cavalry or skirmishers to fight in close quarters. As Philip of Macedon and Iphicrates seem to have transformed their own armies in the space of a few years, and the British army which fought at the Somme had been built from crowds of eager volunteers over a two-year period, it is not obvious to me that Darius lacked time.

A number of misstatements and careless citations suggest that he did not read his classical sources as closely as he could have.[70] In his conclusion he repeats the theory that Persian soldiers were traditionally fast-moving, light-armed skirmishers which seem difficult for any reader of Herodotus to defend.

Duncan Head's book was published with Montvert, a small press specializing in works for wargamers.[71] Although most Montvert books were under a hundred pages in length, they had a disproportionate influence, for they remain some of the few studies in English in certain topics. *The Achaemenid Persian Army* is an overview of the Persian army with a short military history of the Achaemenid empire attached. Its 72 pages are densely packed with text, line drawings, and art. None of the illustrations is purely ornamental, and the line drawings can help interpret photos of rock reliefs. *The Achaemenid Persian Army* is focused and systematically organized, with sections on the sources, military institutions, clothing, Iranian troops, non-Iranian troops, the army on campaign, the army in battle, lists of contingents in specific armies, and an explanation of the eight colour plates. Of the 46 modern works in the bibliography, the vast majority reproduce or comment on ancient sources, many of them Southwest Asian ones. Although Head was not trained as an Assyriologist, he made a point of using cuneiform documents and art from the empire. His book avoids sweeping theories, but its comments on specific points are always worthy of thought, and its collection and comparison of all types of evidence is very useful. *The Achaemenid Persian Army* is probably the best study of its subject available.

Nicholas Sekunda was a participant in the Achaemenid history workshops and published several articles in their conference proceedings and others in journals. The most important articles included an analysis of Cornelius Nepos' *Life of Datames*, an article on reconstructed Old Persian military jargon, and three chapters on evidence for Persian settlement in western Anatolia.[72] All of these are valuable works, and written from the assumption that the Achaemenid army and Near Eastern sources are worthy of study. While Sekunda's search of literary, documentary, and archaeological sources for evidence of Persian soldiers in Anatolia was not as fruitful as he had hoped, the search

68 Anderson 1970 and Christensen 2006

69 Bittner, *Tracht und Bewaffnung*, 293, 294, 315

70 Aside from the problems raised in Jacobs 1987, see my comments on his treatment of the *gerra* in chapter 6

71 Head 1992

72 Nicholas Victor Sekunda, "Some Notes on the Life of Datames" Iran 26 (1988) 35-53, Nicholas V. Sekunda, 'Achaemenid Military Terminology' Archäologische Mitteilungen aus Iran 21 (1988) 69-77, Nicholas Victor Sekunda, 'Achaemenid Colonization in Lydia' Revue des Études Anciennes 87 (1985) 7-30, N.V. Sekunda, 'Persian Settlement in Hellespontine Phrygia' [in] ed. Amélie Kuhrt & Heleen Sancisi-Weerdenburg, Achaemenid History III: Method and Theory. Proceedings of the Fifth Achaemenid History Workshop (Leiden 1988) 175-196, N. Sekunda, 'Achaemenid Settlement in Caria, Lycia and Greater Phrygia' in ed. H.S.W.Sancisi-Weerdenburg & Amélie Kuhrt, Achaemenid History VI: Asia Minor and Egypt (Leiden 1991) 83-143.

was certainly worthwhile and produced a body of evidence which other scholars can use. His article on jargon introduced another body of scholarship, that on Iranian philology, into discussions of military history.

Nicholas Sekunda's book was published by Osprey, a large press aimed at wargamers and enthusiasts. Sekunda faced even more challenging constraints on space than Head did, since his book is only 64 pages long, twelve of which are devoted to colour plates. He also decided to devote a significant amount of space to interpreting the colours of ancient Persian clothing. This is obviously important for wargamers wishing to paint their figures, but less important for military history, and his analysis of the colours of the "Alexander Sarcophagus" can now be supplemented by the research for the *Bunte Götter* exhibition.[73] His book cites a wide range of modern scholarship, not just the works of classicists and military historians, and mentions reconstructed Old Persian terms. His book is very confident, including on such points as the existence of units of 10,000 soldiers, the Old Persian word for the soldiers who Herodotus calls Immortals, the circumstances of the Athenian attack at Marathon, and why Greek artists cease to depict Persians with large rectangular shields in the middle of the fifth century BCE.[74] The references to books and articles rarely read by military historians are valuable, but few writers interested in military affairs seem to have tracked down the works cited.

A Russian book by M.A. Dandamayev and Vladimir G. Lukonin first appeared in English in 1989, and its chapter "K. The Army" could also be mentioned in this context.[75] The authors made use of their deep interest in cuneiform texts and Central Asian archeology to address a much wider range of evidence than many other surveys. They placed the Teispid and Achaemenid periods in context with the spread of Scythian or Cimmerian weapons and warriors from the eighth century BCE onwards. Their citation and summary of relevant cuneiform texts is also very important, since these sources were (and remain) more difficult to access than classical literature. Many large collections of cuneiform texts contain a handful relevant to military affairs in the Achaemenid period, so gathering sources requires working through many volumes and learning about later editions of each. Their book also made the results of Russian research available to western colleagues. However, they were not particularly interested in asking whether practices changed over time, and preferred showing how sources supported one another to exploring contradictions and alternative readings. Statements by classical authors, or deductions by modern researchers, tend to be presented as facts to be trusted and not as claims to be questioned.

This group of publications could have lead to a broader reappraisal, but for various reasons this did not happen. Bittner published no further works on the Achaemenids, Head went on to other projects, and Sekunda shifted his focus to other areas of ancient history while writing some

73 The publication history of this exhibition is complicated, since the catalogue seems to have been revised for each new museum. Brinkmann 2004, the version available to me, has few photos of the replica of the sarcophagus from Sidon, but many more appear online.

74 Units: Sekunda, *Persian Army*, 5 (units), 6 (immortals), 14 (Marathon), 18 (archers)

75 Dandamayev and Lukonin 1989: 222-237 (page xi explains that the research for the first, Russian edition was completed in 1976 and that it was extensively revised in 1985 and 1986 during the translation despite the death of the first translator and one of the authors).

summaries of his research for edited volumes and another popular book for Osprey.[76] While M.A. Dandamayev was a prolific and critical scholar, many of whose works were translated into Romance or Germanic languages, he did not write another broad study of the military aspects of the Achaemenid empire. Head's publisher became inactive after 1998, and after that his book became difficult to obtain.[77] Bittner's book also seems to have been advertized and sold in a small scale.[78] After the initial reviews, scholars tend to cite it but say nothing further.[79] Nicholas Sekunda's book is probably the most widely read and influential, especially outside of specialists in ancient history, but it did not inspire a new program of research. One problem was the Head and Sekunda published in venues which did not allow full citations, so it was difficult for readers to use them as a starting point for exploring research by philologists and Assyriologists.

1.9 Scholarship Since 1992

By 1992, researchers took a variety of approaches to Achaemenid warfare, and there was some room for dialogue. Most researchers brought in artwork, artifacts, or Near Eastern texts to supplement the classical, literary sources, but still relied on those sources as a framework and did not emphasize the problems of interpreting them. However, interpretative problems were more visible in some articles: van Driel's study of the economy of later Achaemenid Babylonia, Tuplin's study of garrisons, and Sekunda's three studies of Persian soldiers in Anatolia. Yet for the next 20 years there were few new contributions. Where the period from 1985 to 1992 was a time of integrating research on the ancient Near East into studies of the Persian army, after 1992 the fields went in different directions.

1.9.1 The Classicists' Tradition Since 1992

Josef Wiesehöfer published an overview of the new approach to Iranian studies in 1994 under the title *Das antike Persien*. His book covers from the early first millennium BCE to just before the Arab conquest of Iran. Wiesehöfer focused his book on ideas and institutions rather then events and individuals, and tried to show pre-Islamic Iranian culture as a whole without succumbing to 20th century propaganda about an eternal Iran.[80] His chapter on the Achaemenid army is only two thousand words long, and while his sections on the Parthian and Sasanid armies are even shorter.[81] His discussion of the Achaemenid army references the philological discussions about Darius' army as described in his inscriptions, and emphasizes that the army was neither a pure Iranian

76 Nick Sekunda 'The Persians' General Sir John Hackett ed., Warfare in the Ancient World, (Sidgwick & Jackson, London 1989) 82-103, Nicholas Sekunda, *Marathon 490 BCE: The First Persian Invasion of Greece* (Oxford: Osprey, 2002), Nicholas Sekunda, "The Might of the Persian Empire," in Philip de Souza ed., *The Ancient World at War: A Global History* (London, 2008)

77 Duncan Head has informed me that to his knowledge Montvert never formally went out of business, but that from the late 1990s "life got in the way" of the editors' publishing project, and they did not have time and energy to explore advertising and selling their books online.

78 According to WorldCat (OCLC 13810947), there are only two copies at Canadian libraries, four in British ones, and fourteen in German ones as of April 2014. I purchased my copy from Bittner directly.

79 Reviews: Jacobs 1987, Walser 1987 (these may have inspired the "2. erweite und verbesserte Auflabe" which Bittner released the same year). For a later response, see Henkelman 2003: 206 n. 87. I am told that Pfrommer 1998 relies on Bittner's analysis of *Realien*.

80 For Wiesehöfer's intent see Wiesehöfer, *Das antike Persien*, p. 10

81 6.5 pages x 33 lines per page x 10 words per line = 2145 words

organization nor an innumerable mob gathered from all lands. In general his attitude is confident and positive, as befits an introduction, and he even states that "die Armee der Achaimenidenkönige ist uns ... gut bekannt."[82]

Wiesehöfer cites the broad works by Shahbazi and Bittner, but not the books by Sekunda and Head or Tuplin's article on garrisons. He was limited by the shortage of useful secondary material, and by his project of writing a short overview for beginners. As suggested above, however, it is far from clear that Achaemenid military practices were essentially Iranian. The western part of the empire, about which we know the most, had its own military traditions.

In his introduction to the 1996 reprint of his book on the Persian Wars, Green acknowledged that much had been written on the Achaemenid empire and on Greek ideas about Persia since 1970.[83] He described this as "probably the most useful work done in the past twenty-five years."[84] The change is very visible in his supplementary bibliography, which is dense with books and articles on Persian questions and non-Greek sources. In a random sample of four pages, about a third of his references deal with Persian affairs or Greek ideas about Persia, including T. Cuyler Young's discussion of the Greek desire to inflate Xerxes' invasion, Muhammed Dandamayev's work on political history, and R.T. Hallock on the Persepolis fortification tablets.[85] This is a dramatic change from the one reference in thirty in his original bibliography. Yet he predicted that if he ever revised *The Greco-Persian Wars*, while the academic apparatus would expand and he would have to address new evidence, his basic opinions would remain the same.[86] It seems to be difficult to maintain both these positions at once, for much of this new scholarship challenges Green's basic premises about the nature of the war. If this scholarship were really important, then it should provoke a fundamental reconsideration of the relationship between Greece and Persia. He acknowledges that his supplementary bibliography is not comprehensive, but it is surprising that it contains none of the books on the Persian army by Head, Bittner, or Sekunda. In any case, his preface and supplementary bibliography at least direct the inquisitive reader to sources where they might encounter other perspectives.

When Pierre Briant wrote his synthesis of the results of the Achaemenid history workshops, he chose to briefly address the army at several points but not to devote a long section to it.[87] In his research notes he complained that writers continued to repeat stereotypical ideas about the army based on a casual reading of the Greek sources, but could point to little work which used a better approach. Bittner's thesis and the books by Head and Sekunda are cited in his bibliography but do not appear to have strongly influenced his approach, while he admires Tuplin's article on the garrisons of the Achaemenid empire and refers readers to Paul Rahe's article with a few warnings. Briant's encyclopaedic knowledge of scholarship on a whole range of themes produced some useful

82 Wiesehöfer, *Das antike Persien* p. 132
83 Green, *Greco-Persian Wars*, xiv
84 Green, *Greco-Persian Wars*, xiv
85 Checked pages 318-321, counted 29 references out of 77 (38%).
86 Green, *Greco-Persian Wars*, xxiv
87 On Xerxes' invasion of Greece see Briant, *Cyrus to Alexander*, 961, 962. On the time of Cyrus the Younger and Artaxerxes II, see 979, 980. On the time of Darius III, see 1034-1038. Briant's remarks on the careers of the kings from Cyrus to Darius I contain many interesting remarks but no long discussion of military institutions; he is most interested in these as they affect the debate whether or not the late empire was "decadent."

ideas, such as that Herodotus' description of an army review at Doriscus belongs to a long tradition of displaying the peoples and fighting powers of an empire. His emphasis on institutions and customs over events also offered the potential for scholarship which did not simply discuss the wars celebrated by the Greeks, although his longest remarks on the army were part of his analysis of those wars. He strongly criticized the view that the empire was in political and military decline from the late fifth century onwards, a view which many writers on military affairs take as fact. He also emphasized that the Greek sources overstate the role of Greek mercenaries and Greek generals, although here a number of classicists agree with him. *L'Histoire de l'Empire Perse* gathered materials and demonstrated methodologies, and its remarks on the army deserve serious thought, but it would be difficult to say that it transformed our knowledge of the Achaemenid army in the same way that it transformed our understanding of the Achaemenid empire in general.

When Nicholas Sekunda returned to Achaemenid warfare with another chapter in 2008, he mentioned the siege of Old Paphos and the possible catapult stones there, added a few more Old Persian and Elamite nouns, but otherwise added little to his ideas from 1992.[88] Once again, this was written in a venue which allowed a bibliography but not detailed citations.

1.9.2 Alternative Approaches Since 1992

The lack of a broad reassessment and reintegration after 1992 can be seen in research outside these three broad works. Most writing about armed force in the Achaemenid empire since 1992 can be grouped into three traditions of classical, Iranological, and Assyriolgical research.

In the 1990s, a new program of research into the "long sixth century" (c. 610-482 BCE) took form.[89] Where research in the early 20th century tended to be carried out by scholars with broad Assyriological interests, this program became a specialized field of research to which participants dedicated a good part of their careers. A key insight was that Chaldean, Teispid, and early Achaemenid rule were marked by continuity and trends such as the increased use of silver and the expansion of the land-for-service system. This program has published or translated some new texts, and produced a number of specialized studies of military affairs based on temple archives rather than the private Murašû archive. MacGinnis' monograph on the forces of the Ebabbar at Sippar is especially significant, because it puts its analysis next to full texts of many of the tablets discussed.[90] Some members have resumed the program of research into material culture in texts which scholars like A. Leo Oppenheim and Waldo H. Dubberstein began in the 1930s.[91] However, so far this research has had limited impact outside of its own community. These sources focus on different things than the classical literary sources, and many of the technical terms are poorly understood. Also, participants do not always make it easy for newcomers to find the texts which they cite. Many of the tablets excavated before the First World War are now available in transcription or even translation, but that is not obvious from a citation like Dar. 253. At present, it

88 Sekunda 2008: 72, 78, 82

89 Francis Joannès, G. van Driel, Kathleen Abraham, Michael Jursa, Caroline Waerzeggers, and John MacGinnis are some influential researchers in this area.

90 MacGinnis 2012

91 Dubberstein 1939 (Dubberstein eventually left academe for a career in the CIA). The monograph on *Material Culture of the Neo-Babylonian Period* mentioned at Oppenheim 1950: 188 n. 4 seems to have never been printed.

is easier for newcomers to find papers arguing about the meaning of particular terms than to read the texts upon which these arguments are based.

In contrast, the Iranological and archaeological traditions were subdued. Research in Achaemenid studies tended to undermine the idea of the Teispids and Achaemenids as essentially Indo-European and Iranian, and of Preislamic Iranian culture forming an organic whole.[92] Specialists in Elam continued to emphasize that Elam traditionally consisted of lowland Susane/Khuzestan and highland Persis/Fars, specialists in Iranian religion stressed the problems with seeing the Avesta and Achaemenid religion as two stages in a single tradition, while specialists in Achaemenid Studies came to see Darius' presentation of himself as Persian and Aryan as tendentious and part of a process of ethnogenesis and self-definition, not a fact to be taken for granted. Elspeth Dusinberre's 2013 book on Achaemenid Anatolia devoted a chapter to warfare. She leaned on Tuplin's study of garrisons and Moorey's report on Deve Hüyük but also addressed the hilltop fortress with reliefs of spearbearers at Meydancıkkale in Rough Kilikia.

In 2006 George Cawkwell published an overview of Greek wars with the Persians from the foundation of the Achaemenid empire to its overthrow by Alexander. Cawkwell's book reflects decades of thought by a very skilful historian, and it was written for other experts in Persian wars with the Greeks. Yet his choice of questions and evidence falls into the usual pattern amongst classicists. While he emphasizes Persian folly over Greek courage, and rejects Greek stories of innumerable Persian ships and soldiers, he accepts the principle that when writing about the Achaemenids at war one should focus on their wars with Greeks as described in Greek sources. Cawkwell's book therefore belongs to the tradition of classicists writing about the Persian army, with very sophisticated use of classicists' usual sources, methods, and assumptions.

In 2012, Stephen Ruzicka published a book on the policy of Achaemenid kings towards their western frontier. Ruzicka argued that most kings focused their attention on fighting or controlling Egypt, and that policy in the Aegean was usually shaped by problems on the Nile. When Egypt successfully revolted in 401, it provided encouragement, ships, and money to other rebels for the next sixty years. He placed this struggle into a broad historical pattern of wars between Egyptian and Mesopotamian powers where a single state was rarely able to hold both regions for long. This is a striking alternative to the traditional narratives which focus on wars with Greek cities and on decadence as agents of change. Ruzicka's ideas are attractive, since they would allow a political history of the Achaemenid empire which did not concentrate on the north-west frontier. His emphasis on the long term is also valuable, since it reminds us that conquests of Egypt from the north were usually followed by a successful revolt. The Achaemenids faced the same sort of troubles in Egypt which most invaders did, and had similar successes and failures. While not every part of Ruzicka's book is as solid of his treatment of Diodorus, Isocrates, and Xenophon's *Evagoras* in the fourth century BCE, the core idea is worth further exploration.

In recent years, Michael B. Charles has published several articles on specific questions in Achaemenid history.[93] His works tend to be broadly referenced, but they also ask questions which

92 eg. Rollinger 1999, Henkelman 2008

93 Michael B. Charles, "Alexander, Elephants and Gaugamela," *Mouseion* Third Series Vol 8 (2008), 9-23; Michael B. Charles, "Elephants, Alexander, and the Indian Campaign," *Mouseion* Third Series 10.3 (2010), 327-353;

have been discussed many times before and for which there is little evidence outside of Greek literature.[94] Charles takes for granted that Herodotus describes a unit of 10,000 soldiers who really existed under Xerxes, and asks why later writers do not mention them and what their real Persian name was. As we will see in chapter 6, units of 10,000 men in the ancient Near East only appear in classical, literary sources, and Herodotus includes some things because they make good stories. While honest and learned, these articles are incremental improvements on a long tradition of classical scholarship with that scholarship's strengths and weaknesses.

As mentioned, Christopher Tuplin followed up his survey of evidence for garrisons with surveys of evidence for Persian cavalry, warriors on seals and seal impressions, and specific topics such as Achaemenid ideology and Hellenistic kingship. Cataloguing sources has been helpful in the study of Greek warfare or the Roman army, especially when it encourages researchers to make more use of 'minor' sources such as inscriptions or pottery. However, so far few researchers have responded to these studies beyond citing them and paraphrasing their conclusions. The main exception is Xin Wu, who published a long article on scenes of combat between 'Persians' and 'Scythians' in 2014.

These publications since 1992 represent a considerable amount of work, but mostly within theoretical and methodological approaches which were well established by the middle of the 20th century. Pierre Briant addressed this danger after spending several years surveying all new publications on the Achaemenid empire for a two-volume *Bulletin d'Histoire Achéménide*.

> Accumulated erudition and bibliographic tautology sometimes take the place of evidence that is accepted but misleading for scientific inquiry. To speak bluntly: what is really new in what is published recently? In our domain, what are the signs that permit us to assert that this or that study marks progress in the order of knowledge?[95]

Indeed, in the study of the ancient world it is often humbling to open the latest expensive volume from a prestigious academic press and find a position laid out which was already outlined in French or German before the First World War.

In the 1990s, the programs of research laid out at the Achaemenid History workshops on one hand, and in *The Western Way of War* on the other, came to dominate their respective fields. This produced a great deal of thoughtful scholarship, but scholarship which had little to say about the role of armed force in the world of the Teispids and Achaemenids. What new work did appear, especially in Assyriology, was not integrated into surveys, and did not always engage with those surveys.

1.9.3 A Sense of Aporia 2005-2018

By the 2000s there was widespread discomfort with the state of research. As will be further discussed in chapter 6, in 2011 and 2012 several scholars with a classical orientation questioned

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Michael B. Charles, "Immortals and Applebearers: Towards a Better Understanding of Achaemenid Military Units," *The Classical Quarterly* 61.1 (2011) pp. 114-133; Michael B. Charles, "Herodotus, Body Armour, and Achaemenid Infantry," *Historia: Zeitschrift für alte Geschichte* 61.3 (2012) pp. 257-269

94 I am also unsure whom his *Historia* 2012 piece is arguing against.

95 Briant 2002: xvi. The BHAch was eventually abandoned due to the flood of research on the Achaemenid empire. I thank T.C. McCredie for reminding me of this passage.

Herodotus' statement that the Persians had trouble at Plataea because their spears were shorter than Greek spears.[96] When they looked at spears in sculptures or Red Figure vase painting, they saw warriors from both cultures using some spears which were short and others which were quite long. Similar doubts had been expressed for more than a century, but the dominant approach in writing about the army had been to use Herodotus as a framework and use other kinds of evidence to support him or flesh out his words. To one group of ancient historians, this was no longer convincing.

This method had come to seem even more questionable in Achaemenid studies, where a new generation of broad works appeared from 2005 onwards. Philip Huyse's introduction to *La Perse Antique* covered the period from the Avesta to the Sasanids.[97] The section on warfare is only six pages long (including five large illustrations) and emphasized (Aryan) Iranian soldiers and Greek mercenaries like Hans Delbrück. Huyse repeats the usual reconstructed Old Persian titles, and the idea that Persian tactics relied on barraging the enemy with arrows than attacking their flanks with cavalry and that this worked well "contre des troupes asiatiques" but not against hoplites. This section could have been written in the 1950s. Amélie Kuhrt's sourcebook does not devote a section to armies, warfare, or hunting, instead including a selection of texts in chapters on court life, taxation, travel, and bureaucracy. In her introduction she apologized:

> There are some apparent omissions. I have no chapters devoted to the Persian armies and warfare nor on imperial or provincial administration. The evidence for this is bitty, often embedded in texts on which (our very partial) reconstruction of the political history depends. I hope that the accompanying notes, together with cross-referencing, will help to compensate for this lack.[98]

In his recent concise history of the Achaemenid empire, Matthew Waters limited his section on war to a thousand words.[99] These contain three tones which are not always harmonious: philological comments on warlike words in ancient languages, summaries of the Greek authorities, and warnings that those authorities had limited knowledge of and interest in the empire that existed in Sardis and Uruk and Ecbatana rather than in earlier Greek writers and poets. Acknowledgement of the philological problems, and that the Greco-Latin literary tradition is a literary one, is certainly valuable. Yet arguing that therefore nothing can be known for certain is at least disappointing and seems premature, since many aspects of Achaemenid warfare have never been the subject of intense scholarly analysis by a community of researchers.

Waters touches on a wider trend towards reading Greek and Roman texts as literature which help us understand a tradition and the community which made use of it, not the wider world which those texts claim to describe.[100] This trend reflects wider trends in literary scholarship and the social sciences and certainly has its value: some of the key work in Greek warfare since 1989 has been defining the gaps between how Greeks told each other wars should be fought, and how they actually

96 Hyland 2011: 273, Lincoln 2012: 350-353, Konijnendijk 2012: 5
97 Huyse 2005: 89-94
98 Kuhrt 2007: 1
99 Waters 2014: 108-111
100 Gray 2003, Gray 2011, and Laforce 2013 are some recent examples ("narratology" is a keyword). For criticism, see McCaskie 2012: 163-166, 171-173

did so. It seems like many of the 'foreign words' attested in Greek and Latin descend from single passages in a handful of authors such as Ctesias. However, from the perspective of a historian it is insufficient. It tends to lead classical scholars back into talking about their great texts and how they relate to other great texts, not outwards into exploring other kinds of evidence and the wider ancient world. It also draws heavily upon intellectual culture in the Roman and Byzantine periods, and it seems likely that before the canonization and professionalization of literature in the Hellenistic period, writers were more likely to engage with oral and poetic sources, or with writers who were no longer read and cited in Roman times.

If the period after 1992 saw a great deal of increasingly sophisticated research into both early Greek warfare and the Achaemenid empire and the establishment of new schools of thought in both fields, why did this not lead to more research and a new school of thought on Persian armies and warfare?

One reason is that debates in Achaemenid Studies and Greek military history lead both fields in directions which did not prioritize this kind of research. From 1990 onwards the radical wing of the Achaemenid History Workshops became acknowledged as the best approach to studying the Achaemenid empire. Scholars like Heleen Sancisci-Weerdenberg, Amélie Kuhrt, and Pierre Briant lead research in particular directions, focusing on topics like art and religion and avoiding topics which might invoke stereotypes about the cruel, decadent east. A study of institutions and areas of life like "the army" or "warfare" might have suited this shift from narratives to thematic studies, but there were many other institutions and areas of life for newcomers to work on.

At the same time, within the fields of classics and ancient history, research came to be organized around the "hoplite question" as framed by Victor Davis Hanson rather than the world-historical approach of Arthur Ferrill. As I have argued elsewhere,[101] by arguing that archaic and classical warfare was key to understanding archaic and classical Greek culture, Hanson gave classicists an excuse to write about warfare while keeping within their traditional disciplinary methods and topics. Critics could join in the game by answering his classical scholarship with their own, more detailed and careful classical scholarship, without having to explore whole new areas of research in medieval studies or Assyriology. The debate between the "orthodoxy" and the "heretics" sharpened and deepened knowledge of the *Iliad*, lead warrior figurines from Archaic Laconia, and the classical historians, but it did not lead to wider knowledge of say iron weapons from Cyprus or models of soldiers in Middle Kingdom tombs. The focus on Greek exceptionalism and on the classical literary sources made it hard to combine this research with work in Achaemenid studies, which tended to argue that Greeks were not so important and that the classical literary sources should be read with caution.

The slowdown in research after 1992 also reflected a methodological crisis. From the time of Eduard Meyer onwards, overviews of Achaemenid armies had usually been written by taking the classical, literary sources as a framework and using other kinds of evidence to flesh them out or confirm them. Collecting "Old Persian names" for things mentioned in the classical literary sources had been a typical method. Another school framed research in terms of a preislamic Iranian

101 Manning forthcoming

tradition and the idea of feudalism, but again using sources to support one another rather than emphasizing disagreements and the role of interpretation in turning sources into analysis. By the 1980s many researchers felt that the first approach was not sufficient. Both reviewers of Stefan Bittner's work emphasized the need to draw on all kinds of evidence and treat the classical literary sources more skeptically, and Christopher Tuplin's article on garrisons also drew on a great variety of evidence.[102]

As the program of research defined at the Achaemenid History Workshops and in Briant's *Cyrus to Alexander* unfolded, these doubts became even stronger. Researchers systematically countered each of the arguments behind the view that Darius' Persians were pure migrants from the steppe and heirs to the Avesta who imposed new, "Iranian" institutions on the old empires of the Near East. While this research undermined the old approaches, it did not define a new one, just the kind of research which was likely to lead to one: intense work on documents, art, and material remains, dialogue between specialists in different disciplines, and reconsidering the basis assumptions of previous research.

Such an exhaustive or encyclopedic approach was easier to sketch out than practice. As T.C. McCaskie (a historian of modern Africa darting into the debate) put it, "Cooperation and collaboration were mandatory in getting new Achaemenid history off the ground. ... No individual commanded all the necessary linguistic resources. ... In truth, the variety of the sources inhibited and even precluded any sustained historical research effort conducted by individuals in isolation."[103] And the research programs which became dominant after 1992 did not encourage a community of scholars to form and address Achaemenid armies and warfare in particular.

1.10 Achaemenid Army Studies, Roman Army Studies, and Early Greek Warfare

Writing about armies and armed force in the Teispid-Achaemenid empire is divided into half a dozen traditions aligned with different disciplines or methodologies. However, the dominant approach is based on Greek and Latin literature. This “classicists’ tradition” includes a variety of perspectives, including Hanson’s Western Way of War theory and Ferrill’s idea of war developing with literacy and cities, but it is based on a narrow range of evidence and scholarship. When texts from Southwest Asia are cited, classicists have often accepted what other scholars have written about them rather than engaging with the sources directly. Forms of evidence other than texts are not valued very highly outside of specialized studies of equipment or the Greek image of the barbarian. Scholars have often made loose comparisons to much later armies, but have not always cited sources and scholarship on those armies to demonstrate the similarity. Some writers have read more widely: Pierre Briant, Christopher Tuplin, Nicholas Sekunda, and Duncan Head spring to mind. Yet most of their works on military matters are short and they have not been as influential as the “classicists’ tradition.” Debate tends to centre on famous passages in Greek literature, such as

102 Jacobs 1987, Walser 1987, Tuplin 1987

103 McCaskie 2012: 152 (Geo Widengren might be an exception, but he is the exception which proves the rule: Widengren read a vast range of sources but he did not read them like a historian. As Briant 2002: 5 put it "it would be a miracle to possess simultaneously a historian's training and immediate access to all the languages of the empire.")

whether Herodotus is correct that Persian spears were shorter than Greek ones, or whether Isocrates and the author of the last chapter of *Cyropaedia* are correct that Persian soldiers became soft and cowardly in the fourth century BCE. Broad works with bold claims and emotional rhetoric, such as Peter Green's book on Xerxes' invasion and Victor Davis Hanson's writings, have influenced scholars as well as the general public.

This situation is starkly different from that in other areas of ancient military history. Roman army studies, the oldest and largest branch of ancient military history, has been recognized as a distinct discipline for decades. The field has recognized specialities such as military equipment studies with their own conferences and journals. Students of the Roman army are expected to be familiar with literary, epigraphic, papyrological, artistic, archaeological, comparative, and experimental evidence even if they focus on one area. This expectation, and the opportunities for communication with and criticism by other experts, help to keep research rigorous. While Roman army historians do debate whether Vegetius is correct that lazy soldiers refused to wear armour and helmets, or whether many writers were correct that soldiers stationed in the eastern empire were corrupt and ineffective, these traditional *controversiae* are far from the only debates.[104] Scholars also debate whether the Romans had a grand strategy, the history of individual units, how space was allocated inside stone-walled forts, and many other subjects which are not directly addressed by ancient writers.[105] Many of these debates begin when researchers introduce methods from an allied discipline into Roman army studies, such as Sabin, Zhmodikov, and Goldsworthy's application of John Keegan's "face of battle" method to the Roman army, or the changes in archaeological theory which undermined earlier research based on the assumption that grave goods were a reliable marker of ethnic identity.[106] There is an infrastructure of handbooks, guides to sources, and translations to introduce new researchers into the field. There are many good popular books on the subject, many of them written by specialists in the field. A recent article by Simon James summarizes and criticizes past work then suggests directions for further research.[107] While there were Roman armies for much longer than there were Achaemenid armies, and while more evidence about Roman soldiers than Persian soldiers survives, many more scholars have chosen to study Roman armies than Persian armies.

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104 On the supposed abandonment of armour see Hugh Elton, *Warfare in Roman Europe, 350-425 A.D.* (Clarendon Press: Oxford, 1996), pp. 110-115. On solders stationed in the eastern half of the Roman empire see Benamin Isaacs, *The Limits of Empire: The Roman Army in the East* (Clarendon Press: Oxford 1990) and Everett L. Wheeler, "The Laxity of Syrian Legions," in David L. Kennedy ed., *The Roman Army in the East*, Journal of Roman Archaeology Supplements Series No. 18(Journal of Roman Archaeology: Ann Arbour, MI, 1996) pp. 229-276.

105 For grand strategy, see Everett L. Wheeler, "Methodological Limits and the Mirage of Roman Grand Strategy: Part I." *Journal of Military History* Vol. 57 No. 1 (January 1993), pp. 7-41 and "Methodological Limits and the Mirage of Roman Grand Strategy: Part II," *The Journal of Military History* Vol. 57 No. 2 (April 1993), pp. 215-240 with constructive criticism of Edward N. Luttwak, *The Grand Strategy of the Roman Empire: From the First Century A.D. to the Third* (John Hopkins University Press: Baltimore, 1976).

106 "Face of Battle": There is a good overview of recent research in Fernando Quesada Sanz "Not so different: individual fighting techniques and small unit tactics of Roman and Iberian armies," in P. François, P. Moret, S. Péré-Noguès (Eds.) *L'Hellénisation en Méditerranée Occidentale au temps des guerres puniques. Actes du Colloque International de Toulouse, 31 mars-2 avril 2005*. Pallas 70 (2006), 245-263. Archaeological methods: See the overview in Elton, *Warfare in Roman Europe*, 60-63; Guy Halsall has also written extensively on this subject from the perspective of medieval history and archaeology.

107 Simon James, "Writing the Legions: The Development and Future of Roman Military Studies in Britain," *Archaeological Journal* 159 (2002) pp. 1-58

Since the 1980s, Greek army studies have also moved beyond a focus on literary evidence for tactics and organization to an approach which uses more kinds of evidence and considers more aspects of soldiers and soldiering. One can compare the relentlessly text-centred studies of Pritchett and Hanson to recent work by Hans van Wees or Josho Brouwers which pay close attention to each kind of evidence and take a much more critical approach to the literary sources.[108] John Lee has rigorously used naturology and comparative evidence to reconstruct daily life in one Greek army, while Christopher Matthews and Paul Bardunias have published books which centre experimental and experiential evidence.[109] A French tradition of work on Hellenistic warfare relies on papyri, epigraphy, and grave monuments rather than histories.[110] While it is true that some of this research raises more questions than answers, and much is focused on the narrow question of how Greek hoplites fought each other, it is hard not to see it as progress: theories today can explain more kinds of evidence, and withstand more Socratic questioning, than theories a generation ago.

If military historians rely on the writings of classicists and the evidence of Greek and Latin literature to study the Achaemenid army, this is not because no other bodies of scholarship and corpora of sources are available. Since the publication of the Behistun relief, scholars have debated the rise of Darius I, looking at his choice of words in particular. Rüdiger Schmitt and Jan Tavernier have recently published overviews of philological work on Iranian languages in the Achaemenid period, drawing on Greek and Latin and on other languages respectively.[111] The well-known Murašû archive from Nippur, describing loans backed by land whose holder was obliged to provide service, is complimented by earlier temple archives from the Eanna at Uruk and the Ebabbar at Sippar which address the manufacture of equipment and the outfitting of guards and soldiers. Matthew Stolper and G. Van Driel offer alternative interpretations of the economic situation reflected by these texts, and a long list of writers debate whether to call these land grants fiefs and how they fit into Mesopotamian and Iranian traditions. The many Aramaic papyri and ostraca from Egypt have attracted much interest, especially those from Elephantine where there was a Jewish community and a Jewish temple. Major books on the subject range from Eduard Meyer's volume published in 1912 through Bezalel Porten's monograph of 1968 to the four-volume *Textbook of Aramaic Documents from Ancient Egypt* and shelves of research on early Judaism. Many paintings and carvings from the Achaemenid period have been found in Anatolia. Christopher Tuplin catalogued those depicting horsemen in a recent article on Persian cavalry.[112] Elsewhere in the empire, seals and seal-impressions contain many martial scenes. A recent overview by Mark Garrison and Margaret Root covers impressions from Persepolis.[113] A modest amount of military

108 Hanson, *Western Way of War*, Pritchett, *The Greek State at War*, 5 volumes (first titled *Ancient Greek Military Practices*), Van Wees, *Greek Warfare*, Brouwers, *Henchmen of Ares*. (Pritchett was of course interested in comparative evidence and walking battlefields as well as texts).

109 Matthews 2012, Bardunias and Ray 2016 (these are not the first: Victor Davis Hanson and his students also made some backyard trials)

110 eg. Chaniotis 2005 (much of the work in this tradition is in French, and I do not know it well).

111 See the various volumes of the *Iranisches Personennamenbuch* and articles in *Encyclopaedia Iranica* by Rüdiger Schmitt and J. Tavernier, *Iranica in the Achaemenid Period (ca. 550-330 BCE): Lexicon of Old Iranian Proper Names and Loanwords, Attested in Non-Iranian Texts*. Orientalia Louvaniansia Analecta 158. (Peeters: Leuven, 2007).

112 Christopher Tuplin, "All the King's Horse: In Search of Achaemenid Persian Cavalry"

113 Mark. B. Garrison and Margaret Cool Root, *Seals on the Perseplis Fortification Tablets Volume 1: Images of Heroic Encounter*. Oriental Institute Publiations 117. (The Oriental Institute of the University of Chicago, Chicago

equipment has been found at sites such as Persepolis, Deve Hüyük, and Memphis.[114] If most work on the Achaemenid army still belongs to the classicists' tradition, this does not reflect the absence of other evidence or scholarship.

In addition to its focus on Greek and Latin literature, scholarship on the Achaemenid army has two other limitations. First, scholars tend to ignore earlier armies in Egypt and Southwest Asia. It is odd that Achaemenid soldiers are more often compared to medieval Arabs, Mongols, knights, or Turks than to soldiers from other ancient societies in the same region (the diversity of these parallels also suggests that the people proposing them have very different pictures of the Persian army). There are now many studies of war in ancient Southwest Asia beyond Yigael Yadin's classic but bible-centred book.[115] Since the first discoveries at the Assyrian capitals, scholars have written about the Neo-Assyrian army. J.N.P Postgate, Walter Mayer, Tamasz Dezsö, and Andreas Fuchs have recently published broad books or articles on the subject, and Fabrice De Backer is working on the organization of combat units.[116] There are also accessible books on warfare in earlier Southwest Asian states by William Hamblin, Donald Redford, and Anthony Spalinger.[117] Armies of the Hellenistic period have begun to attract more interest, as scholars have moved away from the old idea that armies in the former Achaemenid empire were simply imitations of first Alexander's army and then of Roman ones.[118] Bezalel Bar Kochva's book on the Seleucid army, and Angelois Chaniotis' book on warfare in the Aegean, are examples of this new trend.[119] It may be that Achaemenid armies were distinct from Neo-Assyrian and Neo-Babylonian ones and had little influence on Seleucid ones, but this should be tested and not simply assumed. Similarly, Ferrill's idea that Achaemenid practices influenced Greek and Macedonian ones is promising but could be made more specific. Placing the Achaemenid army into its historical context would be useful for specialists in the ancient Near East, for classicists, and for world historians.

Second, many writers assume that the army was a passive recipient of influence from Greece and Macedonia. Scholars have attributed most of the changes in the Achaemenid army from the time of Xerxes onwards to fear of Greek hoplites. Sekunda suggested that Persian archers began to carry small round shields so that they could defend themselves after Greeks broke down their walls of standing shields.[120] This resembles an older tradition that their defeat at Plataea caused the Persians to let their infantry decline while they concentrated on cavalry.[121] Nefiodkin suggested that the

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IL, 2001)

114 Moorey 1980, Schmidt 1957: 97-101, Petrie 1909

115 Yadin 1963

116 Mayer 1995, Postgate 2000, Dezsö 2012, Fuchs 2011, Fuchs 2012. For other broad studies see Manitus 1910, Reade 1972, Malbran-Labat 1982.

117 William J. Hamblin, *Warfare in the Ancient Near East: Holy Warriors at the Dawn of Time* (Routledge: Oxon 2006), Donald B. Redford, *The Campaigns in Syria and Palestine of Thutmose III* (Leiden: Brill, 2003), Anthony J. Spalinger, *War in Ancient Egypt: The New Kingdom*. (Wiley-Blackwell: Malden, MA, 2005).

118 For the old school, see Tarn 1930, Connolly 1981, Warry 1980, and Sekunda 2006. These works typically focus on longer pikes, bigger warships, more elaborate siege machines, and a shrinking base of recruitment, and treat Hellenistic armies as inferior imitations of Alexander's with no significant connection to earlier armies in Egypt or Southwest Asia. A variant, seen in Sekunda's book, imagines Hellenistic kings abandoning their old traditions to create armies of 'imitation legionaries': there is some evidence for this but modern theories often go beyond it.

119 Bezalel Bar-Kochva, *The Seleucid Army: Organization and Tactics in the Great Campaigns* (Cambridge University Press: New York, 1976), Angelois Chaniotis, *War in the Hellenistic World* (Blackwell: Malden, MA, 2005)

120 Sekunda, *Persian Army* p. 18, 19

Persians invented scythed chariots as a secret weapon for their wars with the Greeks.[122] Foss states that the Persians learned to hurl lead bullets instead of stones from slings after being defeated by Greek slingers amongst the Ten Thousand.[123] A number of writers suggest that in the fourth century the Persian tried to imitate Greek hoplites. Duncan Head calls the *kardakes* infantry "a Persian attempt to create an effective close-fighting infantry, by copying the Greek hoplite"[124] and E. Badian reads Darius III's distribution of new equipment to his army for the battle of Gaugamela as "a truly astonishing measure: to equip some of his eastern infantry after the Greek and Macedonian fashion."[125] While each of these suggestions is possible, it seems unlikely that all of these changes were in response to troubles on the northwest frontier.

In contrast, suggestions of Persian influence on Greek soldiers are usually vague and cautious. A.D. Fraser and Frederick Poulsen suggested that some Greek hoplites attached curtains to their shields to protect their legs from Persian arrows.[126] This proposal fits the tropes of the Greek spear against the Persian bow, and of Greek equipment defeating Persian weapons, so it is fairly often mentioned, although Hans Van Wees chose to leave it out of his book on Classical Greek warfare.[127] J.K. Anderson speculated that the armour with shoulder-flaps which was popular in Greece might have been borrowed from the Egyptians, but this idea does not appear to have attracted much interest.[128] Several writers have suggested that Xenophon's proposals to improve the Athenian cavalry reflected his knowledge of Persian horsemanship, but I.G. Spence's book on Greek cavalry just mentions parallels without using the words "borrow" or "imitate," and J.K Anderson warns that "Xenophon, though strongly influenced by Persian ideas, was not proposing to equip Greek cavalry in the Persian manner."[129] Luke Ueda-Sarson suggested that some Greeks imitated Egyptian marines by adopting longer spears, but only after warning that soldiers in the *Iliad* and in many historical cultures used longer spears when they fought at sea than when they fought on land.[130] Robert Rollinger looks at the practice of crossing rivers on inflated skins, which was widespread in

121 Eg. Tarn, *Alexander the Great*, Vol. 1 p. 15 (asserted without evidence but cited with approval by Burn, *Persia and the Greeks*, 566) paraphrased in Tarn, *Hellenistic Military and Naval Developments*, pp. 51-53, Shahbazi, "ARMY i.4 The Parthian Period" "The Greco-Persian wars and Alexander's victories proved that light-armed troops could not stop heavy, well-trained, and brilliantly lead infantry of the type of hoplites or phalanx. These could only be encountered with heavily armed and highly professional cavalry …"

122 Nefiodkin, "On the Origin of Scythed Chariots"

123 Foss, "A Bullet of Tissaphernes," with criticism in Briant, *Cyrus to Alexander*, 1037, 1038

124 Head, *Persian Army*, p. 42

125 Badian, "Darius III," 258

126 Frederick Poulsen, "Fragment eines attischen Grabreliefs mit zwei Kriegern," *Jahrbuch des Deutschen Archäologischen Instituts* 44 (1929), pp. 137-140, and A.D. Fraser, "The Panoply of the Ethiopian Warrior," *American Journal of Archaeology* 39.1 (January 1935), pp. 35-45, cp. Jarva 1986. This theory is often mentioned without attribution in eg. P.E. Corbett, "A Vase by the Altamura Painter," *The British Museum Quarterly* Vol. 34 No. 3/4 (December 1961), 97-99, Anderson 1970: 17 (the 1848 work which he cites just suggests that curtains identify leaders), and Connolly 1981: 53

127 Van Wees, *Greek Warfare*, 48

128 Anderson 1970: 23

129 "Several writers" eg. Sekunda, *Persian Army*, 25 "Life of Datames" 42, Anderson 1961 (quote on p. 150), Tuplin, "All the King's Horse" p. 140. I.G. Spence, *The Cavalry of Classical Greece: A Social and Military History with Particular Reference to Athens* (Clarendon Press: Oxford, 1993), 50 (short tough spears), 63 (arm guards); like Hanson, Spence uses non-Greek cavalry for examples or mentions Greeks fighting against them but otherwise ignores them. He accepts a statement by Arrian that the Macedonians learned to ride in wedges from the Thracians who had learned from the Scythians (27, 104).

130 Luke Ueda-Sarson, "Iphicrates and the Evolution of Hellenistic Infantry, part 1: The Reforms of Iphicrates," *Slingshot* 222 (May 2000), pp. 30-36

the Near East and occasionally imitated by Greek and Roman armies but may not have been fully understood by the classical authorities.[131] Arthur Ferrill suggests that the Greeks and Macedonians learned from the Persians in the fourth century BCE, and B. Meissner that they did so at the beginning of the fifth, but both speak generally and neither has been tremendously influential.[132] These theories compete with a wide range of explanations which focus on factors internal to Greek culture. While changes in the Persian army are usually attributed to wars with the Greeks if they are explained at all, the wars with the Persians are only occasionally used to explain changes in Greek armies.

This assumption that changes in the Persian army were usually motivated by fear of the Greeks might be correct, but it deserves to be tested. Most writers on the Achaemenid army know much more about Greek than Southwest Asian warfare, so are more likely to know of Greek precedents for a Persian practice than the other way around. Evidence from the Greek world tends to be plentiful and well-published. These writers also tend to be very familiar with Greek and Macedonian wars with the Persians. This creates a natural environment for what psychologists call availability bias: the tendency to make decisions as if things which come easily to mind are common and things which do not are rare.[133] The classic example is the tendency to assume that dangers which are often discussed in the news are great, and dangers which are rarely discussed are small. A specialist in Greek history who looks at the Persians will find that similarities to and precedents from Greek practices come quickly to mind, as they are the part of the ancient world about which he knows most, while he will find it difficult to think of precedents in the ancient Near East, as he rarely reads about the topic. Many classicists were also raised to believe that the Greeks were a special source of innovation and influence throughout the ancient world, and Greek influence on Persian soldiers fit that assumption. Some classicists may have also felt that they needed to demonstrate a connection to Greece in order to justify studying a topic. J.K. Anderson, for example, devotes about a thousand words to insisting that the hoplites on the "Nereid Monument" from Xanthus could be Greeks just as easily as Karians, Lydians, or Lykians.[134] He seems to have believed that they only belonged in his book if they were ethnic Greeks, even though their equipment was similar to that used all around the Aegean. Classicists' natural desire to "lay claim" to particular changes and pieces of evidence may also have biased the literature towards claiming Greek influence on Persian soldiers. The attempts to identify the lances and flag in the background of the "Alexander Mosaic" as Macedonian rather than Persian seem too persistent to explain as a simple misconception.[135] Research on other areas of Achaemenid culture has discovered many signs that Achaemenid practices influenced Greek ones, and that people in western Anatolia and Cyprus drew on both traditions. Margaret Miller has shown how the Athenian

131 Rollinger 2013

132 Ferrill, *Origins of Warfare*, and Burkhardt Meissner, "War as a Learning-Process: The Persian Wars and the Transformation of Fifth Century Greek Warfare," in Kostas Buraselis and Katerina Meidani eds., *Marathon: The Battle and the Ancient Deme* (Athens: Institut du Livre, 2010), 275-296

133 A good introduction is Rolf Reber "Availability" in Rüdiger F. Pohl ed., *Cognitive Illusions: A Handbook on Fallacies and Biases in Thinking, Judgement, and Memory* (Psychology Press: NY 2004) pp. 147-164

134 J.K. Anderson, *Military Theory and Practice*, pp. 34-36 A similar worry is expressed in a popular article by Duncan Head published in 2018!

135 For an overview of this tradition see Carl Nylander. "The Standard of the Great King: A Problem in the Alexander Mosaic." *Opusculata Romana*, Volume 14, Issue 2. pp. 19-37

imitated and adapted Persian motifs and practices, imitating Persian drinking vessels in clay and possibly Persian tents in wood and stone.[136] It is certainly plausible that Persian military practices influenced Greek ones.

Unlike other areas of ancient military history, Achaemenid army studies have never become an independent discipline with a community of experts and a special set of methods, conventions, and knowledge. As a result, most research to date has three serious weaknesses: it pays little attention to forms of evidence other than Greek and Latin literature, it ignores earlier armies in Southwest Asia, and it attributes most changes in the army to the need to resist superior Greek and Macedonian infantry. While other areas of research in ancient history have moved beyond these limits, few works on the Persian army have done so.

1.11 Aims of the Dissertation

This thesis cannot create a scholarly community from nothing, but it will attempt to do some new things. First, it will put Achaemenid military history into the context of the military history of Southwest Asia in the last three millennia BCE. The Achaemenid army is sometimes presented as a childless orphan, since it is neither compared to earlier Near Eastern armies in a sophisticated way nor considered as a possible source of influence on the Hellenistic armies which operated in the same region. Until someone seriously considers the question, it is impossible to know how much continuity existed. Historians of Greek warfare may have felt that they were not qualified to research Near Eastern military history, except as it had been summarized by specialists such as Yigael Yadin. While Assyriology does have a reputation as an arcane field, a variety of books for non-specialists are now available including Tamas Dezsö on the Neo-Assyrian army, William Hamblin on warfare up to 1600 BCE, and Anthony Spallinger on Late Bronze Age Egypt. Some specialists in Iranian culture may have been reluctant to compare the Achaemenids to earlier Mesopotamian civilizations or to the Macedonian successor states. Again, it seems wiser to first lay out the evidence and then decide whether it shows influence than to assume that the two cultures were distinct. Cultural influence is not necessarily one way, and borrowing is not a sign of backwardness or weakness. In any case, historians have often made loose comparisons between Achaemenid armies and European, Turkish, Persian, or Mongol armies in the last thousand years. If one accepts that comparison is a reasonable approach, then comparing the Achaemenid army to other armies close in space and time seems safer than loose comparisons to the Mughal army or the Turks at the time of the First Crusade. Similarly, Iranologists often imply that the Achaemenid, Arsacid, and Sasanid armies have something in common but do not develop the comparison with Mesopotamian, Hellenistic, or Roman armies since these are seen as non-Iranian. Rather than assume a close connection between some armies and none between others, it seems better to compare what we know about different armies and see what continuities suggest themselves.

Second, this study will consider all kinds of sources seriously. While classical scholarship tends to focus on literary sources, these are not the only ones available. Documents, literature, art, archaeological remains, and comparative evidence all give a perspective on the Achaemenid army, and literary sources include the Achaemenid Royal Inscriptions and the Astronomical Diaries just as

136 Miller, *Athens and Persia in the Fifth Century BC*

much as Herodotus and Arrian, just as artistic evidence includes cylinder seals from Babylon just as much as Attic Red Figure pottery. Every type of source has its limits, and it is true that texts from the Near East rarely address the events mentioned in Greek literature. Yet this tells us that the picture from Greek literature is incomplete, just as Roman literature and Roman inscriptions give two complimentary pictures of the Roman army. Roman army studies have long been a model of integrating archaeological, epigraphic, monumental, and literary evidence, and this approach has become more common in Greek military history, yet these different fields have not often been integrated into studies of the Achaemenid army. Josef Wiesehöfer, Nicholas Sekunda, Duncan Head, and Christopher Tuplin have experimented with this approach but there is much more to be done.

Lastly, this thesis will approach Greek and Latin literature with the critical approach developed in the Achaemenid history workshops. Specialized studies by classicists contain some thoughtful criticism, but this criticism often confines itself to specific details, and does not always consider each source's general attitude towards the Persian army. It is one thing to debate whether Xenophon or Ctesias is the more reliable source for the Battle of Cunaxa, another to debate how the choice of our sources to describe this battle in several thousand words and others in a single sentence affects our view of Achaemenid military history. Writers discussing wide topics do not always heed the warnings of specialists, and they sometimes make selective use of Greek and Latin literature.[137] Studies of the Persian army as an institution often use Greek and Latin sources as a mine of facts, with brief reference to art and documents from the empire when they seem to agree or disagree with the classical sources.

1.12 Scope of the Dissertation

This is a dissertation about the role of armed force in the Teispid-Achaemenid empire, not a history of particular military operations. As I revise this chapter after several years of working on other things, I am forced to agree with McCaskie that a necessary preliminary for the kind of research promoted by Pierre Briant and the other 'radicals' was a move away from narratives, which inevitably rely on the same handful of Greek writers and focus on events which suited their interests to emphasize and which have interested earlier generations of classicists.[138] Other kinds of evidence simply do not support a detailed chronological narrative of events, although they can be used to tell other kinds of stories about differences over time and space. However, I would disagree with him that avoiding a year-by-year narrative is in some way not proper history: social, economic, and cultural historians, and specialists in periods like Archaic Greece or Migration Era Europe which have left very few texts, routinely work with trends over decades or scattered anecdotes.

Similarly, this dissertation says almost nothing about the navy and war at sea or in the rivers and marshes of Mesopotamia. Evidence for naval warfare is limited, and a specialist should have some knowledge of boating and boat-building. I lack those skills.

137 For example, Hanson frequently quotes Herodotus' imaginations about what Mardonius said about Greek warfare or the Persians at Marathon thought as the Athenians charged them, but seldom the passages where Greek writers call Persian troops "hoplites," say that they were armed like Greeks, or admire their good order.

138 McCaskie 2012

A planned chapter on artwork and the nobility at war and a chapter on battle standards as a practice borrowed from the Persians into the armies of Alexander and his Successsors have been left out for lack of time. Artwork has been relatively well covered in the past thirty years, and tends to interest people across fields: photos of the carved sarcophagus of a rider from Can and the painted wooden tomb chamber from Kelainai have been widely reproduced.

Even with these limitations, this is a broad and ambitious project with all the dangers which that implies. One could also write a narrower study focusing on a single region or period, reducing the amount of material to master and the need to generalize amongst unlike things. This study covers soldiers across the empire and as long as it existed for several reasons. First, previous studies of specific problems do not seem to have transformed the way in which classicists and military historians write about the Achaemenid army. Perhaps a broad study will be more useful. Second, different kinds of evidence tend to be concentrated in different places and times. Babylonia and Persepolis have left us economic documents and legal documents, Egypt and the Levant letters and lists, and Anatolia funerary monuments. A focus on a given place and time might really say more about the limits of a particular kind or corpus of evidence than about the characteristics of that place. Lastly, much of the evidence is difficult to date. While a contract may be linked to an exact date in the Gregorian calendar, a tomb or cylinder seal can rarely be dated closely than a 50 year period. Future scholars may chose to focus on change over time or difference between regions.

Chapter 2: The Ancestors of Achaemenid Armies

2.1 Introduction

In the first chapter of this thesis I observed that the Achaemenid army is presented as a childless orphan. This is perhaps because the classical tradition has very little to say about warfare in the Near East before the Persians, and because early Iran has left few sources on warfare. However, cuneiform sources, archaeology, and art have a great deal to say about warfare in the ancient Near East. Warriors in the Achaemenid empire did not know what the future would bring, but they did know some things about the past through monuments, tapestries, or folk tales about the kings of old. From a modern historicist perspective, practices in the Achaemenid period were just one link in a chain stretching into the distant past. Having placed modern theories about the Achaemenid army into historical context, it is now time to look at the real armies which came before it.

2.2 Setting the Scope

2.2.1 Chronological Scope

This chapter will focus on the period from the 9th through the 6th century BCE, which can be studied through the lens of the Neo-Assyrian and Neo-Babylonian kings who ruled over most of the Fertile Crescent and some of the mountains, marshes, and deserts which bordered upon it. Readers interested in the question whether war was invented or was also practiced by pre-human primates, on the origin of the state and the city, and on the history of the third and second millennia must look elsewhere. A number of good surveys of the origin of warfare, warfare in prehistory, and warfare in the ancient near east are already in print, and this study cannot substitute for them.[139]

On the other hand, students of the ancient Near East must address the problem that some aspects of life are very well documented in some periods, and almost invisible in others. For example, texts from Nuzi, paintings and one surviving armour from New Kingdom Egypt, and scales from various sites allow a very detailed understanding of armour in the Late Bronze Age.[140] Although the technology of scale armour continued to develop in the first millennium BCE, the sources are not as rich and have not been as thoroughly studied.[141] As is discussed in chapter 4, the Gadal-iâma contract (UCP 9/3 pp. 269-277) seems to allude to a legal device last documented a thousand years before it was written. Nigel Tallis also noted that Herodotus' description of Xerxes' army crossing the Hellespont has echoes in Hittite texts which describe soldiers turning their spears point-down before entering the inner palace, and special troops armed with gold spears.[142] A strict focus on the

139 On the origins of warfare and prehistoric warfare see Ferrill 1997, Dyer 2006, Müller-Neuhof 2014, Steven Pinker, *The Better Angels of our Nature* (New York, NY: Viking, 2011), cites other studies but *caveat lector*. On warfare in the ancient Near East see Beale 1992 (*non vidi*), Redford 2003, Spalinger 2005, Darnell / Manassa 2007, Howard 2011, MacGinnis 2012, Dezsö 2012, Linke 2015: 292-304. The classic illustrated study is Yadin 1963, but its orientation around the Old Testament narrative has become less and less convincing with the progress of Assyriology and Israeli archaeology.

140 Kendall 1974, Hulit 2002

141 For recent overviews see RlA s.v. Panzer or Barron 2010: ch. V Armour

142 Nigel Tallis, "The Achaemenid Army in a Near Eastern Context," in J. Curtis and St John Simpson ed., The World of Achaemenid Persia (I.B. Tauris, London, 2010) pp. 309-314

first millennium could therefore create the false impression that nothing is known about some topics, or that a practice in the Achaemenid empire did not have earlier parallels. Therefore, this chapter will occasionally discuss evidence from before the 9th century BCE, but without claiming to be comprehensive.

2.2.2 Geographical Scope

The uneven distribution of the evidence and the sheer size of the countries which became part of the Achaemenid empire also forces a survey to focus on a few parts. This chapter focuses on Assyria, Babylonia and their neighbours. This area has left a vast amount of written, artistic, and archaeological evidence, and was geographically, economically, and ideologically central to the Teispids and Achaemenids. It has also attracted the attention of many modern scholars.

Regions far from Mesopotamia pose special difficulties which make them difficult to include in a one-chapter survey. Information about warfare in Egypt in the thousand years from the collapse of the New Kingdom to the Macedonian conquest is surprisingly scarce.[143] Studies of warfare in Lydia and the other countries of western Anatolia are also difficult to find, and studies of warfare in western Anatolia in the early first millennium BCE tend to concentrate on sites and populations which can be labelled "Greek" (although specialists in Anatolian archaeology often warn that it is difficult to distinguish 'Greek' and 'non-Greek' sites and practices).[144] Eastern Iran, Bactria, and Sogdia have left mainly archaeological evidence which I am not trained to tackle. And early India poses its own textual and archaeological problems. Work on these areas also benefits from knowledge of a variety of ancient and modern languages such as Sanskrit, Farsi, Demotic Egyptian, and Turkish. Given the scope of a doctoral dissertation, it seems more appropriate to focus this study in space and time, and let other scholars with other specialities chose other examples.

2.3 Methodology

Although very numerous and diverse sources address warfare in the early first millennium BCE, scholars have struggled to write a synthesis. In particular, bringing the documents, the royal inscriptions, and the palace sculptures together is a challenge. As recently as 2000 J.N. Postgate complained that there was no overview of Neo-Assyrian warfare which combined textual and iconographic evidence, and even the study of Tamás Dezsö (2012) relies more on documents and monuments than royal inscriptions or artifacts.[145]

While classical literature includes texts which were intended for practical military instruction, Andreas Fuchs recently argued that no surviving cuneiform text contains anything of the sort.[146] No

143 Verifying a negative is always difficult, and I would welcome suggestions. Informal inquiries with colleagues gave the answer that few sources on warfare survive from Egypt after the New Kingdom and before the Ptolemaic period; Ruzicka 2012 also cites few sources.

144 Impossibility of distinguishing 'Greeks' and 'barbarians' on archaeological grounds: Cook 1959/1960: 50, Brouwers 2013: 98-101, 167. Lydian and Phrygian warfare: After an email exchange with Dr. Annick Payne, see Hanfmann 1945 and the works on Smyrna, Sardis, and Gordion in the bibliography.

145 Dezsö 2012. Other surveys include Manitus 1910 and Malbran-Labat 1982.

146 Andreas Fuchs, "Wissenstransfer und -anwendung im Bereich des Heerwesens und der Militärtechnik des neuasszrischen Reiches," in Hans Neumann und Susanne Paulus eds., Wissenskultur im Alten Orient: Weltanschauung, Wissenschaften, Techniken, Technologien: 4. Internationales Colloquium der Deutschen Orient-

Sumerian or Akkadian text provides the systematic description of an army and its organization, or how particular types of troops are arranged on the battlefield, or the strengths and weaknesses of particular styles of equipment, which classicists can find in Aeneas Tacticus, Polybius, Josephus, Vegetius, or the *Strategikon* of Maurice. This means that Assyriologists had to begin the study of warfare without an existing paradigm and vocabulary. While specialists in Classical warfare can list ways in which the literary sources proved misleading, they provided a framework around which other kinds of evidence could be organized. Equally frustrating, the classical sources have left a legacy of expectations and categories which the Southwest Asian sources can not easily fulfil. Researchers today wish for technical descriptions of battles, or the organization of armies, because the classical sources present these things as important. Modern worries about whether particular instances of conscription represent "civilian" or "military" service reflect our own society's ways of thinking about forced labour more than distinctions in the cuneiform sources. Finding questions and categories which are more appropriate to the Southwest Asian sources is not a trivial task.

The intimidating bulk of sources left by the Neo-Assyrian empire should not make us forget that far more has been lost. This is not merely to state the commonplace that many aspects of life were never described in writing, or that the royal archives and monuments present the kings' view of events, or to list the sources lost to shipwreck, looting, or rebel demolition. Writing boards (Sum. {giš}DA, Akk. *lē'u*) covered in wax were widely used since the Ur III period at the end of the 3rd millennium BCE. These only survive in the most fortunate conditions, such as the Uluburun shipwreck or the ivory tablets thrown into a well during the sack of Nimrud, and normally the wax which bears the text is completely lost.[147] Texts could also be painted on potsherds or fragments of stone or written on skins or papyrus: the cuneiform sources mention Assyrian, Aramaic, and Egyptian scribes at the palace[148]. The split tallysticks from Achaemenid Bactria are unsettling, since before their appearance on the antiquities market scholars had believed that such records were a medieval innovation.[149] Thus even the plentiful texts and artwork from the Neo-Assyrian period may leave out whole areas of life which were recorded on ways which do not survive as well as clay tablets and gipsum reliefs.

The evidence is also unevenly distributed. The Neo-Assyrian kings went to great trouble to publicize and immortalize their view of events. The royal inscriptions and monumental sculptures which they sponsored inevitably form key sources for modern research. Many of their opponents lacked the resources or the desire to immortalize an alternative version. The Assyrians also made some choices which proved lucky for posterity. By keeping many of their records on clay rather than skin or papyrus, and by commissioning stone sculptures rather than fibre art or painting, they produced sources which were much more likely to survive into modern times than the alternatives. In fact the Assyrians, like their neighbours, produced decorated textiles and texts on organic media,

Gesellschaft, 20-22. Februar 2002, Münster. Harrasowitz Verlag, Wiesbaden, 2012 pp. 31-59

147 Uluburun: Payton 1991, Pulak 1998: 218. Nimrud: Howard 1955, Wisemann 1955,

148 Fales 2007: 108, 109, 117, 118

149 Henkelman and Folmer 2016

but these have been almost entirely lost.[150] Many warlike kings of Babylonia left hardly any trace of their campaigns in monuments or inscriptions, while leaving many inscriptions on other subjects.

Also, the sudden destruction of the Assyrian cities by the Babylonians and Medes preserved evidence which would have otherwise been lost. The gypsum reliefs which decorated Assyrian palaces are quickly destroyed by water, but they survived where they were buried beneath the earth of collapsed palaces. The ivory tablets mentioned above would have decayed if they had not been thrown into a deep well. Scholars who have looked at several surviving archives strongly suspect that from time to time the oldest documents were discarded, so that no more than a century's worth of records existed at any one time. The sack and abandonment of Khorsabad, Nineveh, and the other Assyrian capitals interrupted this process, whereas it presumably continued in the south as Persian, Macedonian, and Parthian kings conquered Babylonia. Different types of texts are more common from some reigns than from others- letters from ordinary officials are mostly from earlier kings, queries to Šamaš about how to respond to events mainly from later rulers.

Assyria appears in Near Eastern sources since the second millennium, and sometimes a king carved out an empire: most famously, Tiglath-Pilser I conquered Babylon in the 11th century BCE, but his descendants were not able to keep control of this large kingdom.[151] Assyrian history began to take a new course in the 9th century, when Aššurnaṣirpal II and Shalmaneser III sent armies towards the Mediterranean and Babylonia and into the mountains of Urartu. The next few kings have left few annals or building inscriptions, suggesting that once again they found it difficult to maintain control of such a wide area. Assyrian history entered its most spectacular phase when Tiglath-Pilser III took the throne in 745, and especially under the four 'Sargonid' kings: Sargon II, Sennacherib, Esarhaddon, and Assurbanipal. These kings ruled most of the Fertile Crescent and sent armies even further, and their power did not fade until around 612 BCE, when their cities were destroyed by an alliance of Babylonians and Medes. Where previous empires had usually faltered after the death of the founder, the Assyrians held power through the reigns of at least six kings, suggesting that they had created institutions and an army which functioned without a brilliant leader at the top.

2.4 The Scale of Warfare

Measuring the scale of Neo-Assyrian warfare would make it much easier to compare to warfare in other places and times. Just how large were Assyrian armies? How far and how long ? These questions can be answered in a general way, despite the notorious difficulties of measuring things in a war zone.

Although numbers are plentiful in royal inscriptions, letters, and documents, few sources give the size of individual armies at a particular place and time. In a study of numbers in Neo-Assyrian

150 It is striking how many patterned garments, rugs, etc. are carved into the Neo-Assyrian reliefs. Before the reliefs lost their paint, the effect must have been even more striking. Also, the reliefs tend towards simplification and stereotype, so many details of clothing must never have been depicted by the sculptors. References to "leather documents" are common in Neo-Assyrian letters and inventories, and P. Amherst Egyptian 63 contains a story of the quarrel between Assurbanipal and Šamaš-šum-ukkin written in Aramaic which seems to descend from Assyrian propaganda. (Steiner 1997).

151 For the early military history of Assyria see Mayer 1995

letters, F. M. Fales emphasized that these sources do not explain the assumptions which Assyrians used to combine figures of the grain supply in specific towns or the number of men under specific officials and estimate how many troops they could assemble in one place for a particular period.[152] The largest army in a literary source is attributed to Shalmaneser III, who claimed that he crossed the Euphrates in 845 BCE with 120,000 troops.[153] Numbers beginning with 12 were symbolically important in Neo-Assyrian culture, and numbers can differ wildly between different inscriptions, so few Assyriologists trust his boast, or his claim that he defeated 12 kings with almost 60,000 troops at Qarqar in Syria. Sennacherib's boast that he conscripted 30,500 bowmen and 20,200 bowmen from Elam into his *kiṣir šarrūti* is just as problematic, especially since the whole *kiṣir šarruti* was rarely brought together in a single place.[154] Sennacherib says that the king of Elam sent "80,000 troops, bowmen [and spearmen, and 850] wagons and horses that were with them" to assist Merodach-baladan of Babylonia.[155] It is striking that these numbers resemble the largest figures for the size of Hellenistic and Roman armies which modern scholars find credible (and not the armies of tens or hundreds of myriads which classical writers assign to barbarians).

A letter before the arrival of an army in the reign of a later king reported that the town of Kār-Aššur could provide 57,800 *qa* of barley per day for fodder and 70,500 *qa* per day of barley for human consumption. However, since the average food requirement of men in an Assyrian army is not known (probably between 1 and 3 *qa* per day), it is difficult to say more than that Kār-Aššur could support some tens of thousands of soldiers and thousands of horses indefinitely.[156] The review at Zamua counted 1,430 troops present in the service of one official, and promised that more were on the way. A fragmentary list of troops lists 18 pairs of contingents as chariotry (GIŠ.GIGIR) with a strength between 600 and 2200 men for each pair.[157] The total would appear to be 24,700 troops in the chariotry alone, but the context of this list (and its relationship to the size of armies which arrived in distant lands) is unknown.

Both the royal inscriptions and the documents imply that the Assyrians were used to dealing with tens of thousands of soldiers, and neither claims that any army was more than 120,000 strong. The Assyrians sometimes claimed to have deported hundreds of thousands of people, or taken hundreds of thousands of cattle (eg. RINAP Sennacherib 1 60), but they did not claim that they or their enemies brought hundreds of thousands of soldiers to a battle. These numbers fit very well with evidence from, for example, the Hellenistic-Roman world or Europe and the Ottoman Empire in the 17th and 18th century, whereas it is very hard to find evidence for armies of hundreds of thousands of soldiers before the 19th century.

Of course neither the royal inscriptions nor the documents lets us know with certainty the size of any particular army. As will be discussed in chapter 6, all estimates of the size of armies should be read with skepticism. It would absolutely be interesting to know whether a large army under

152 Fales 1990
153 Dezsö 2012: vol. 2 p. 151 = RIMAP Shalmaneser III A.0.102.10, iii:15-16
154 RINAP Sennacherib 46: 102b-106a (note that the text in Luckenbill 1924: 76 cited by Dezsö I.84 has "30,500 shield bearers"
155 RINAP Sennacherib 1 9
156 Fales 1990: 24-30
157 SAA 11.126 = tablet K 8093 + Rm 2.23

Sargon II (for example) had closer to 40,000 fighters or 120,000. However, the classical literary tradition suggests that the larger army did not necessarily have an overwhelming advantage: it was not uncommon for an army to win despite being outnumbered by two to one.[158] So while it would be interesting to know how the size of Assyrian armies changed over time, whether they tended to be more or less numerous than their opponents, and whether the largest Assyrian army was larger or smaller than the largest Hellenistic or Roman army, perhaps these things are not as important as they seem.

A famous letter from the Old Assyrian king Šamši-Adad I lists contingents for a "strong army" of 20,000 men (the totals add up to 22,000).[159] The starting point for the size of armies in the Late Bronze Age is usually the battle of Kadesh. Most scholars accept an Egyptian army of around 20,000 men including 2,000 chariots which survived an encounter with a Hittite army which was (according to Pharaoh) significantly larger.[160] Once again, these numbers are similar to those which the classical literary tradition gives for Greek, Macedonian, and Roman armies raised by similar entities.

The spatial extent of Neo-Assyrian warfare is easier to define, although many places in the royal inscriptions cannot be precisely located today, and scholarly texts often use vague archaic names instead of precise contemporary ones. The Assyrian kings, and the learned authors of the so-called Sargon Geography, presented their longest campaigns as reaching 120 or 140 double-hours (1300 to 1500 km) from their starting point, and modern estimates roughly agree.[161] They proudly boasted when they had gone further than earlier kings and set up monuments to record the event. Esarhaddon lead armies into Upper Egypt and along the southern shore of the Persian Gulf to Bahrain (Baza): later on the Egyptians intervened in the wars which lead to the fall of the Assyrian kings and the rise of Babylon. A few expeditions ventured into eastern Anatolia and the area around lakes Van and Urmia, although the Assyrians never conquered Lydia or Urartu. In the north-east, the Assyrians conquered the central Zagros mountains- an impressive achievement, since earlier Mesopotamian kings were usually satisfied to collect tribute from the mountains. While the Neo-Babylonians did not produce so many boasting inscriptions, they also sent their armies far: aside from the conquest of the Levant after which many Jews were deported to Babylonia, Nabonidus led his armies into the desert and spent many years at Tema in western Arabia about 1200 km from Babylon. To lead an army so far and sustain it for years was unprecedented, since the most distant Assyrian campaigns, such as Aššurbanipal's sack of Thebes, usually ended in a hasty march home.

Sargon of Akkad had created the model of a kingdom from the Upper Sea (Mediterranean) to the Lower Sea (Persian Gulf) at the end of the third millennium, but such large kingdoms rarely lasted. In the Late Bronze Age, long campaigns usually covered distances such as that from Memphis to Kadesh (700 km), or from Hatussus and the Aegean (600 km), or from Aššur to Babylon (300 km).[162] The Assyrians were able to project power twice as far as their predecessors,

158 Sabin 2007: 11-15
159 Hamblin 2006: 200
160 eg. Spalinger 2005, Shaw and Boatright 2008: 33-34. There are problems with the text of Ramesses' inscription which describes the size of the Hittite army (Howard 2011: 54)
161 Liverani 1999
162 All distances are estimated using maps in Wittke/Olshauen/Szydlak 2012

as well as extending their power east into the Zagros Mountains which had previously avoided direct rule by kings from between the rivers. The Babylonians avoided the mountains, but had some success in the western deserts which had never before been part of a powerful kingdom.

2.5 Origin of Soldiers

In his study of conscription in the Assyrian empire, J.N. Postgate suggested that soldiers could be roughly divided into three types.[163] First were 'professionals' who served for a long time and relied on pay or land grants to earn their living. These seem to have made up the *kiṣir šarrūti*. Next were men obliged to serve for a fixed period as *ṣāb šarri* "king's troop." These probably made up the majority of soldiers at any one time. The troops "of the reserve" (*ša kutalli*) may have been conscripts who were allowed to wait at home instead of joining the army immediately. Third were soldiers called up in an emergency for a particular campaign. Assyrian texts imply that most men could be called up in an emergency, although the sources are vague about the details. Since the second kind of troops were the most common, and because their obligations were idiosyncratic to Mesopotamia, they will be discussed further below.

Mesopotamian kings expected their male subjects to contribute a certain amount of labour for the king's projects such as canal-digging, temple-building, or war. This obligation was described by a variety of terms, but the two most important are *ilku* (Akkadian) and *dulum* (Sumerian)/*dullu* (Akkadian). Both are ubiquitous in texts from the Old Babylonian period onwards. One of the Sumerian proverb collection contains a version of "nothing is certain but death and taxes": in the scribes' idiom, "a citizen cannot avoid *dulum*."[164] Postgate remarked that "*dullu*, or 'work,' is one of the most frequent subjects of correspondence in the [Neo-Assyrian] royal letters."[165] In many periods, the conscripts could provide a substitute or pay a fine instead of serving themselves. Sometimes skilled workers were allowed to practice their crafts instead of joining the army or labour gangs.

Just who was liable for service is difficult to define, and the letter ABL 99, which will be discussed below, seems to show that it could be disputed: the author says that previously he did not conscript from the palace of Ekallāte because the palace overseer exempted them, but now that the king has exempted the inner city of Aššur, he will conscript the palace personnel who were previously immune. The Neo-Babylonian 'advice to a prince' also contains clauses warning about the disasters which will result if a king collects *ilku* from the citizens of Babylon, Sippar, or Nippur (Cole 1996: no. 128, lines 24-29). Kings and temples tried to collect as much labour as possible, while ordinary Mesopotamians tried to avoid service or be officially exempted, so that even the Assyrians might have struggled to define exactly who was expected to provide what kind of service.

Neither the Assyrians nor the other Mesopotamian cultures who left large bodies of texts drew a fundamental distinction between 'civilian' and 'military' service. The distinctions in modern European languages between "conscription" and "corvée" or *Wehrpflicht* and *Zivildienst* are not reflected in the ancient languages of the area. Whether men were asked to dredge a canal or besiege

163 Postgate 1974: 218
164 Proverb 2.157 http://etcsl.orinst.ox.ac.uk/cgi-bin/etcsl.cgi?text=c.6.1.02 dumu-gir15-bi du-lum la-ba-an-da13-da13
165 Postgate1974: 226 §3.2.1

a city, they still needed to be gathered and organized, provided with equipment and rations, marched to their distant work-site, and kept there until the job was done. Hauling large stone blocks in the summer heat could be more dangerous and strenuous than guarding a fort in a quiet district. This way of seeing things had some advantages, since the modern contrast between military and civil service is often broken in practice. Roman soldiers are often found making roads or nails, keeping records for the governor, or running small businesses, and modern conscripts are often assigned work responding to fires and floods, acting as extras in movies, or even serving as a moving wall to protect dignitaries from the wind.[166] Constructs such as a civil/military dichotomy are tools, and should only be used when they are useful.

Researchers often use rather negative language to describe conscripts from the Ancient Near East and imply that they were reluctant and ineffective.[167] However, conscription was extremely common in the ancient world, and it is difficult to dismiss all conscripts as half-hearted combatants. Aristophanes' *Peace*, Xenophon's *Cavalry Commander*, and Theophrastus' *Characters* all imply that not all Athenians were enthusiastic to fight for their *polis*. This did not prevent Athens from sending fleets and armies to many distant lands or winning countless battles. Rome conquered the Mediterranean with an army of conscripts despite widespread draft evasion and growing discontent at the sheer strain of forcing most young men to travel overseas for years.[168] Later generations did not see the transition from an army of conscripts from prosperous families to an army of volunteers drawn from the whole citizen body as an improvement. The soldiers who fought in the Taiping Rebellion or on the Eastern Front in the Second World War were conscripts subject to brutal rulers, but they still fought and died in astonishing numbers. Reluctant conscripts can be turned into an effective army, just like eager volunteers can be overthrown by superior skill or firepower.

Moreover, under ancient conditions there were only so many possible ways to raise an army. Soldiers who volunteered for a wage are often given the negative label "mercenaries," and only a tiny and privileged minority could serve as soldiers for free. Soldiers who volunteered in hopes of loot created their own problems, and did not always prove more eager to fight other soldiers than to kidnap the defenceless and drag them home for ransom. Many ancient societies found that mass conscription was the best way to meet their military needs. Rather than essentialize conscripts as all selfless and patriotic or all clumsy and lazy, it is much better to ask where particular conscripts fit along this spectrum.

Conscripts were summoned to a central place, inspected, assigned to different officials and kinds of work, and provided with equipment. The inspection or review (*mašartu*) seems to have been an important part of military service, to judge by its prominence in letters and contracts and

166 For conscripts as a living windbreak see Atkine 1999

167 eg. Badian 2000: 258 "Providing effective arms and training for the peasantry and making them play an equal part in defending the kingdom would have social consequences that no King had been willing to face. Hence hordes of primitively armed infantry had for two centuries left defense to noble cavalry, and Greeks had been hired to supply effective infantry without upsetting the traditional pattern of society." Eduard Meyer's "unkriegerische" subjects also cast a long shadow.

168 To explore this topic, look at works on the Roman censi and on the Gracchi eg. Rosenstein 2004. Figures vary enough from census to census that most specialists believe that a significant portion of the population evaded being counted.

the name of the *ekal mašarti* (“Review Palace”) at Nineveh.[169] A famous letter to a king describes an incident when the system failed:

> Now, I sent their *šaknu* to them (with this message): "Come! Let me review you, take you down into the mother (town) and give you equipment." They did not obey at all; they didn't come but assaulted their *šaknu*. (ABL 610 = SAA I 240)

In the Neo-Assyrian period it seems that king’s men and reserves were provided with rations or money to buy rations.

> As to the Aramean, troops about whom the king, my lord, wrote to me: “Equip them! They are going on a campaign (*ana KASKAL*).” I will give them their travel provisions (*eṣidu*), sackcloth (TUG2.sagu), leather bags (KUŠ.E.SIR), and oil (I3.MEŠ). I have no donkey stallions available, but if I did have donkey stallions available, I would offer my carts too for the campaign. (translation after SAA XIX.17)[170]

> I have heard the magnates say as follows: "We will set up a camp (*madaktu*) in Dilbat." If they set up a ca[m]p in Dilbat, the people will starve. Also, no caravan will come to them. Rather, their army will go out and plunder a caravan. Let them place the camp within the enclosure of the camp of Babylon of last year, and let boats and water-skins come to them.[171]

Some of the texts from Tel Halaf seem to record the distribution of weapons and armour to the soldiers and their collection before the soldiers were released from service.[172]

Whether all troops were supplied with their whole equipment is not completely clear ... some texts refer to the distribution of clothing and weapons to soldiers,[173] and Neo-Babylonian temples also equipped their dependants for service as guards (see chapter 4). Andreas Fuchs suggests that each governor was obliged to feed and equip the soldiers from his province.[174] However, the available sources do not prove that all soldiers were provided with all of their equipment. It is possible that equipment was provided only to some soldiers (such as household troops or men who could not afford to equip themselves as well as their lord wished) or that some soldiers were only provided with food and replacements for lost equipment as in the army of the Roman republic. At Nuzi in the Late Bronze Age, usually seem as a time where picked chariot warriors dominated warfare and conscripts were kept on the margins, men seem to have been obliged to equip themselves with bows and arrows and keep them in their homes.[175] As in the classical world, the balance between the centralized manufacture and storage of weapons, and between requiring soldiers to equip themselves, was rarely stable for long.

169 Dornauer 2014: 26
170 SAA XIX 17
171 SAA XVII 175
172 Dornauer 2014: 28, 29
173 Dornauer 2014: 28
174 Fuchs 2011: 387
175 Kendal 1974: 64, 65, 70, 71, 80-82, 250-252

Lists of men in service or liable to service were kept on writing boards (*lēʾū*), much like the *pinakes* which recorded the horsemen of Athens, or the rolls (*rotuli*) of medieval and early modern Europe. A letter to a Neo-Assyrian king whose name has been lost explains that he has written up a writing board with previously exempt men who are now subject to service (ABL 99 = Postgate 1974: 252-254). He then summarizes it as 370 troops, of which 90 are king's men, 90 reserves, and 190 shall do the king's *dullu*. Matthew Stolpher has collected a series of letters from temple officials in the early Achaemenid period which cite similar writing boards and complain that they do not have their full allotment of troops or supplies.[176]

The Assyrians were very conscious of the different ethnic or geographical origins of soldiers, but Assyrian kings boasted of incorporating soldiers from defeated cities and lands into their *kiṣir šarrūti*. In the muster at Zamua the Assyrians are assigned to cavalry, chariot, and noncombat roles but not infantry, and Postgate once suggested that "the true Assyrian *ṣāb šarri* constituted the chariot and mounted troops, while the foot-soldiers came from other races,"[177] but the reliefs show many infantry in 'Assyrian' costume. Given the size of the Assyrian empire, no doubt some soldiers were skillful and others untrained, some eager and others reluctant. Conscripted foreigners might fight eagerly against traditional enemies in hopes of loot, while probably not all ethnic Assyrians were keen warriors of Aššur eager to face any peril and overcome every obstacle for their king.

2.6 Types of Troops

Like most complex societies, the Assyrians divided their soldiers into different categories on social, tactical, or organizational grounds. Traces of such distinctions are visible in all the different types of evidence, but integrating them into a consistent model is not simple.

From the beginning of the ninth century BCE Assyrian kings spoke of armies as comprising chariots (GIŠ.GIGIR/*narkabtu*), horsemen (LU2.BAD.HAL /*pēthallu*), and troops (LU2.ERIM.MEŠ /*ṣābu*). Societies across Eurasia divided troops in similar ways. Identifying soldiers with different functions inside each of these broad groups across royal inscriptions, reliefs, and documents is more difficult.

2.6.1 Dezsö's Model of Assyrian Troop Types

Tamás Dezsö recently created a typology of Assyrian troops in the reliefs. Infantry are divided into auxiliary or light, regular or partially-armoured, and armoured or heavy categories then subdivided by the weapons which they wield. The auxiliaries wear 'non-Assyrian' clothing and helmets, and seem to represent troops recruited from other ethnic groups like the Qurreans and Ituʾeans. The regular infantry wear Assyrian 'bullet-shaped' helmets, but no armour. The armoured infantry wear scale or lamellar armour and Assyrian helmets. Each of these types of troops can be armed with spear and shield, bow, or sling. Dezsö divided carvings of cavalry into regular cavalry (who carry either spear or bow) and bodyguard cavalry (who sometimes carry both weapons). He found it difficult to subdivide chariots within the reign of any one king, except the the distinctive

176 Stolper 2003
177 Postgate 1974: 225; cp. Dezsö 2012

royal chariot and the chariots carrying divine ensigns on poles. While one could debate his choice of terms, it would be difficult to improve on his analysis.[178]

Texts in some ways support and in other ways diverge from this picture. On one hand, royal inscriptions often distinguish between spearmen and bowmen and between troops, cavalry, and chariots. On the other hand, a document from Tell Halaf (Dornauer no. 48) has ten each of bows, spears, shields, belts, and tunics. This seems to be equipment for a squad of men who possessed both spear and bow. Since this document contains no dates or proper names, it cannot be compared to the reliefs of a particular king, although the presence of helmets (*qurpissī*)[179] but not any kind of body armour might argue for a date before the last quarter of the eighth century BCE. Neo-Babylonian documents (MacGinnis 2012 no. 49, MacGinnis 2010) and Herodotus (7.61ff) present the same picture of "the double-armed man." One way to reconcile this with the reliefs and the royal inscriptions would be to assume that most Assyrian soldiers had both spear and bow, but carried one or the other into combat depending on the situation.

The earliest depictions of Assyrian cavalry often show them in pairs: one rider shoots a bow and the other holds the reins of both horses. Inscriptions from Assurnasirpal II (r. 883-859) onwards mention soldiers called *kallāpu* who often appear next to *pēthallūtu* "horsemen" and were responsible for carrying messages, protecting the baggage, and preventing other soldiers from deserting. JoAnn Scurlock has recently suggested that the *kallāpu* were the lancers or horse holders of the reliefs.[180]

A distinctive feature of Neo-Assyrian chariots is that they usually carried three men and were sometimes drawn by three horses (four men and four horses in the reign of Assurbanipal). In the Bronze Age, two men and two horses had worked with each chariot. The third man on an Assyrian chariot carried a round shield to protect the rest of the crew from arrows. The addition of extra crew members added weight but also let each man focus on a single task, rather than the same man having to both drive and protect his partner with a shield.

Dezsö also considered in what contexts, how often, and under what kings these different soldiers are depicted. Under Sennacherib (r. 704-681 BCE), for example, sculptors begin to show Assyrian soldiers with standardized clothing and equipment: all Assyrian soldiers wear the same helmets, armour, and boots whether they are infantry or cavalry, officers or recruits.[181] Sennacherib's sculptors avoided showing ordinary soldiers on chariots, whereas his father's sculptors had depicted many chariot fighters. Most boldly, Dezsö suggests that the reliefs concentrate on the *kiṣir šarrūti* or "royal cohort" and ignore "the masses of the ill-equipped and inferior quality units of the

178 Thus "regular" can mean either "professional and organized" (as contrasted with militia, volunteer, or auxiliary) or "normal, typical, without any special features" and the division of troops into "light" and "heavy" categories has complicated associations at least as old as Vegetius. However, as long as one treats his terms as technical terms with specific definitions inside his system, confusion is unlikely.

179 Translators in the Germanic tradition (eg. Dornauer, Tall Halaf) often translate *gurpissu* as "Halsberg," a word which originally meant "throat-armour" then "a shirt of mail with a hood" and finally "a shirt of mail" (Panzer). While this is a good pun, it can confuse English-speaking readers for whom a hauberk is always "a shirt of mail." Kendall 1981 argues that in Late Bronze Age texts, this term refers to a "helmet."

180 Scurlock 2014 (for a survey of the evidence see Dezsö i.69-75)

181 Dezsö ii.156-159

regular/line infantry, which might form the bulk of the Assyrian army."[182] This is difficult to prove, but is certainly consistent with modern interpretations of Roman monumental sculptures, where (for example) the legionaries without body armour which literary sources imply existed are difficult to find.

Dezsö is also concerned by the "auxilliary" and "armoured" slingers who appear in a handful of siege scenes. It is difficult to know whether these represent distinct units of slingers, or simply archers or spearmen using a different weapon in a situation where it was difficult to come to grips with the enemy and archers might empty their quivers without driving the enemy from their positions.[183] Slingstones could be found anywhere, and baked clay bullets could be made in an oven. Vegetius recommended that all legionaries learn to use a sling and carry one, since it was not an inconvenience and could be very useful (*De re militari* i.16). The Ten Thousand also found slings and men who could use them in an emergency (Xen. An. 3.3.16ff). Baked clay bullets for slings are common in early Mesopotamian sites, and Šulgi had boasted of his skill with a sling (Šulgi B, lines 35-38 = ETCSL c.2.4.2.02). However, in societies with a great deal of metal and other durable goods, such as Assyria in the first millennium BCE, the sling tends to become a secondary or hunting weapon, so it seems more likely that the slingers on the reliefs are soldiers equipped with bow or spear who have temporarily put these weapons away. While the sling was too cheap to be prestigious, it was a common weapon in the ancient world, and in 'primitive warfare' in recent times.[184]

"Auxiliary" troops in the Assyrian army tend to be referred to by their ethnics without further descriptions of how they are armed. A good example is the count of troops at Zamua (SAA 5.215 = Postgate 2000). Most of its space is devoted to enumerating types of soldiers, including combatants and support troops. Towards the end it gives a total of these "Assyrians" (Aš-šur-a-a) and follows it with numbers of Qurraeans ({lu2}Qur-ru) and Ituaeans({lu2}I-tu2-[...]). Evidently the audience of this text was expected to be more interested in details about the Assyrians than the foreign soldiers. Two letters to Sargon II also describe the garrison of a fort as certain numbers of Itu'eans and Gurreans with no further details (SAA XV.136, 166). There are a few exceptions, such as the list ND 2619 which lists various types and numbers of soldiers captured in Babylonia.[185]

2.6.2 Ratios between Different Troop Types

While most armies include many types of soldiers, it is rare that they are all equally numerous. A commonly cited text is the Annals of Sargon II, where he boasts that he recruited forces like 50 chariots, 200 horsemen, and 3,000 infantry from defeated enemies or gave the *turtānu* of the left an army of 150 chariots, 1500 horsemen, 20,000 bowmen, and 10,000 "bearers of spear and shield."[186] While the numbers in royal inscriptions are difficult to check with other sources, they presumably reflect someone's ideas of what an army should consist of. The ratio of two bowmen to one

182 Dezsö i.18
183 Dezsö i.51, i.112, i.113
184 Potts in press
185 Kaplan 2008
186 Fuchs 1994 lines 75, 409, 410 in Fuchs 2011: 388, Dezsö 2012: i.95, ii.137. An older edition of this text cited in Rauflaub 2013: 98 and Manitus 1910 gives only a thousand spearmen, but the new figure is closer to other numbers in Neo-Assyrian royal inscriptions.

shieldman is the inverse of that in the Hellenistic tacticians, who recommended two heavy infantry for each light infantryman (Asclepiodotus 6.2 = Aelian 15.2 Devine = Arrian, *Tactica*, 14.2).[187] However, Sargon's successor Sennacherib mentioned forces of equal numbers of bowmen and shield-bearers in his inscriptions, and one servant with missile weapons for every soldier with a large shield was also an accepted ratio in classical Greece.[188] Hand-to-hand and missile weapons were complimentary, and Assyrian armies gave a prominent place to both. On the other hand, many Assyrian infantry used the bow, a difficult and expensive weapon, where Greek counterparts were more likely to throw rocks and javelins. Archers, specifically, were more prominent in Assyrian armies than in ones from the Aegean or the Western Mediterranean.

Not all armies made the same decisions about the balance between spearmen and bowmen as the Assyrians. Assyrian sources imply that most infantry in Babylonia and Elam were bowmen, although lands which are depicted as bowmen in the reliefs sometimes provide spearmen for the Assyrian army in documents and royal inscriptions.[189] At Nuzi in the Late Bronze Age, bows are everywhere in the documents and the excavations while spears are rare.[190] In contrast, New Kingdom art of approximately the same date shows many Egyptian infantry with spears, axes, khopeshes, and shields. Thus some Ancient Near Eastern armies included similar numbers of men with bows and edged weapons, while others relied mainly upon bowmen.

Ratios between infantry, cavalry, and chariots also varied, as can be seen in Shalmaneser's inscriptions on the battle of Qarqar. Poorer, less urban, or less unequal societies could not produce as many chariots as the Assyrians. The Assyrians were impressed by the number of horses available in the Zagros mountains, although they present the Medes as the lords of fortified cities, not as rootless horse-nomads. The Assyrians were impressed with Arabs who rode dromedaries, and carved them in the reliefs and mentioned them in royal inscriptions. However, Assyrian sources portray most of their enemies as raising armies with many infantrymen for each chariot, horseman, or camel-rider. Horses were expensive, and most rulers at the time seem to have felt that it was better to have a larger army recruited from a broad section of society, than a smaller army drawn mainly from the families so rich that they could maintain expensive horses.

Dezsö also examined the frequency with which different kinds of soldiers appear in the reliefs of different kings[191] Figures who seem to be officers, with elaborate kilts around their hips and rods in their hands, are much more common from the reign of Sennacherib onwards, and over time armoured archers are more likely to appear alone and less likely to appear with a shield-bearer, while chariots driven by ordinary soldiers vanish from Sennacherib's reliefs. Only under Assurbanipal do we see the new heavy chariots with tall wheels pulled by armoured horses and carrying a fourth warrior. While some of these development might reflect changing goals for the reliefs (such as ideological programs which stressed the king over his major officials, or Assyrian

187 Raaflaub 2013: 98 is very impressed by the more prominent role of archers in Assyrian than Greek sources. But Greek light-armed often used other weapons, and were probably more important in combat than in the narratives and vase paintings created for the wealthy.

188 Assyrian: Dezsö I.94-97 Classical: eg. Hdt. 9.29, Thuc. 3.17.4. For evidence that Greek armies often contained more light-armed men than hoplites, see van Wees 2004: 62-65.

189 Dezsö 2012: i.96-97

190 Kendall 1974: 250, 251

191 Summary at Dezsö ii.206-209

unity over the different contingents from particular regions) it seems likely that others reflect changes in actual armies, as we see in Greek and Roman archaeology. Other ancient armies from the First Emperor's China to the Macedonia of Philip and the successors made some effort to standardize armour and weapons, even if standardization in the ancient world could never be as complete as in the industrial era. The reliefs suggest that Neo-Assyrian armies continually changed.

2.6.3 Organization

Without an Assyrian Aelian or Pseudo-Hyginus, ancient historians are reduced to trying to deduce the organization of their armies from chance references in documents.

The infantry were organized into fifties under a chief of fifty (*rab ḫanše*, GAL.50.MEŠ).[192] The same title appears in a military context in the Late Bronze Age texts from Nuzi. Several groups of infantry are a multiple of 500 men strong, but no specific name or leader is associated with groups of this size. Instead, units of more than 50 men are referred to by the generic term *kiṣru*, often translated with its semantic parallel "cohort" (both words which originally meant "bundle" and were extended to mean "unit of soldiers"). Their commander was a cohort chief or *rab kiṣir*. The largest *kiṣrūtu* could absorb tens of thousands of spearmen and archers, and hundreds of horsemen and chariots.[193] The size of the smallest units described by this term is not completely clear.

The organization of the cavalry is even more difficult to understand. The numbers 50, 200, and 1000 commonly occur: the bodyguard of Sargon II included a force of a thousand cavalry, the cavalry regiment (*kitullu perru*) of Sîn-ahu-uṣur..[194] This obviously resembles the forces of a thousand cavalry which protected Xerxes in Herodotus (7.40.2, 7.41.1) and Darius III in the Alexander historians.[195] However, it is difficult to link titles like *rab kiṣir*, *šaknu*, or foreman of cavalry (*ša pan pēthalli*) to a group of a specific size.[196] As for chariots, numbers like 30, 40, 120 appear from the Late Bronze Age to Shalmaneser III, while Sargon II mentions numbers like 50, 100, 200.[197] It is therefore plausible that 3 or 4 "companies" of 30, 40, or 50 cavalry or chariots made up a "squadron" of 90 to 200 riders or vehicles, similar to the organization of European cavalry in the 18th and 19th century.

No further levels of organization can be documented in the available sources, although tens and chiefs of ten appear in civilian contexts. It is tempting to assume that a standardized organization with more levels of organization must have existed. However, a survey of world military history does not support the idea that all armies have such a rational, bureaucratic organization. It is possible that large armies were formed by assembling *kiṣrūtu* from different sources, and creating an *ad hoc* organization to manage them, much as large Roman armies were assembled from various legions, *vexillationes*, and auxilliaries each of which had a different internal organization. One of the Nuzi letters from the Late Bronze Age shows that 161 chariots "of the left

192 Dezsö, i.154-180
193 Dezsö i.23 citing inscriptions of Sargon II (Fuchs 1994 = Die Inschriften Sargons II. Aus Khorsabad. Goettingen, 1994)
194 Dezsö ii.26-27, 50-52
195 For more on these see Charles 2015
196 Dezsö ii,.42, 50
197 Dezsö ii,.136, 137

wing" were divided into smaller groups of between 6 and 19 chariots, and the most common term for a group of soldiers, *emanti*, seems to include groups of widely different size.

Another possibility should be mentioned. Often, soldiers are organized one way for the purposes of everyday life, pay and discipline, etc. and another way in combat. A classic example is the lance-of-soldiers in fifteenth-century Europe, which consisted of an armoured cavalryman, a crossbowman or archer, and often other armed and unarmed servants on foot or on horseback. In combat the lances were broken up to create larger units of men with the same equipment and way of fighting, but in other situations the members kept close together. Employers usually had little to do with the internal life of a lance, beyond signing contracts which specified how many lances each contractor would provide, while soldiers seem to have identified with the other members of their lance more than with the larger, temporary tactical units. Under the Neo-Assyrian kings, specialists in particular crafts, and probably shepherds, were organized into *kiṣrūtu*, apparently for the convenience of the king or governor. Kendall suspected that the people of Nuzi were divided into a "left city" and a "right city" and that men living in the "left city" served in the "left wing" of the army.[198] Towns in late medieval Europe often organized their militias in the same principle: the quarters or districts of the town corresponded to the divisions or units of the militia. In the Ten Thousand, everyday life seems to have been organized by informal groups of men who camped around the same fire, not around groups of soldiers with a fixed place in line lead by an officer with a title and extra pay.[199] Only in the armies of Philip of Macedon and his successors are there strong hints that the soldiers who shared a fire lined up behind one another in formation.[200] It is therefore worth considering the possibility that the Assyrian army was organized in several ways, each of which was relevant in some situations and irrelevant in others, and that the documents focus on the 'administrative' level rather than the 'social' or 'tactical.' This might explain the office of chief-of-fifty (*rab hanše*) of the 'third men' who rode on a chariot to protect the driver and the archer with a shield.[201] Each of the three types of soldier who made up a chariot crew was counted separately, and apparently organized into fifties, even though in combat each 'third man' fought alongside a driver and an archer and not alongside other 'third men.'

In the famous count of soldiers at Zamua (SAA 5.215 = Postgate 2000), the "force of the land of Zamua" or "king's troops" are divided into three ethnic groups, one of which (the Assyrians) is further divided by occupation (horsemen, "third men," bakers, etc.). These ethnic or regional divisions were probably an important part of how the Assyrians understood the organization of their armies. The ethnic titles Gurrean and Itu'ean in Neo-Assyrian documents seem to have roughly corresponded to "auxilliary spearman" and "auxillary archer," and that there is no sign that service as a Gurrean was linked to membership in a tribe, city, or other ethnic community.[202]

198 Kendall 1974: 67, 68
199 Lee 2007
200 Chrysafis 2014
201 Dezsö ii.135, 136, 143
202 Dezsö i.49-51

2.7 Life on Campaign

Mesopotamians described military service as as *ina ṣēri* "in the steppe" or *ina madākti* "in camp." Assyrian armies seem to have often travelled 20 to 25 km a day over flat and solid ground,[203] another piece of evidence that they were no larger than the largest Hellenistic and Roman armies. Larger armies tend to be slower, because they have to travel farther to gather fodder, because the troops in the rear have to wait to pass through narrow spaces, and because the troops in front have to stop early enough that the rear guard can arrive in camp by the end of the day. The reliefs of the late 8th and early 7th century BCE show "cross sections" of Assyrian camps of large tents furnished with beds and tables enclosed inside a round fortification. Some of the details, such as hanging clothing and equipment from the horizontal poles of the tent, show up again and again in depictions of camp life, although it is slightly disconcerting that Aššurbanipal's sculptors portrayed his soldiers burning the same type of tent in Arab camps. Kings often boasted how they had overcome great distances, bad weather, or natural obstacles:

> I marched [for a distance of] seven leag[ues], day and night, and I did not allow the troops of Assyria to rest, did not give (them) water to drink, (and) did not pitch camp or bivouac my soldiers (allowing them to recover from) their weariness. I fought [with th]em, defeated them, (and) took their camp(s) away from them. (RINAP I 35 i 27'-31').

> The Simirria- a great mountain peak- which rears up like a spearpoint and raises its head over the mountains in which Bēlet-ilī lives, whose two peaks rest against heaven and whose foundations reach into the middle of the underworld, where there is no more way from one side to the other than on the back of a fish and the ascent is very difficult in front or behind, in whose flanks the watercourses of mountain springs are deeply cut, which is cloaked in terror when a traveller sees it with his eyes, is not suited for ascent by chariots or the joyful charge of horses and very difficult for infantry on the march to pass. Through the intelligence and the wide understanding which Ea and Bēlet-ilī decreed for me- the gods who opened my legs to crush the enemy land- I caused my pioneers to carry strong bronze picks, and they broke down a massive mountain peak like limestone and created a good road.[204]

These proud words give an idea of why many Assyrians found military service a burden and tried to avoid it. Similar statements are common in classical stories about great Macedonian or Roman generals, although less often in stories about Greek armies.

On the other hand, Assyrian armies gathered in friendly territory, and often spent part of the campaign season in border provinces or tributary lands. After crossing the Zagros, Sargon's troops rested in the land of Parsua- in Neo-Assyrian texts, a land in the central Zagros, modern Iranian Kurdistan.[205] Only after an extended period of time in friendly territory, collecting food and livestock from subject kings and provincial storehouses, did they invade Urartu proper. Some of these tributaries had been told in advance to stockpile food for the army. The royal inscriptions and

203 Parker 2001: 107

204 Retranslated from Meyer 1983 lines 18-24. The bronze picks are sometimes described as an anachronism, cribbed from an inscription of Tiglath-Pilser I, but bronze might still have been preferred to iron for some tasks requiring hard, tough metal.

205 Marriott and Radner 2015: 128-130

relief mask that the Assyrians relied on intimidation and negotiation as much as armed force. The long marches and brutal assaults which were recorded in royal inscriptions depended on careful planning and preparation.

Less visible in the reliefs and inscriptions, but commonly mentioned in the letters, was a network of patrols, informers, and officials who kept their superiors informed about events.[206] Assyrian officials clearly worried about supplies of food and drink, and whether the inhabitants of a district were ready to fight or off their guard and vulnerable. Some letters mention problems which became classics in 19th and 20th century strategic theory, such as an enemy army which had taken up a position to prevent two Assyrian forces from coming together. Once again, Assyrian success depended on the ability to judge space, time, and food supplies and balance military ambitions with the available resources. Sometimes supplies ran out, reports about the attitude of a foreign king contradicted one another, or Assyrian armies marched into a trap, but the Assyrians created institutions to deal with these dangers.

The Assyrians seem to have mostly ignored some areas which were too poor or remote to bother conquering. Bradley Parker suggests that this was true of the Bohtan and Garzan valleys north of the Upper Tigris, areas of many small settlements of herders separated by steep cliffs and high plateaus.[207] The royal inscriptions only mention a single campaign in the area, and only three small sites show signs of Assyrian occupation. Later empires also contained such regions where "the king's writ did not run" such as parts of Anatolia, the Levant, and Sardinia under the early Caesars.

Sometimes enemies submitted when the Assyrians approached, or fled into the mountains or swamps and abandoned their property on the plains. The royal inscriptions put a positive slant on this: this showed that the enemy was terrified of the weapons of Aššur. Other times, it was necessary to fight.

2.8 Combat Mechanics

What happened when Assyrian soldiers went into battle? Assyrian writers did not chose to address this in a technical way. Neither the arrangement of their own troops, nor the exotic military practices of foreigners, are described in detail. Instead, they focused on things which were important to them, such as the deeds of the king and the horrible fates of his enemies. However, this has not stopped a few researchers from trying to understand how the Assyrians did these terrible things.[208]

Our best evidence for how armies prepared for battle is a rhetorical device in the royal inscriptions, whereby the king explained that he had not made use of the precautions which a lesser commander unsure of the support of Aššur, Ištar, Nergal, and the other gods would have made:

> I did not hesitate one day (or) two days. I did not wait for my army. I did not look for my rear guard. I did not check the assignment of horses harnessed to the yoke nor that

206 Dezsö 2014
207 Parker 2001: ch. 4
208 For a recent overview which is epistemologically pesimistic, see Fagan 2010

> of my battle equipment (*unut tāhāzija*). I did not stock up on travel provisions (*ṣidītu*) for my campaign. I was not afraid of the snow (and) cold of Šabāṭu (month XI), the severest cold season. Like a flying eagle I spread my wings to drive back my enemies ...[209]
>
> Ich könnte sie nicht schlaffen lassen, und Wasser für den Durst könnte ich (ihnen) nicht geben; ein Feldlager könnte ich nicht aufschlagen und nicht aufbauen ein befestigtes Lager. Meinen Kriegern konnte ich keine Weisung geben, meine Truppen nicht versammeln. Was rechts und links war, könnte ich nicht an meine Seite bringen, (und auf) die Nachhut konnte ich nicht warten. Nicht fürchtete ich die Masse seiner Truppen, seine Pferde achtete ich gering, und ich verschwendete keinen Blick an die große Zahl seiner gepanzierten Krieger.[210]

Outside of these 'negative confessions' or *apophasis* neither kings nor chronicles describe this phase in detail, but the audience of the royal inscriptions were familiar with generals who entered battle cautiously after a long period of preparations and hesitation.

Popular works often inform readers that Assyrian infantry were organized into "archer pairs," consisting of a man with a large shield who provided cover and a man with a bow who shot at the enemy.[211] While this is a practical arrangement attested throughout world history, it would be dangerous to assume that Assyrian armies fought two men deep: such shallow formations only became common in the Napoleonic period, and only for soldiers who did not have to move long distances or resist a charge of cavalry. Shallow formations were not resilient: gaps quickly formed, and there were no men in the rear to fill them and restore the continuous line. Just as seriously, it was too hard to keep control of a very long line. Armies of thousands and tens of thousands of men consistently used deeper formations, so such formations were probably part of the Assyrian repertoire. Tamas Dezsö suggests that this "buddy system" was used when pursuing the enemy and by the auxilliary troops more than the Assyrians.[212]

JoAnn Scurlock considered the types of troops in the reliefs then moved on to analyze a handful of battles using the royal inscriptions and military manuals from other ancient cultures.[213] She argued that the Assyrians sometimes focused their assault on one or both flanks of the enemy, other times tried to break through their centre, and that Assyrian and enemy kings in the royal inscriptions acted in ways recommended by authorities such as Sun Tzu or Vegetius. The Assyrians accuse particularly cunning enemies of preventing the Assyrian troops from drinking ... a detail which reoccurs in stories about Marcus Antonius' Parthian campaign or the battle of Hattin in 1187 CE. She reads the royal inscriptions as reflecting military practices similar to other ancient cultures of the Old World.

Fabrice de Backer focuses more on combat from the perspective of the individual soldier and on siege warfare. He suggests that during sieges, attackers organized themselves into two kinds of

209 RINAP Esarhaddon 1 i 63-68
210 Meyer, Sargons Feldzeug, 129-131. For a comprehensive bibliography on this battle see Fagan 2010: 83 n. 6, 7
211 The oldest usage of this term which I know is Sekunda 1992: 16, 17
212 Dezsö i.31
213 Scurlock 1997

groups, “siege redoubts” and “assault troops.”[214] The former consisted of teams of archers and shieldbearers who worked together, the archers barraging the enemy and the shield bearers protecting them from incoming weapons. The assault troops climbed the walls with ladders, undermined them with picks, burned them with fire, or broke them down with a battering ram. He imagines the siege redoubts placing themselves apart from one another to allow the assault troops to move back and forth and quiver bearers to bring new arrows to the soldiers in the front line. He proposes that each “ten” and “fifty” infantry contained both shield bearers and archers, and might even have been named after ten or fifty *pairs* rather than ten or fifty soldiers.[215] While there are fewer depictions of battles in the field, and these depictions usually focus on “mopping up” the defeated enemy rather than the peak of the fighting,[216] De Backer suggests that battlefield tactics also combined small numbers of different kinds of infantry, cavalry, and chariots working together rather than shield bearers, archers, mounted spearmen, mounted archers, and chariots operating in separate units in separate parts of the field.[217]

This might imply greater differences from classical warfare than Scurlock’s arguments, since by the end of the fifth century BCE South Greek armies lined up in dense formations with the spearmen separated from the light-armed troops. However, Archaic Greek poetry and art show ‘light’ and ‘heavy’ troops, bowmen and spearmen, horsemen and footmen mingled together, the Hellenistic tacticians allowed for files of light-armed troops to be inserted between the files of hoplites, and in the sixth century CE the *Strategikon* of Maurice recommends organizing similar teams to fight in the woods (Maur. Strat. 12b20). Organizing infantry into small teams with diverse weapons has been fashionable in European and settler societies since the middle of the First World War. Whereas infantry units in 1914 were mainly armed with rifles and bayonets, by 1917 they were diverse teams combining rifles, submachine guns, grenades, mortars, machine guns and other weapons. This ensured that whatever the situation, some members of a fire team, a platoon, or a company would have the weapons to deal with it. While De Backer’s theory is different from most views of classical warfare, it is similar to warfare in other times and places.

Because the introduction of the phalanx has been assigned such importance in Greek warfare, many scholars have asked whether the phalanx existed in the Near East. One school of thought points to the Stele of the Vultures commemorating the victory of Eannatum of Lagaš over his neighbour Umma in the middle of the third millennium BCE (Louvre, AO 16109, AO 50, AO 2346, AO 2348).[218] One panel shows a close-packed mass of infantry ten men wide trampling the bodies of their enemies. As six spears protrude between each shield, and each shield has six round bosses, we are presumably expected to imagine a formation at least ten men wide and six deep, while the infantry are clearly in motion, trampling their enemies as described in Sumerian literature. The stele is remarkable for its early date and because very few large depictions of combat survive from Mesopotamia before the first millennium BCE. Those who believe that the phalanx was a Greek invention try to minimize the importance of this source and focus on Neo-Assyrian art. Sarah and

214 De Backer 2010
215 De Backer 2014
216 Fagan 2010: 97-98
217 De Backer 2007
218 Yadin 1963 was probably the book which did most to spread awareness of the stele outside of specialists in the ancient Near East, although photos are widely reproduced.

Duncan Melville speak of "full-fledged phalanx confrontations, the likes of which were unknown in the Near East,"[219] Graham Wrightson explains that the Stele of the Vultures depicts a "shield wall" rather than a "phalanx"[220] and declares that "the Assyrian spearmen did not maintain a formation when in contact with the enemy: after battle was joined the infantry confrontation became just another melee"[221] and while Kurt A. Raaflaub acknowledges the Stele of the Vultures, he insists that it is too early to suggest that similar formations existed in the 8th and 7th centuries.[222] However, Greek and Roman art pose similar problems: research in the hoplite debate has made clear that only a handful of images show the style of combat described in technical literature, and that how one interprets images like the Chigi Vase depends upon how one thinks Greeks fought. Many theories about early Greek warfare were developed by researchers who either had little knowledge of the Near East or explored Near Eastern sources after they had already developed their main ideas. Once they have committed to an opinion in public, most human beings are very skilled at rationalizing that position.

Theories about how the Assyrians fought often rely heavily on the reliefs. However, the set phrase with which Assyrian royal inscriptions begin their "battle pieces" is worth analyzing. The expression "to set up a battle line" (*sidra šakānu*) with the commander or commanders as the subject implies some kind of long, narrow formation proscribed from above. Some armies fight in a disorganized mob, or organize from the bottom up, but Assyrian texts imply that the vast troops of the land of Aššur fought entered combat in an organized arrangement planned by their king. While these descriptions are just as conventionalized as any other genre of 'battle piece' they at least show how scholarly Assyrians talked about combat.

It certainly seems that dense formations of spearmen in ranks and files, separate from troops with bows, slings, and javelins, were not central to Neo-Assyrian warfare. However, it seems very unlikely that the same was true across the entire history of the ancient Near East. If anything, masses of uniformly equipped spearmen moving as one seem more keeping with the spirit of Near Eastern bureaucratic kingdoms than with the fiercely individualistic aristocrats of early Greece. The Stele of the Vultures has as clear a depiction of a dense formation of spearmen as the whole corpus of Classical, Hellenistic, and Roman art. The formation of the Macedonian phalanx is usually linked with the reign of Philip of Macedon and his seizure of the mines at Amphipolis. With this new source of revenue, he could provide his army with uniform equipment and support it while it learned to use its long pikes in close formation.[223] The resources for such training had existed in the Near East since at least the third millennium BCE.

A battle ended in victory when the enemy ran away, throwing down their heavy equipment, abandoning their camp, and ideally being slaughtered by the pursuing Assyrians. Tiglath-Pilser III boasted that Sarduri of Urartu had fled alone mounted on a mare (RINAP I 35.i.32'-37') and Samsi queen of Arabia had fled into the desert while he burned her people's tents (RINAP I 43.22'-25').

219 Melville and Melville 2008: 155

220 Wrightson 2012: 47, 48 His definition of these two terms is not completely clear to me, but it seems that to him a "shield wall" is a static formation while a "phalanx" moves across the battlefield.

221 Wrightson 2012: 248

222 Raaflaub 2013: 100-103

223 The details are controversial. See Anson 2010 for a recent overview.

The victors often built a tower of skulls or a mound of corpses and placed a stele with an appropriate inscription to mark their victory, and JoAnn Scurlock suggests that it was generally considered that the side which held the battlefield had won.[224] Just as in later times, the most famous battles were not always followed by great changes in the course of a war, and sometimes both sides claimed victory. Whether this left any Assyrians as adrift and confused as Xenophon after Mantinea (Xen. Hell. 7.5.26-27) is difficult to answer. However, the widespread idea that battle was a *judicium dei* (see chapter 3) must have discouraged soldiers who heard that their king had lost a battle. In the sixth century CE, the *Strategikon* of Maurice laments that sometimes a general understands why he lost a battle and has a solution, but the soldiers believe that it was the will of God and refuse to fight again (Maur. Strat. 7, Dennis p. 72). Maurice's soldiers were Christians, and so had been exposed to a version of Near Eastern ideology through the Old Testament.

2.8.1 Skirmishes

Neo-Assyrian letters often mention small skirmishes involving well under a hundred soldiers. These can sometimes be seen in the reliefs, as Assyrians search through woods or swamps and kill or capture enemies who have taken shelter there. In many places and times, such small fights make up the vast majority of military actions.

> A commander-of-fifty of mine, of the Gurrean (troops) from Meturna, killed the mayor of Meturna. From the moment the expedition came, he did not show up to do work with his fellows but, afraid of his deed, took with him 15 Gurreans and went away to Urarṭu.
>
> (When) they came and reported it to me, I sent Il-dalâ to Šubria, saying: "Go and bring down your servants." He went, but did he bring down his servants? ...
>
> My commander-of-fifty and 100 Marhuhaean [sh]ieldbearers went after Il-dalâ and attacked him on the road. The servants of the king, my lord, were on their guard; none of them got killed, and they wounded the commander-of-fifty. They turned back and entered Marhuha. SAA V.53

The nature of such fights varies depending on the specific troops involved, the terrain, whether one side manages to ambush the other, and other factors. However, they often share broad commonalities across cultures driven by the limits of human bodies and the weapons used. In that case, research on the Roman army[225] or warfare in early Greek poetry and pottery[226] as well as small-scale warfare in other places and times is very relevant.

2.8.2 Sieges

While specialists in early warfare tend to be skeptical about the importance of battles, they are often more excited by sieges, seeing them as a type of fighting which could cause territory to change hands. The Assyrians certainly describe taking or destroying far more walled places than they fought great battles.

224 Scurlock 1997: 107
225 Anders 2012 (Anders 2015)
226 Brouwers 2013, Davis 2013

The royal inscriptions often boast of the number of unnamed cities, fortresses, and small cities which were captured on a particular campaign:

> In the course of my campaign, I surrounded, conquered (and) plundered the cites Amatu, Hauae, Supapu (etc.) ... alltogether 33 fortified cities, fortresses of the land of Bīt-Dakkūri (one of the Chaldean tribes), together with 250 small(er) settlements in their environs ... alltogether 8 fortified cities, fortresses of the land of Bīt-Saʾalli, together with 120 small(er) settlements in their environs, ... alltogether 39 fortified cities of the land of Bīt-Ammukāni (another large Chaldean tribe), together with 350 small(er) settlements in their environs; ... alltogether 8 fortified cities, fortresses of the land of Bīt-Yakin, together with 100 small(er) settlements in their environs; the total is 88 fortified cities fortresses of the land of Chaldea, together with 820 small(er) settlement[s] in their environs. I let my troops eat the grain (and) dates in their gardens (and) their crops in the countryside. I destroyed, devastated, burned with fire, turned (them) into forgotten ruin hills. (RINAP 3, Sennarcherib 1, 36-51)

Sometimes we are told that the defenders abandoned their city before the Assyrians arrived, other times we are given formulas about siege rams, assault parties, and sapping work.

Some of the queries to Šamaš mention negotiations as one way that a siege might end.[227] In other places and times, it was common for defenders who thought they were outmatched to abandon a place or surrender quickly.[228] If they resisted and failed, they could usually expect to be very badly treated. Many fortifications in most places and times were only sufficient to resist a small and half-hearted attacker, such as Xenophon and his companions at the end of the *Anabasis*. Yet taking a network of small fortifications could eat up most of a campaign season, precisely because they were so numerous and could quickly be rebuild and reoccupied.

The annals and royal inscriptions tend to describe the actual siege in laconic set phrases. Sennacherib's boasts about his war with Hezekiah of Judah are famous:

> "I surrounded (and) conquered 46 of his fortified walled cities and small(er) settlements in their environs, which were without number, by having ramps trodden down and battering rams (*šupē* < *yašibu*) brought up, the assault of foot soldiers, sapping, breaching, and siege engines (*kalbānātu*)." (RINAP 3, Sennacherib 4, lines 49-51 after Grayson and Novitny)

Some of the reliefs are more detailed, showing stages in the siege of Lachish and a few other sites: in the case of Sennacherib's siege of Lachisch, these can be compared to archaeological remains and the biblical account. Equally important are letters sent from the siege camp, and a genre of divination which listed ways in which a city might fall.[229]

227 eg. SAA IV.30 (asking whether to send an army to retake Dūr-Illil from the Manneans). For oher comments on these letters see Ephʾal 1997.

228 eg. Murphy 2015: 126-129

229 Ephʾal 1997 (drawing mainly upon SAA IV), Singer 2008

The basic parameters of siege warfare were well established by the 18th century BCE, and probably much earlier.[230] Generally speaking, Near Eastern besiegers tried to go over or through the walls (going under by tunnelling is first attested in classical literary sources, although the defenders sometimes dug tunnels to launch surprise counterattacks or undermine siege ramps). Most cities had mud-brick walls and were located on a *tell* which raised them above the surrounding farmland. Approaching the walls often required filling in ditches and then building a mound of packed earth, stones and timbers which slanted upwards towards the battlements. Assyrian royal inscriptions boast again and again about how their soldiers built ramps and trampled them until they were firm enough to support siege engines. The men building the ramp were exposed to enemy fire at close range, so the besiegers brought forward archers and slingers behind large shields made from bundles of reeds to suppress the defenders. These shields often had tops which bent backwards to help protect the occupants from missiles coming from above. We do not hear as much about the attackers digging trenches or building long sheds- Caesar's *vineae*- to shelter the men moving between the camp and the front line, and we do not hear of them building special machines- the "ditch-filling tortoise" of the Hellenistic manuals- to protect the men who filled in the ditches, but a long line of siege shields would serve a similar function and did not require timber.

In Mesopotamia proper, stones or baked bricks to build a *sokle* were scarce, so attackers with picks and prybars could dig their way into the base of the wall. They could also attack the gates and any wooden superstructures with fire and axes. As the ramp reached higher and higher, the attackers could rush the top of the wall with ladders, or haul up siege towers to overlook the defenders and battering rams to break through the upper parts of the wall. Meanwhile the defenders shot arrows and clay bullets at the attackers, dropped fire and heavy weights on enemies at the base of the wall, hurled fire at approaching rams and towers, poured water on fires, lowered chains to catch the head of the battering ram, launched counterattacks with small groups of troops, and built their own walls higher and thicker.[231] The outcome of a siege depended on how well both sides knew the various gambits and counters, but also on unrelenting labour under the hot sun and a hail of arrows and slingstones.

The skills of a siege engineer must have been passed on in person. No cuneiform 'engineering manuals' are known, although Old Babylonian students calculated the volume of siege ramps as a mathematical exercise, and lexical lists name the parts of a battering ram, the "wooden ox" (Sum. {giš}gu_4) or "one-horned ox" (Sum. *gu_4-si-dili*) and allow its form to be reconstructed.[232] It seems that this battering ram was built around an A-frame with four posts (the "legs") and a long roofbeam. Where Classical and Hellenistic engines were normally built on the spot using local timber and discarded at the end of the siege, at Mari battering rams and siege towers were built at central locations and then transported by boat or wagon.[233] Nevertheless, there was probably some adaptation to local conditions and materials: for example, Hellenistic engineers could be protected with rawhide, cushions stuffed with seaweed, clay, or iron. A Neo-Assyrian letter mentions that the

230 Hamblin 2006: 236

231 The last strategy is mentioned in a Mari letter: Hamblin 2006: 231

232 Siege calculations: Neugebauer 1932 (*non vidi*), Melville and Melville 2008, Melville 2014. Battering ram: Scurlock 1989, cp. Nadali 2009a: 39, 40 with early texts which list materials for building or repairing battering rams.

233 Sasson 1969: 33, 34

sender has attached a drawing of a new fort. This raises the possibility that just like in Early Modern Europe or India under the Raj, there were archives with plans of friendly and enemy fortifications which could be delivered to a general who might have to attack them. Even the extant Hellenistic manuals leave some things unclear, such as just how the very long battering rams of Hellenistic times were supported, how the giant siege engines of the period were hauled forward, and whether rams were best used against the base of the wall or a higher point. The 'siege pieces' in historians were usually written by writers without detailed knowledge of the machines which they described, and some of the wisest commentators on the Hellenistic engineering manuals suspect that they focus on exciting novelties over the small, standardized machines which most engineers could construct.[234] In contrast, from the ancient Near East we have letters sent from the siege camp, set phrases used by people who were actually involved in sieges, and a wealth of depictions of sieges and siege engines by the men who might be conscripted to fight in one. These sources are not necessarily worse than 'siege pieces' and engineering manuals, just different.

Sieges did not always end quickly. Tiglath-Pilser III spent three years besieging Arpad west of the Euphrates (RINAP I: 16-18), and the Tyrians later remembered that they had been besieged by Shalmaneser of Assyria and Nebuchadnezzar of Babylon for years (Josephus, *Contra Apionem* 1.21, *Antiquitates Judaicae* 9.283-287).[235] The annals hint that Assyrian kings were well aware of a choice between blockade and assault even if the later features more prominently in their reliefs.[236] Such long sieges required vast amounts of food and other supplies, and a very efficient system of supply and sanitation in the camp. If food and water ran short, or a plague broke out, the besiegers would have to retreat. Thucydides hints at the difficulties in his accounts of the sieges of Potidaia and Plataia, but these towns were small by Near Eastern standards. The Assyrians also admitted that sometimes they besieged a city then moved on rather than take it. In these cases, they usually boast that they forced the enemy to retreat inside, or made him watch while they burned the crops and cut down the orchards in the surrounding country. Some boasts about tribute may also mask negotiated settlements, where a city came to an understanding with the Assyrian king and paid him to go away.[237]

Neo-Assyrian sources show us many sides of siege warfare: exciting assaults on walled cities, but also negotiation, treachery, intimidation, and blockade. Sources from the Bronze Age suggest that Neo-Assyrian warfare was firmly a part of a long tradition, and that any innovations must have been small and subtle. The Assyrians simply mastered the necessary skills and backed them with sufficient resources that they had a good chance of taking most cities.[238] A great deal has been written about Assyrian propaganda and formulas, but there were many different formulas and choosing between them allowed the authors of inscriptions to indicate different types of siege. The

234 Blyth 1992 argues that the Trajanic manual of Apollodoros of Damascus was 'improved' from a list of simple, quickly-built machines for a campaign in Dacia to a list of exciting but fantastic machines. Campbell 2006 is also suspicious of the focus of the manuals on large, complex machines.

235 MacGinnis 2012: 44 implies that this is widely discussed by Assyriologists and accepted as hisorical.

236 Nadali 2009

237 Fuchs 2008: 50

238 Fuchs 2008 argues that large cities were always a problem for the Assyrians. I certainly agree that attacks on small places which ended in negotiation, surrender, or abandoning the siege were much more common than charges up an assault ramp into a great city, but the ability to routinely besiege large walled cities with a good chance of taking them is rare in world history, and that impressive achievement should be acknowledged.

Assyrians' brutal punishments of the populations of defeated cities fit a sadly common pattern: despite laws prohibiting the punishment of civilians and bombardment of settled areas, both remain part of siege warfare. Determined defenders could make so much trouble for besiegers that commanders were always tempted to make an example of them and hope that the next city did not resist (while given a chance to kill, rob, and rape with impunity, some men will do so).

Some writers contrast the weakness of early Greek armies in sieges with the sophistication of Near Eastern besiegers.[239] It does seem that most Greek cities lacked the wealth and bureaucratic skills which were required to carry out a long siege, and especially to take a strong city by force rather than blockade. But rather than a conscious choice based on a desire to limit warfare, this seems to have been a consequence of the weakness of central power and the fierce independence of Greek aristocrats.[240] Josho Brouwers reminds us that the Greeks themselves believed that many of their famous cities had come into existence by conquering and destroying smaller ones: Argos destroyed Asine and Mycaenae, and the Laconians enslaved the Messenians.[241] Greek literature from the *Iliad* onwards suggests that the population of a captured city were treated just as horribly by Greeks as by Assyrians or Babylonians, and Xenophon's Cyrus the Great describes this as "a custom established for all time amongst all men" (Xen. Cyr. 7.73). This suggests that Xenophon saw Persian conduct in sieges as similar to that of Sparta and other Greek cities. The key difference was between powers with the resources, engineers, and authority over their troops to engage in a sustained blockade or even an aggressive siege, and between powers without those resources, not between ruthless eastern kings and moderate Greeks.

Just where increasingly ambitious Greek cities acquired workers with the necessary skills is unclear, but Anatolia, Cyprus, and Phoenicia are plausible. These areas were in regular contact with the Aegean by sea, and they also had access to plentiful supplies of timber and must have adapted their siege machines accordingly. William Hamblin speculates that Bronze Age siege towers may only have been 5 metres high, and this might explain why the Assyrians show wheeled battering rams with a cupola on top but not separate towers.[242] As we shall see in chapter 6, there are signs for further contact between Greek and Phoenician engineers in the fourth century BCE.

2.8.3 Success and Failure

Since the Assyrian royal inscriptions portray every campaign as successful, they give a clear picture of what the Assyrians thought they could achieve in war.[243] For the king, it could be enough to demonstrate power by killing, burning, collecting booty, collecting prisoners to be resettled in a distant land, terrifying rivals or forcing them to submit. Some of the campaigns in the Zagros sound like great 'cattle raids' where the Assyrians returned with great herds of livestock but few other rewards. The kings were especially proud to boast that they had gone further than any king before

239 eg. Melville and Melville 2008, Ferrill 1997, 139
240 Krentz 2002, van Wees 2008: 124-126, 138-142
241 Brouwers 2013: 88-90
242 Hamblin 2006: 228
243 That said, the convention of the ever-victorious king allowed for some frank statements. In RINAP 3 Sennacherib 34 lines 42-44, the king explains that he turned back before reaching the undefended Elamite city of Madaktu because of cold, rain, and snow. Neo-Assyrian royal inscriptions are shaped by powerful genre conventions, but they are not all the same.

them had gone, placed a monument and defeated exotic peoples. Ideas about the ends of the world, and the need to mark the boundaries between the orderly, knowable, governable world and the chaotic, unknowable, Other, were key in these claims.[244]

On the other hand, the Assyrians sometimes incorporated lands into their empire, appointing governors and collecting taxes and labour. Tiglath-Pilser III (r. 745-727 BCE) was especially proud to boast that he had made deportees, lands, or nations part of the land of Aššur (eg. RINAP 1.5, 1.6, 1.8.6), and his officials were much more successful and turning victories into lasting control than the officials of many earlier kings. The Neo-Assyrian kings did not just rule more lands than the kings which had gone before them, they broke the old pattern where a powerful king conquered new lands and his son or grandson lost most of them.[245]

The changing Assyrian policy in Babylonia suggests that the Assyrians could look for a lasting peace when they wanted to. The kings from Tiglath-Pilser III to Sargon II had themselves crowned as kings of both lands; Sennacherib first made his son king of Babylon then sacked the city when its people supported the Elamites, but his successor Esarhaddon returned to the policy of one king of Babylon and another for Assyria. His sons Assurbanipal, king of Babylon, and Šamaš-šum-ukkin, king of Assyria, eventually fought a war against each other, and in the end Babylonia broke free and took Assyria's place as hegemon. While the royal ideology demanded that there always be a war somewhere, clearly some wars were more desirable than others, and the Assyrian kings could offer "carrots" as well as brandishing "the stick." The Greeks remembered how Agesilaus had taught the Thebans to fight by invading Boeotia for many years in succession (Plut. *Agesil*. 26.3). It seems likely that some Assyrians were aware of this danger, even if they did not leave us a saying to memorialize it.

Less is known about how ordinary Assyrians thought of "a good war." Presumably many Assyrians were happy to see their king triumph and bring back exotic goods to display and gifts for the temples. In more recent monarchies which have left more evidence from the middle and bottom of society, ordinary people tend to support the royal ideology and religion. Rather than promoting alternative ideologies, critics tended to suggest that the king was just but one of his advisers was wicked, or that the gods were not pleased with their servants on earth. Consciously or not, this gave the king room to make concessions without having to admit wrong. Some commoners were probably also interested in moral questions, since some kings were careful to explain that the enemy had committed an offence and needed to be punished. On one hand, war offered loot, chances to impress important people, and an excuse to travel. On the other, it offered discomfort, danger, and a long separation from homes and families. The concern of the king and his officials to provide for the families of soldiers while their man was away suggests that this was a common concern. Which of these factors seemed most important must have varied from person and person and time to time.

244 Bichler and Rollinger 2017 addresses examples up to Julius Caesar's treatment of the Rhine and the British Channel.

245 Parker 2001: 8, cp. Rollinger 2014: 163-165

2.9 Technology

Military equipment is very important to the men (and occasional women) who use it, but its wider significance is controversial. Academics often argue whether differences in equipment determine the outcome of battles and wars, and whether technological change should be understood in terms of progress or fashion.[246] Professional historians tend to take the view that weapons are just tools, and that effective choice and use of equipment is just one of the ways in which an army can gain an advantage over its rivals. As one recent handbook puts it, "the hardware is always just a means to an end and should be studied in precisely that context."[247] On the other hand, the ends for which people bear arms vary widely, and their choice of arms reflects both subjective, cultural factors such as the valorization of particular styles of fighting, and objective, material ones such as the availability of different materials and technologies and the terrain in which they will be used. Material culture is even more ubiquitous than the literary and religious 'high culture' which humanists traditionally relied upon to understand the past. Material culture can also be the only trace of cultural exchanges and influences, and of innovations by artisans and factory-owners, which literary sources ignore or distort, or from places and times which left no written evidence at all.

At a superficial level the technology of war remained broadly the same throughout this period. The basic moves of the attacker and defender in a siege were all well known at the start of the second millennium BCE. The Egyptian forts at Buhen on the Upper Nile are more sophisticated than many forts built in classical antiquity despite dating to the beginning of the second millennium BCE. Changes after this were incremental- slightly cheaper arrowheads, new designs of battering rams or tower- except for the introduction of the catapult beginning in the 4th century BCE (see chapter 6). On closer examination, however, the first half of the first millennium BCE saw many small changes in the technology of warfare. This can best be seen by contrast with the situation in the middle of the second millennium BCE, the so-called Amarna Age.

2.9.1 Chariots

In the Amarna Age, respectable military power was defined by mastery of a tripartite weapon system of spoke-wheeled chariot, scale armour, and composite bow. Powerful kings mustered forces of hundreds or thousands of chariots, supported by larger forces of infantry who were given

246 One good overview, although far from neutral, is Kelly DeVries, "Catapults are Not Atomic Bombs: Towards a Redefinition of Effectiveness in Premodern Military Technology." War in History 4 (1997) pp. 454-470. The debate about whether the longbow was a uniquely Anglo-Welsh weapon, the possession of which gave English armies an advantage over their rivals, has produced a much wider and more controversial literature. Another body of research focuses on the Heinrich Brunner's idea that the introduction of the stirrup caused feudalism: see Bernard S. Bachrach, "Charles Martel, Mounted Shock Combat, the Stirrup, and Feudalism," *Studies in Medieval and Renaissance History* 7 (1970) pp. 49-75 or Kelly DeVries, *Medieval Military Technology* (Broadview Press Limited: Peterborough, Ontario, 1992), pp. 95-122. Yet another literature, inspired by the writings of Michael Roberts and Geoffrey Parker, focuses on the European conquests in the New World and South Asia from the sixteenth century onwards; for introductions see Parker 1996 and William R. Thompson, "The Military Superiority Thesis and the Ascendancy of Western Eurasia in the World System," Journal of World History 10.1 (1999) pp. 143-178. Outside of Rey 2010, this literature on methodology has has less direct impact on ancient history, despite arguments about whether specific styles of equipment were necessary for or determined the use of particular styles of infantry combat.

247 Bishop and Coulston 2006: 253

less prestigious military tasks. The expense and complexity of chariot technology encouraged the growth of bureaucracy and centralized authority, although chariots were also associated with an individualistic, heroic style of fighting.[248] Even a small town like Nuzi, whose *tell* was only 200 metres wide, could muster 161 chariots "of the left wing."[249]

To judge by the archaeological evidence for herds of domesticated horses, and the teeth of horses showing wear from bits, horseback riding is at least 6,000 years old.[250] Ethnological parallels and archaeological evidence suggest that horses were quickly used to carry warriors to and from raids, but before about 1000 BCE early horsebreeders lacked the equipment and social organization to fight like the Turks and Mongols of historical times. In southwest Asia in the second millennium BCE, the most popular kind of mounted warfare had been atop light, two-wheeled chariots. Producing and maintaining the chariots, composite bows, teams of horses, and scale armour required for this style of warfare was expensive but gave the kings who could afford it advantages over enemies who relied on infantry. Horses were occasionally ridden, but do not seem to have been popular mounts in combat in the Near East. The technology of chariot warfare helped to unite the cities and kingdoms of Southwest Asia in the so-called Amarna Age which ended catastrophically around 1200 BCE.

When records reappear after the catastrophe, cavalry appear as a significant part of an army. In Shalmaneser III's inscriptions about the battle of Qarqar, the rulers of Damascus and Hamath are said to have brought equal numbers of chariots and cavalry to the battle.[251] By the end of the eighth century, Sargon II conscripted 150 chariots, 1,500 cavalry, 20,000 bowmen, and 10,000 shield-bearers and lancers from the same general region.[252] While these numbers are difficult to verify, they suggest that norms had changed: in Shalmaneser's day one chariot per cavalryman seemed an appropriate ratio, in Sargon's one chariot per ten cavalrymen.

Modern interpretations of this shift are often flavoured by ideas of technological progress, utilitarianism, and irrational resistance to progress (the latter being implicitly or explicitly a trait of the Orient, while the classical world is explicitly or implicitly described as progressive and dynamic). Tamás Dezsö informs reader of his volume on Assyrian chariotry and cavalry that "the same [Assyrian palace] sculptures show how the cavalry overshadowed and finally replaced the chariotry, which gradually became an obsolete and redundant part of the Assyrian army."[253] Robin Archer suggests that the chariot was already obsolete by the time of Tiglath-Pilser III and was retained as a form of conspicuous consumption, while J.M. Cook was milder, simply speculating that "the chariot fiefs [of Achaemenid Babylonia] may have been something of an anachronism almost from the outset."[254] This view certainly fits the classical literary tradition, which links

248 Chariot individualism is often associated with Indo-European traditons, such as the Mahabarata, the Indo-European word marijannu "chariot warrior, gentleman." Feudal language is often used, eg. Dalley, Ancient Mesopotamian Military Organization, p. 416.

249

250 David W. Anthony, The Horse, the Wheel, and Language. (Princeton University Press: Princeton, 2007). ch. 10

251

252

253 Dezsö, *The Assyrian Army* I.2 p. 13. Compare RLA 5 s.v Kampfwagen p. 339

254 Archer 2010: 77-78 ("Yet, once the chariot ceased to be used as a frontline military unit, the heavy chariot units were retained as deliberately archaic formations whose sole function was to look impressive at grand state occasions, rather like the cavalry units still maintained by the British army today, while the light chariot disappeared

chariot warriors with the heroic past and with exotic lands such as Britain and India. It has some support from one technically competent observer, Xenophon. In his *Cryopaedia* (6.1.27-29) he describes how the kind of chariots used in Cyrene and by the Homeric heroes required several men and horses for each combatant but "only played the role of mounted shooters (*akrobolistai*) and did not add much weight to the force." In his view, scythed chariots or cavalry were much more effective. Since Xenophon uses his stories about Cyrus to teach lessons about the military techniques of his own day, this probably reflects his professional opinion (although not an opinion built on close knowledge of chariots carrying archers and javelin-throwers). On the other hand, it is difficult for modern observers to escape hindsight bias. Very few scholars have a practical understanding of riding and driving with the technology of the early first millennium BCE. Those who have, whether "academics first" like Littauer and Crouwel or "practitioners first" like Mike Loades, often have kind words for the chariot.

Dan Howard has recently emphasized that chariot technology in Southwest Asia changed significantly in the early first millennium BCE.[255] The light two-man, two-horse chariots of the Late Bronze Age were replaced by larger models, with a "third man" (and sometimes more) on board, bulkier bodies, and three or four horses. By 401 BCE the scythed chariot appears, with its single driver and four horses. This suggests that chariot forces were not simply preserving outdated skills for sentimental reasons (like the RCMP or Lord Strathcona's Horse practicing with lances on horseback) but changing in response to a changing military environment. Littauer and Crouwell, the leading experts on early wheeled vehicles, argue that these later forms of chariot would have been slower and less manoeuverable but that tasks requiring speed and manoeuverability were precisely those in which cavalry first replaced chariots.[256] The possibility should therefore be considered that chariots retained some objective advantages over cavalry in some situations in addition to their subjective prestige.[257] Perhaps they provided a more stable platform for shooting, and they could certainly carry more weapons than a bareback rider could manage. It is also possible that it was easier to observe the situation and issue commands while riding a chariot than mounted on a horse.[258] Regardless of the causes, the composition of mounted forces changed drastically between the 9th and the 6th century BCE.

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entirely. The sharp decline in the numbers of chariots in Assyrian military records from the end of the eighth century BCE indicates that they no longer formed an important practical part of the Assyrian army."), Cook, *The Persian Empire*, pp. 102, 103. Yet while modern horse cavalry or RCMP lancers hold to the equipment and drills of the end of the 19th century, Assyrian chariots continued to change throughout the 8th and 7th century, and still appear in combat scenes.

255 Dan Howard, *Bronze Age Military Equipment*, pp. 12-19

256 RLA s.v. Kampfwagen p. 349

257 One might compare the debates about mechanization between the First and Second World Wars, where keen advocates of replacing horse cavalry with armoured fighting vehicles clashed with the reality that the armoured vehicles which existed already, and which their armies could afford to buy and maintain, were quite imperfect, and that investing too much too early in motor vehicles might leave them outclassed by enemies which bought improved versions later. Moreover, motor vehicles required gasoline which outside of the United States and the USSR was in short supply.

258 MacGinnis 2012: 16-18, 24, 25

2.9.2 Aramaic

In the late second millennium, cuneiform writing on clay was one of the technologies which unified respectable kingdoms. This can be seen in the adaptation of cuneiform in Hatti and Ugarit and in the archive of Akkadian letters to Pharaoh from his subjects in the Levant found at Amarna in Egypt. Despite the fact that neither party spoke Akkadian, it served as an 'interlingua' between West Semetic speakers in Asia and Egyptian speakers on the Nile. Akkadian was the language of international diplomacy, and in Akkadian-speaking regions it was also used for administration, including the inventories, muster lists, receipts, and reports required by the military bureaucracy.

After the "catastrophe" which ended the Amarna Age, the areas where cuneiform was used gradually shrank, and more and more texts were written in abjads. The abjad had been invented sometime around 2000 BCE, apparently by Northwest Semitic speakers in contact with Egypt and its heiroglyphics, but it seems to have lacked prestige and rarely been used east of the Euphrates. In the first millennium references to alphabet scribes (*sepīrū*), documents in Aramaic, and carvings of pairs of scribes, one with a tablet and the other with a scroll, become common in Assyria. The Old Persian script was the only new cuneiform writing system of the first millennium BCE, and the Achaemenids who sponsored it also established a network of Aramaic-writing clerks as far east as Bactria.[259] Nicholas Ostler suggests that the massive resettlement of westerners in Mesopotamia and the neighbouring regions, and the Assyrian insistence that deportees were now Assyrians, encouraged the development of a Northwest Semitic 'lingua franca,' which the deportees used to speak to one another, and their neighbours learned to speak to them.[260] Among other customs, they brought their tradition of writing with a pen on skin or papyrus.

The shift from writing in one language with a stylus on tablets to writing in another with ink on skins or papyrus requires changes in record-keeping and administration. The cultural shift may have been equally dramatic, since knowledge of Aramaic did not bring the connection to a long tradition of literature and scholarship which even basic, pragmatic knowledge of cuneiform implied. This was not without tension: a famous letter of Sargon II refuses a petitioner's request to be allowed to send letters in Aramaic instead of cuneiform (SAA XVII.2 lines 13-21).[261] Some documents combined both scripts: a main text in cuneiform, and a label in Aramaic scratched or painted on one side of the tablet.

Aramaic may also have served as a *Heeressprache* which enabled soldiers from different linguistic communities to give and obey simple instructions. Latin seems to have served this role in the Roman empire, where as late as the sixth century CE the *Strategikon* of Maurice gives its drill and commands in Vulgar Latin, although the rest of the book is in Greek and few recruits in the territories ruled from Constantinople spoke Latin at home. Andreas Fuchs argues that the entire

259 ADAB (but note that fragments of clay tablets with Elamite texts with broadly similar phrasing to the Persepolis Fortification Archive have been found at Old Kandahar, so the Achaemenids presumably helped to spread Elamite and Elamite cuneiform eastwards: Michael T. Fisher and Matthew W. Stolper, "Achaemenid Elamite Administrative Tablets, 3: Fragments from Old Kandahar, Afghanistan," Arta 2015.001).

260 Nicholas Ostler, Empires of the Word: A Language History of the World (Harper Perennial: New York, 2005), pp. 63-68

261 Fales 2007: 103, 104 suggests that usually the place of Aramaic writing in neo-Assyrian administration was less controversial.

corpus of Akkadian literature contains nothing of practical value to a would-be soldier, and Christopher Tuplin suggested that in the Achaemenid period, the small corpus of Aramaic texts seems to contain more references to soldiers than the large corpora of Babylonian and Elamite texts.[262]

2.9.3 Iron

In the second millennium, bronze had been overwhelmingly the most popular metal for tools and armour. A few iron objects have been found in contexts as early as the sixth millennium BCE, and some workers in Anatolia and upper Syria smelted iron and steel throughout the second millennium BCE, but texts and excavations from Egypt and Mesopotamia imply that iron objects were rare and sometimes seen as exotic luxuries.[263] A few iron objects from Hatti and Mittani appear amongst the luxurious gifts in the Amarna Letters (EA 22), and a single iron dagger was included the wrapping of Tutankhamun's mummy. The networks of trade which brought tin from the mines in Bactria and Sogdia to Mesopotamia and points west were one of the unifying factors of the age. Bronze was widely available, but not always in the quantities desired, so that other materials remained popular for arms and armour: Tutankhamun was buried with many arrows with ebony points and an armour of hide scales.[264]

Between roughly 1000 and 600 BCE the use of iron became common in Mesopotamia. Modern experiments suggest that the key problem was learning to make metal with a consistently low carbon content which was soft enough to forge, and that the process needed to be adapted by experiment to the local ore, fuel, weather, and other unknowable factors.

Iron was useful for many of the things that bronze was useful for, but it was much more widely available than copper and especially tin. Low and medium-grade iron deposits of iron ore are widely available in the Near East, and as the technology spread iron became significantly cheaper than copper or bronze.[265] In one list of goods under Nabonidus a shekel of silver would buy 3 1/3 minas of copper from Cyprus, 4 minas of iron from Cyprus, or 6 minas of iron from Lebanon.[266]

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262 Andreas Fuchs, “Wissenstransfer und -anwendung im Bereich des Heerwesens und der Militärtechnik des neuasszrischen Reiches,“ in Hans Neumann und Susanne Paulus eds., Wissenskultur im Alten Orient: Weltanschauung, Wissenschaften, Techniken, Technologien: 4. Internationales Colloquium der Deutschen Orient-Gesellschaft, 20-22. Februar 2002, Münster. Harrasowitz Verlag, Wiesbaden, 2012 pp. 31-59. I believe that I acquired the idea about Aramaic from Tuplin at a conference.

263 Early iron: Lloyd Weeks, “Metallurgy,” in D.T. Potts ed., Companion to the Archaeology of the Ancient Near East (Wiley-Blackwell: Malden, MA, 2012) Vol. I p. 298. Iron smelting and production of medium-carbon steel at Kaman-Kalehöyük in Turkey between the 22nd and 18th centuries BCE: Hideo Akanuma, “The Significance of Early Bronze Age Iron Objects from Kaman-Kalehöyük, Turkey ,” Anatolian Archaeological Studies XVII (2008) pp. 313-320 M. Masubuchi, “A Metallographic Study on Iron and Steel Arrowheads from Kaman-Kalehöyük Stratum II,” Anatolian Archaeological Studies XVII (2008) p. 281 (cites cuneiform texts). Howard, Bronze Age Military Equipment, pp. 45, 46 points out that in the Amarna age iron came to Egypt from Mittani as well as Hatti.

264 For bows and arrows see McLeod 1970, 1982. For the scale amrour see Kendall 1974 and Hulit 2002. For the role of bronze in the economy of Late Bronze Age Egypt see Jac J. Janssen, *Commodity Prices From the Ramesside Period* (E.J. Brill: Leiden, Netherlands, 1975); it was not uncommon for artisans to have property worth 10 kilos of copper-alloy.

265 Lloyd Weeks, “Metallurgy,” in D.T. Potts ed., A Companion to the Archaeology of the Ancient Near East (Wiley-Blackwell: Maldon, 2012), Volume I pp. 305, 306

266 Dubberstein, “Comparative Prices in Late Babylonia (600-425 B.C.),” *The American Journal of Semitic Languages and Literatures* 56.1 (January 1939) p. 33. The exact prices are 10 talents of copper from Cyprus for 3 minas 1/3 shekels silver (600 minas for 180.3 shekels, ratio 3.33 to 1), 130 minas iron from Cyprus: 1/2 mina 2 1/2 shekels

Since copper was the cheaper element in bronze, the advantage of making common objects out of iron was obvious.

However, the use of all kinds of metal appears to have increased in this period. This can be traced through archaeological finds, texts, and art although it is difficult to quantify and date.[267] In the Late Bronze Age, only a minority of chariot warriors wore metal helmets and body armour, and armour covered with hide scales was respected enough to be buried with Tutankhamun. By the end of the eighth century BCE, Assyrian artists could present their soldiers as all dressed in scale armour and helmets. While actual Assyrian armies may have been less uniform, especially outside the *kiṣir šarruti*, the dream of an army where every soldier wore armour was new. A century later, tens of tons of iron were left buried in the ruins of Assyrian cities, rather than being taken by the conquerors or dug up and recycled by the survivors. Iron and bronze arrowheads are also very common in documents and excavations from the early first millennium BCE, whereas in the Late Bronze Age many of the arrows in Tutankhamun's tomb were tipped with ebony and other organic substances.[268] Wooden and stone weapons such as clubs and throw-sticks also become less prominent than in earlier periods.

Iron also lent itself to different techniques of working than bronze did: in particular, it could be forged but not cast.[269] Cast bronze fibulae and socketed trilobate arrowheads became popular in Near East in the same period that iron tools were replacing bronze ones, and for a long time bronze was preferred for large, complex shapes of thin metal such as helmets and breastplates.[270] Iron could also be forge-welded to itself by heating, folding, and hammering. This made it easy to make socketed tools such as spades, spearheads, and axeheads. It took many centuries for ironworkers to master all of these new techniques. In the Zagros, it seems that early ironworkers also worked bronze and imitated familiar forms in the new metal.[271] The edges of iron tools were often hammered to harden them, just like the edges of bronze swords. It was not until the last few centuries BCE that smiths in Europe and the Near East learned to consistently made iron blades which were harder, sharper, or more flexible than bronze blades.[272] As long as swords and spears

(130 minas for 32.5 shekels, ratio 4:1) , and 257 minas iron from Lebannon 2/3 mina 2 2/3 shekels (257 minas for 42.7 shekels, ratio 6:1). Compare Robert E. Stieglitz, *Commodity Prices at Ugarit* (1979) where silver seems to have been worth about 200 times as much as copper. In Babylonian measurements, that would be 3 1/3 minas of copper for a shekel of silver, the same price as we find a thousand years later in Dubberstein's study.

267 Eg. Dubberstein, “Comparative Prices in Later Babylonia” pp. 33, 34

268 Wallace McLeod ed., Self Bows and Other Archery Tackle from Tomb of Tutankhamun. Tut'ankhamūn Tomb Series IV. (Griffith: Oxford, 1982). For tests of such arrows against various kinds of armour, see Hulit, Late Bronze Age scale Armour, p. 116 ff.

269 Cast iron is too hard and brittle to shape with a hammer, and producing some accidentally, without a mould ready to receive it, creates a useless lump. In Europe, cast iron objects only become common in the 16th century.

270 On the spread of the fibula to the Near East see Stronach 1959. Socketed trilobate arrowheads: Mark Shier, a worker in bronze, enamel, and gems and specialist in small finds, has discussed the techniques of casting such arrowheads with me based on an example in his private collection with the casting sprue intact: he is impressed that they are designed so that the same work with a file removes the casting sprues and sharpens the blades. Compare Stern 1982: 156, 157 which notes that about 80% of the arrowheads from the 4th century BCE at Olynthus and Persepolis were bronze, and that the more complicated socketed forms tend to be bronze rather than iron. The first breastplates of iron appear in the 4th century BCE eg. in the infamous Tomb II at Vergina and Burial III at Aghios Athanasios, but in antiquity iron body armour tends to be made of small plates, whether scales or the bands of Roman *lorica segmentata*.

271 Smith 1971; cp. the objects of the Achaemenid period discussed in chapter 6

were used in combat, these always coexisted with weapons of low-quality iron.[273] While Mika Waaltari and the team at 20th century Fox imagined ferrous swords shattering bronze ones, this owes more to modern faith that newer technologies *must* be better (and that better means "harder") than to archaeometallurgy.[274] Workers in the ancient Near East were probably more impressed that given iron they could make a socketed axe reliably in a few hours, using materials which came from nearby valleys not the exotic lands full of monsters beyond the mountains and the sea, and that societies which mastered ironworking had more metal of all kinds.

2.9.4 Hand Weapons

The warriors of the Late Bronze Age carried a wide range of weapons, including swords, daggers, axes, maces, spears, and shields. Although in Mesopotamia and the neighbouring regions they had lost some prestige to the bow, they continued to be used in combat and buried in graves: pictures of chariots from Egypt show them laden with a variety of edged weapons in addition to their bow-cases and quivers. Designs and the relative status of different weapons continued to shift in response to new craft techniques and fashion trends: archaeologists have been particularly interested in the development of larger, studier swords in the Aegean and neighbouring regions.

The main weapons for hand-to-hand combat in the Neo-Assyrian period were spears, shields, and swords. Some figures in the relief carry short batons, which appear to have been a symbol of command like similar objects in Europe from the sixteenth to the twentieth century.[275] Axes, maces,

272 Specifically, techniques such as quenching and tempering, or combining different irons into a blade with a hard edge and a tough back, are rare in Europe before the 2nd century BCE and not ubiquitous until much later. Better-quality ancient blades are often of 'piled' construction: strips of different iron are laid next to one another in no particular order and forge-welded into one. Most work in this area focuses on weapons from wet contexts in Northern Europe, and more studies of Aegean and Near Eastern iron are a *desideratum*.

273 Lang 1988 is a classic study of Roman *gladii*, Matthiew and Meyer 1997 and Buchwald 2005 discusses early iron and steel edgetools more generally, Rehder 1992 gives a metallurgist's view, and Masubuchi 2008 shows that a few early iron weapons were of medium-carbon steel. I cannot obtain Pleiner 1993 on La Tenè swords. As late as the Napoleonic Wars, French infantry complained about their sabres which could be bent like a *strigil*, and collections of edged weapons from 19th century Africa and Asia include some of good metal and some of poor: even today, many swords are made out of totally unsuitable metal to save money or because the makers expect that they will hang on a wall.

274 Waltari's excellent historical novel *Sinuhe The Egyptian* (1945, first English edition 1949) is the oldest book I can find which informs readers that "iron is harder than bronze" or has iron weapons damaging the blades of bronze weapons while remaining untouched. Page 130 of the English edition has Horemhab muse "There is a rumor that the Hittites have discovered some new metal and that weapons made of this can chip the edges of the finest copper axe. Whether this is true I don't know ..." Sinuhe eventually acquires a knife of this metal from a Hittite harbour master and discovers that "it shaved hair more easily than the finest flint blade and could make nicks in copper without damaging its own edge" (p. 188) and later (page 388) a Hittite embassy gives Tutankhaton "a knife of blue metal, keener and stronger than all other knives." In the 1954 film version (*The Egyptian*, Michael Curtiz director) reedy doctor Sinuhe demonstrate the power of Hittite iron by shattering a bronze sword! Both the novel and the film were quite popular in the postwar period. The idea that iron weapons are harder and more durable than bronze equivalents is now very common, both among the public and in popular books like Bibby 1962: 25 and Gabriel and Metz 1991: xviii. For once, a misconception seems to have spread from popular culture to popular history, rather than spreading from an expert speaking outside their area of expertise to popular works like Gabriel and Metz 1991: xviii to the public. Drews 1993: 73-76 has another history of this idea, but I do not see it fully-formed in the work of V. Gordon Childe which he sees as patient 0.

275 Schloss Ambras contains an original commander's baton from the sixteenth century, and Napoleon publicized the idea by giving his marshals a baton. The practice seems to have fallen out of favour after the fall of the Third Reich. I am not familiar enough with the anthropological literature on the symbolism of maces and batons to suggest reading in that area.

and picks are extremely scarce except in the hands of troops undermining walls or breaking down gates: after the reign of Aššurnasirpal II in the 9th century, chariots are no longer depicted carrying an axe next to each quiver of arrows. Most edged weapons are relatively small: swords appear to be on the order of 40 or 50 cm long, and spears are about as tall as the men who hold them. On the other hand, shields are sometimes very large, and very short spears or javelins are also scarce.

Some weapons which had been popular and prestigious in the second millennium are rarely seen in Neo-Assyrian reliefs or mentioned in texts. Although the rise of the chariot-scale armour-composite bow weapons system had cost the axe some prestige, it had still continued in use. Axes were mounted on New Kingdom Egyptian chariots, carried by Egyptian infantry, and held by the warrior god carved on the gateposts of Hatussus. However, they are very scarce in Neo-Assyrian art and Babylonian tablets.[276] Short light javelins, meant to be carried in the shield hand and thrown, are also scarce. This is also noteworthy, since the increased use of javelins is often seen as one of the changes in warfare at the end of the Bronze Age, and given the importance of throwing spears in Greek and Italian warfare.[277] Given the popularity of axes and javelins before and after this period, it is difficult to explain their absence on technological grounds alone. Lovers of the sword often present it as obviously superior to other weapons for hand-to-hand combat, but in many places and times warriors have carried both swords and axes or argued about which was best.[278] The swords depicted in Assyrian art are also shorter and narrower in the blade than the famous European swords of the Late Bronze Age and Early Iron Age, such as the Naue type II, which have sometimes been seen as revolutionary weapons.[279] Heroes in the Epic of Gilgamesh carry both axes and daggers, and scholarly warriors or ones who had visited Egypt had access to traditions about heroes smashing heads with heavy weapons.

The cultures of the western steppes and western Iran had their own traditions of arms and armour, including special daggers (the *akinakes* of Herodotus) and axes with narrow blades for piercing skulls. These appear to have had much less influence in the lowlands than the technologies of archery and horsemanship from the same regions which are discussed below. This further emphasizes that the spread of technology from one culture to another depends on the wishes of the receiver; people often find some aspects of another culture very attractive, while ignoring or

276 Kleber 2014: 442

277 Changes in warfare: Drews 1993: 209-225 (javelins as weapons of infantry who over-ran chariots and shot down their horses), Howard 2011: 10-13 (javelins as weapons to combat armoured infantry)

278 Carried both: Middle Bronze Age graves from Syria and Palestine often contain a dagger and an axe (Philip 1989), and the Standard Babylonian Epic of Gilgameš shows him using both to kill Humbaba and the Stone Men. In the middle of the second millennium CE, Hungarian cavalry often carried both a long-hafted axe (*fokos*) and a sword. Carried one or the other: Norse militia laws eg. Norwegian Leidang law Older Law of the Gulating http://quod.lib.umich.edu/cgi/t/text/text-idx?c=acls;cc=acls;view=toc;idno=heb06010.0001.001 and its successors from the 16th, 17th, and 18th century which mention the dussack (a kind of short, curved sword) instead of the sword, sources from British North America such as those collected in Alexander R. Cain, "Equipment of Massachusets and Minute Men in the 18th Century," http://www.18cnewenglandlife.org/18cnel/equipment_of_mass_militia.htm or Rogers' Rules for Rangers from 1759. Big knives and small axes still appear now and then in the hands of NATO troops worried about fighting in enclosed spaces. Bows versus javelins: Eg. Maur. Strat. 12B.20 recommends that in rough terrain infantry should be organized into parties of three or four men with javelins, who can protect themselves with shields and fight at short range, and one archer, who can shoot from a distance but cannot carry a shield.

279 Drews 1993: 192-208. Needless to say, the idea that the Naue type II was objectively "superior" and that earlier swords were poorly designed for their intended function has been challenged, in particular by Barry Molloy.

rejecting others. For some reason, warriors in Mesopotamia found axes much less attractive than their neighbours in the mountains or the northern steppes.

2.9.5 Armour[280]

Helmets of bronze or of leather and wool are documented in Mesopotamia from the third millennium onwards. The copper helmets from the "royal tombs of Ur" are famous, but texts from the empire of Akkad also list helmets made from 1 2/3 minas of bronze and 10 shekels of silver, or from an oxhide, a goatskin, and 1/3 mina of wool.[281] Smooth or horned head-pieces also appear on the Standard of Ur, the Stele of the Vultures, and the victory monument of Naram-Sin, all dating to the second half of the third millennium BCE. These are usually identified with the bronze and leather helmets in texts. Written sources for early body armour are more ambiguous, with a few obscure terms which might refer to protective equipment.[282]

In the second millennium, the technology of scale armour spread with the light chariot and new types of bow. The Late Bronze Age texts from Nuzi mention helmets of bronze, bronze scales, or leather and provide details of the materials used to make individual items.[283] These can be compared to the helmets in contemporary art, especially Egyptian reliefs, which are usually bullet-shaped and often have a tassel or crest at the peak.

In the second millennium BCE, body armour and helmets were regularly worn by a small minority of soldiers.[284] Outside of the Aegean, the best evidence is for helmets of bronze plate or of felt and leather covered with bronze or hide scales, sometimes with attached protection for the throat and the back of the head, and for long coats covered with bronze or hide scales, sometimes both in the same armour. Texts imply that most scale armour was made from hide, presumably painted with some waterproof substance. In his great inscription on the battle of Megiddo at Karnak, Thutmosis III boasted of taking 340 prisoners, 83 hands, 2 bronze armours, and 200 leather armours.[285] This suggests that even in a battle which Thutmosis presents as a clash between picked chariot forces, not every warrior had armour, and that leather armour was much more common than bronze. However, the only surviving example of such armour is the piece found in the tomb of Tutankhamun. Bronze scales have been excavated from a number of sites, and cuneiform texts provide an extensive technical vocabulary which is not fully understood. Modern tests with reconstructions suggest that wearers of this armour were reasonably safe against the weapons of their day, especially arrows. The sheer diversity of armour in texts suggests that considerable thought was devoted into the best kind of armour for different tasks.[286] It is possible that the bulkier

280 Overviews: RlA s.v. Helm, Panzer

281 RlA s.v. Helm A. Philologisch p. 312

282 eg. Sum. ziš or zisa "armour" (Civil 2003) or the lexical list with akar = apluhtu "covering, armour" (CAD A2 p. 177)

283 Timothy Kendall, "gurpisu ša awēli: The Helmets of the Warriors at Nuzi," in M. Morrison and D.I. Owen eds, Studies on the Civilization and Culture of Nuzi and the Hurrians in Honour of Ernest R. Lachemann on his 75th Birthday (Winona Lake: Eisenbrauns, 1981), pp. 201-231

284 On body armour in the second millennium BCE see RlA s.v. "Panzer," Hulit 2002, Kendall 1974. A series of tests of New Kingdom Egyptian scale armour involving Thomas Hulit, Mike Loades, and Todd Feinman were carried out for a series of PBS documentaries. The plate armour from Dendra, Thebes, and other sites in Europe cannot be addressed here.

285 Hulit 2002: 64, 65. It should be noticed that the determiner for "leather" is badly damaged in the original.

286 Eg. Hulit, Late Bronze Age Scale Armour, pp. 183, 184

kinds of armour were assembled so that different pieces could be added or removed depending on the needs of the wearer, so that a warrior who expected to be in the thick of the fighting would wear more armour than one who planned to dismount and lead an attack up a hill covered in brush.

In most reconstructions of Late Bronze Age warfare, body armour was limited to the chariot warriors and perhaps a few picked infantry such as the Sherdana of New Kingdom Egypt. This situation changed dramatically in the eighth and seventh centuries BCE. From the time of Sargon II (r. 721-705 BCE) to the last sculptures under Aššurbanipal, Assyrian kings presented most of their soldiers, whether foot, horse, or chariot, as wearing body armour. Even more striking, this armour appears uniform, with all armed men wearing a hip-length, short-sleeved armour and an open helmet. The long scale coats and separate neck-guards which had been prominent in the Late Bronze Age and in the sculptures of Shalmaneser III (9th century BCE) vanish.

In Neo-Assyrian art, some spearmen without scale armour wear a disc on their chest over a set of cross-straps. These would seem to be similar to the small bronze breastplates popular in central Italy in the first millennium BCE which Polybius called a *kardiophylax*.[287] However, no surviving examples appear to have been identified.[288]

The helmets in Neo-Assyrian art appear to be of solid plate. A number of iron or bronze examples survive, and some lists of equipment specify that a helmet (*gurpisu*) was of iron or bronze. It is of course possible that helmets of scales, or with hanging flaps of scale armour to protect the throat and face, continued after they vanish from the reliefs in the ninth century BCE. One innovation of this period was the bimetallic helmet: a helmet of which the left side was of one metal, and the right another.[289] Making a helmet in two or more parts is much simpler than forming a deep bowl with hammers, but the combination of bronze and iron was also decorative. As noted under ironworking above, early bronzeworking and ironworking seem to have been complimentary trades performed by the same workers.

Other types of armour are more difficult to document.[290] While the helmets in Neo-Assyrian reliefs could in principle have been made from rawhide or hardened leather, scholars tend to assume that they were always metal like the surviving examples. A term attested in Sumerian at the end of the third millennium, *ziš*, is written with the determinative for "leather" and glossed as some piece of protective equipment.[291] One of the Sumerian stories about Lugalbanda, best known in copies from the Old Babylonian period but possibly composed centuries earlier, also contains a passage where the Anzud-bird urges Lugalbanda to equip himself for battle with a headpiece written with the determiner for cloth and some kind of object worn on the body.[292] Similarly, one of the common

287 Polybius 6.23.14 (his description of the Roman legion). Connolly's Greece and Rome at War has paintings of a variety of these breastplates from the Samnites and other parts of Italy.

288 Barron, Art versus Artifact, §V.3 p. 172

289 Barron, Art versus Artifact §VI p. 182, Dezsö 2001

290 The old theory that the warriors on the standard of Ur wear cloaks reinforced with copper disks lacks archaeological support (copper-alloy helmets, axeheads, and spearheads survive from the 'royal tombs' at Ur, but no discs for cloaks) and the patterns could equally well be interpreted as woven-in patterns, decorative apliques, or spotted fur. See Howard, Bronze Age Military Equipment, p. 72 for a similar view and an example of this idea in earlier literature.

291 Miguel Civil, "Of Bows and Arrows," pp. 51, 52 and EPSD s.v. ziš and e.me3 "battle leather."

292 Lugalbanda and the Anzud-Bird ETCSL c.1.8.2.2 lines 149-154 "May Ninurta, Enlil's son, place the *{tug2}saĝšu* Lion of Battle on your head, may the *LUM.BU.TUKU*, which in the great mountains does not permit retreat, be laid

Akkadian words for body armour, *apluhtu* "covering," is first attested in the Old Babylonian period, so body armour may have existed in Mesopotamia before the introduction of the scale armour-composite bow-spoked-wheeled chariot weapon system.[293] The anthropological record does not suggest a clear answer, since "soft armour" appears to have been ubiquitous in some cultures and unknown in others with similar technology, and since it often appears to have been inspired by contact with cultures which made metal armour.

2.9.6 Composite Bows

The English word "bow" covers a very wide range of weapons. Bows differ in shape and size. They can also differ in structure: bows are often divided into self bows (of a single piece of wood), sinew-backed bows (reinforced with sinew on the back, or side which points away from the archer, for extra strength and flexibility), and composite bows (made from layers of sinew, wood, and horn).

As part of a weapon system with the chariot and scale armour, the short "triangular" composite bow had been very prestigious in the Late Bronze Age. These bows were optimized for use by the passenger in a chariot, who needed to shoot in all directions against armoured opponents without the body of the chariot or his driver getting in the way, and whose vehicle carried many full quivers of arrows. The assembly of a true composite bow was a slow process, since the layers of horn, wood, and sinew were held together with glue which needed time to "cure," and the completed bow needed to be protected from water. Infantry often appear to have used simpler bows, although these are poorly documented outside of Egypt.[294]

The most common type of bow used by Assyrian soldiers in the reliefs appears to be a form of the triangular composite bow which was widespread in the Late Bronze Age and well known from finds from Egypt. When strung, these bows appear about 120 cm long from nock to nock, and have a triangular profile with two straight arms meeting the taught string. From the time of Tiglath-Pilser III some Assyrian soldiers also carry a convex or "D-shaped" bow.[295] Outside the reliefs, however, documents, archaeological finds, and artwork show that a new kind of bow and arrow were spreading into the Aegean, Mesopotamia, and the Levant. This "Scythian bow" (or "Kimmerian" to the Babylonians) seems to have been optimized for use on horseback and associated with migrants from the Eurasian steppes.

Christoph Zutterman saw archery in this period in terms of technological progress with stronger, newer bows replacing weaker, older ones.[296] This is perhaps not the best approach, since bows are

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on your breast!" (tr. ETCSL)

293 CAD s.v. apluhtu (CAD A part 2 p. 177)

294 On Egyptian bows see McLeod 1970, 1982

295 Zutterman 2003: 126 and Table 2 Examples of what he seems to mean can be found in Dezsö 2012: Vol. 2 plate 6

296 eg. Zutterman 2003: 149 "In other words, there is a clear evolution to more powerful bows and a replacement of the bows used in the 1st half of the 1st millennium. ... The conservative nature of the Assyrians and Babylonians and the more progressive Achaemenids are as a result recognizable in the typology of their bows." Cp. Muhammad A. Dandamayev and Vladimir G. Lukonin, The Culture and Social Institutions of Ancient Iran (Cambridge University Press: Cambridge, 1989) p. 225 "in terms of ballistic qualities, the Scythian bows far surpasses the Akkadian (ie. Assyrian and Babylonian) bows."

optimized for different tasks, and any given type of bow can be made in a variety of draw weights.[297] Modern assault rifles fire light bullets propelled by small amounts of propellant, because the ability to carry many cartridges and control the rifle under rapid fire is more important than the ability to shoot accurately at ranges of 500 metres or create even bigger wounds. Just like any other weapons system, a bow and arrows represent trade-offs between various desirable but contradictory goods: a wider, heavier head may do more damage but be more difficult to fit into a quiver and reduce range and penetration against armour, a heavy bow is difficult to draw many times in quick succession, and composite construction offers increased efficiency and reduced length at the cost of expensive and sensitivity to moisture. The *Strategikon* of Maurice, one of the earliest texts to comment on the advantages and disadvantages of different styles of archery, says that it is better for a soldier to use a bow which is too weak than too strong (Maur. *Strat*. 1.2, Dennis p. 12).

However, changes in the popularity of different styles of bow must have had something to do with changes in ways of fighting and in the prestige of different cultures and types of equipment. The description of bows and arrows as "Akkadian" or "Kimmerian" in Late Babylonian tablets show that contemporaries perceived some of these changes as cultural borrowing. Zutterman's painstaking study showed that there is much to be learned by carefully examining and comparing the various types of evidence for early archery.

2.9.7 Organizational Technologies

Most subtly, the vast growth of the size of Assyrian armies, their success in battle, and the distances over which they campaigned must reflect changes in administration and the transmission of knowledge. While the Assyrians drew on very old traditions of conscription, they applied them on a scale which had not previously been achieved, and continued to raise armies and campaign in distant lands for several hundred years. Increases in scale require new techniques to manage the increased complexity and smooth out difficulties which can be ignored at a smaller scale. Given the predominantly oral nature of military culture in Assyria, and the very uneven survival and publication of Neo-Assyrian documents, the details of these changes are difficult to see.[298] However, their effects are visible in the Assyrian royal inscriptions and the ruins of cities devastated by the Assyrians.

2.9.8 Neither Revolution nor Stability

At a superficial level, the range of technologies used by soldiers remained broadly static. Spears, chariots, and composite bows were used throughout this period. However, the exact forms of these weapons, and the way in which they were used, continually changed, and some of these changes

297 Cp. Zutterman 2003: 129 "Composite bows are so strong that you need a hook-like finger setting to be able to draw back the string." Aside from obvious practical objections (how did archers learn to shoot except by beginning with weak bows and taking up stronger ones as their muscles developed?), estimates of the draw weight of ancient composite bows are often rather modest.

298 Andreas Fuchs, "Wissenstransfer und -anwendung im Bereich des Heerwesens und der Militärtechnik des neuasszrischen Reiches," in Hans Neumann und Susanne Paulus eds., Wissenskultur im Alten Orient: Weltanschauung, Wissenschaften, Techniken, Technologien: 4. Internationales Colloquium der Deutschen Orient-Gesellschaft, 20-22. Februar 2002, Münster. Harrasowitz Verlag, Wiesbaden, 2012 pp. 31-59

can be dated to a specific king. The stereotypes of an unchanging orient, or one which fruitlessly struggles to keep up with foreign innovations, fit this period poorly. The Achaemenid period saw further changes, including the spread of “Greek” styles of helmet and body armour, new styles of warships, scythed chariots, catapults, and heavily armoured cavalry on armoured horses. Concepts like "obsolescence" or "phasing out" are poor choices in the ancient world, since old styles of weapon were just as effective as new ones, and the adoption of new styles of equipment reflected individual choices not some rational, bureaucratic master plan imposed on a whole nation. However, there was technological change, and a style of weapon which had satisfied for generations could be slowly abandoned as the needs of warriors changed or a new fashion appeared.

Moreover, between the Late Bronze Age and the 8th century BCE, Near Eastern military equipment changed in directions which specialists in classical warfare often take for granted: swords, spears, and bows became the main weapons, infantry of modest social standing had metal helmets and some form of body armour, and of course warships with two or more levels of benches became the norm. Whether we stress the similarities or the differences, and see this in terms of cultural diffusion or parallel evolution, it is worth considering. Specialists in archaic and classical Greece often find the Near East foreign and alien, but specialists in imperial Rome feel more at home.

2.10 Conclusion

Our sources for the Neo-Assyrian empire were produced by strong kings and well-organized bureaucrats, so as the empire fell into trouble in the middle of the seventh century BCE, the details become hard to grasp. In the middle of his reign, Assurbanipal fought two great wars: one against king Teuʾumman of Elam, and the other against his older brother Šamaš-šum-ukin, king of Babylonia. Teuʾumman died, and the Assyrians ravaged the plains of Khuzestan with unparallelled ferocity. Babylon also fell, Šamaš-šum-ukin died, and his supporters were executed with the usual refinements. But these demonstrations of power did not solve Aššurbanipal’s problems. As he grew older, his sons seem to have struggled over the throne or over the control of their ageing parent, while a new dynasty in Egypt pressed into the Levant. Outlying cities in Babylonia, Syria, and the Zagros broke free and were not forced to submit. By the time that the great cities of Assyria were destroyed circa 612-609 BCE, even the sequence of *limmu*-years is unclear.

Just why things fell apart is difficult to understand, since the troubled kings after Aššurbanipal did not sponsor as many reliefs or narrative inscriptions. Later Babylonian accounts stressed the role of the Medes, although this was somewhat convenient for the Babylonians: by attributing the robbing and abandonment of temples to the Ummana-Manda, they made clear that their own kings were not responsible for such impious acts.[299] Walter Mayer suggests the breaking of the ‘illusion of invincibility,’ economic and demographic weaknesses caused by ceaseless wars and resettlements of population, and internal struggles rooted in discontent about these wars.[300] Others stress the hints that towards the end of Assurbanipal’s lifetime, his sons and chief officials began to fight for succession, and propose that “the ‘huge hosts of Aššur’ met their doom fighting against themselves

299 Rollinger 2003: 297-301
300 Mayer 1992:

in the protracted power struggles following the demise of Aššurbanipal."[301] As in the case of the fall of the western Roman empire, different readers can use the same evidence to tell very different stories.

However, the new Chaldaean king of Babylonia, Nabupolassar, was able to reconquer most of the territories which the Assyrian kings had ruled. He did not try to regain the Assyrian territories in the Zagros, and it is usually thought that a large part of the Assyrian plain around Harran remained in the hands of the Medes. However, the main evidence for this is Neo-Babylonian royal inscriptions, and the Babylonian kings had reasons to blame the destruction and abandonment of temples on the wicked Medes rather than their own forefathers.[302] Thus it is unlikely that many inhabitants of Syria, Cilicia, or the Levant felt a great difference between the new regime and the old one. Most Babylonians were probably happy to have a king of their own who invaded foreign lands and collected tribute instead of paying it. Nabopolassar had once served the Assyrians as a soldier,[303] and the Babylonians had spent most of the 8th and 7th centuries fighting for and against the Assyrians. Thus it is likely that the new regime in Syria and Babylonia inherited existing military traditions.

In Assyria and Media, however, there were drastic changes. Urban, literate life collapsed in Assyria proper. The population seems to have become much smaller, and left few texts in cuneiform or Aramaic script. In Media, which had once been a collection of Assyrian provinces, there are also few signs of a centralized, bureaucratic state. Despite Herodotus' picture of the Medes as Persians *avant la lettre*, it seems that they rejected the Mesopotamian idea of kingship and instead organized themselves as some kind of federation of tribes or cities.

Assyria's great rivals, Urartu and Elam, also fade out of the record. The Urartian cities and fortresses seem to have been destroyed around 600 BCE by an enemy using Scythian arrowheads, and some of them may have been destroyed again a few decades later. It is possible that they were invaded from the north then occupied by the Medes, but this narrative relies heavily on Herodotus' story of a battle between the Medes and Lydians on the Halys which was ended by an eclipse. However, Herodotus seems to believe that the Halys is a 'natural' or 'divinely sanctioned' border between western and eastern Asia, the stories about the battle seem to be based on confused and contradictory oral traditions, and it is possible that the Nabonidus Chronicle describes Cyrus invading Urartu in 547 BCE instead.[304] As for Elam, records fade away after Assurbanipal's invasion. However, a few royal inscriptions, graves with rich goods, and an archive of texts from the Acropolis at Susa suggest that some kind of centralized authority controlled a large part of Susiane (modern Khuzestan), collected and redistributed goods, and interacted with the highlanders to the east and the Babylonians to the west.[305] However, they seem to have lost control of the highlands around Anšan, where identities and populations were shifting, culminating in Darius I's

301 Fuchs 2011: 399
302 Rollinger 2003
303
304 Rollinger 2003, Rollinger 2004, Rollinger 2008. Every few years someone publishes a paper insisting that they can see whether the Babylonian chronicle mentions an invasion of *Lu-...* or *U-...*, but the one published copy is damaged and skilled Assyriologists disagree; more opinions do not seem helpful since a single new copy could solve the problem.
305 Henkelman 2008

triumphant proclamation that he was a Persian and Arian, of Arian seed.[306] It is time to turn to that proclamation and what Achaemenid ideology says about warfare.

306 Rollinger 1999

Chapter 3: Kings at War: The Perspective of the Royal Inscriptions

Studies of the Achaemenid empire turn again and again to the figure of the king. This is not just because Greek and Latin writers were fascinated by the idea of a barbarian monarch with vast revenues, countless subjects, and the power of life and death. The king is also very prominent in Jewish and later Iranian memories of the Achaemenid period. The publication of the inscriptions of Darius I in the 19th century, and the excavations at Persepolis in the 20th, have also made the kings' self-portrayal very prominent in modern scholarship. The sheer variety and extent of the ancient evidence has a powerful attraction for specialists. Even people with a casual interest in Achaemenid history are likely to have some knowledge of the Cyrus Cylinder and the Behistun and Naqš-e Rustam inscriptions.

At the same time, broad studies of the royal ideology have not always concentrated on the king and war, and military studies have not always drawn on the full breadth of the sources and scholarship by specialists in Achaemenid history. This chapter attempts to combine both perspectives while focusing on the royal inscriptions. Other kinds of evidence, such as monumental sculpture and Greek and Biblical images of the king, will be touched on more briefly.

3.1 The Cyrus Cylinder and Babylonian Royal Inscriptions

Cyrus was born in a world with several traditions of royal inscriptions stretching back into the 3rd millennium BCE: kings from the southern Zagros put up rock reliefs and inscriptions, and kings in Mesopotamia buried inscriptions on clay around important building sites and erected stone stelai with inscriptions. After he occupied Babylonia on 12 October 539 BCE, he chose to participate in the Babylonian tradition, depositing the famous Cyrus Cylinder and probably arranging for the creation of several scholarly texts which attacked Nabonidus' status as a pious and scholarly king.[307] A great deal has been written in recent decades about these texts, their conventional and traditional nature, and their status as propaganda. However, the choice to participate was significant, and probably helped convince the Babylonian literati to accept the new regime. It is worth looking more closely at this tradition, at what participating involved, and in what audience it reached. After all, the royal ideologies which fascinate scholars today are embodied in a handful of inscriptions, monuments, and coin dies, designed with the help of anonymous experts (*ummânū* in Akkadian), and it is not obvious how closely the rulers were involved in this process, who paid attention to their work, and how they received it.

Mesopotamian kings had deposited cuneiform texts written on stone or baked clay in the foundations of buildings since the end of the third millennium BCE. Grammars of Sumerian usually take these early cylinders as their model, since they are some of the longest and most varied early Sumerian texts. Nabonidus had been an enthusiastic participant in this tradition, and more than twenty of his cylinders have been excavated, many of them in several copies. In contrast, only

307 All of these are available with translation and commnetary in Schaudig 2001

one foundation inscription by Cyrus has been found, and it is preserved on a single cylinder and a single tablet.

Inscriptions in foundation deposits were public texts with a human audience. Mud-brick buildings were frequently rebuilt and modified. Babylonian kings boasted of finding and reading old foundation inscriptions during renovations. Nabonidus had rejoyced at finding an inscription of Hammurabi when he wanted to rebuild the Ebabbar at Larsa, since he wanted to rebuilt the temple like it had been in the beginning.[308] The modern excavators uncovered this inscription in turn, along with the traces of Nabonidus' reconstruction.[309] The damaged end of the Cyrus Cylinder dutifully boasts that as Cyrus renovated the walls, the moats, and the gates of the city:

> (43)... š]i-ti-ir (Erasure) šu-mu ša2 {m}AN.ŠAR2-DU3-IBILA LUGAL a-lik mah-ri-[ia ša2 qer-ba-šu ap-pa-a]l-sa(!) (44) [...] (45) [… a-na d]a-ri2-a-ti3
>
> [I examin]ed a cuneiform text in the name of Assurbanipal, a king who went before me, which was within it [... (one and a half lines lost) ... to] immortality.[310]

Although finding an inscription of Assurbanipal was not unusual (Nabonidus had found an inscription a thousand years older) the literati must have been relieved to see that their new king was willing to be portrayed as respecting the inscriptions of earlier kings. Publicly honouring the inscriptions of former kings linked the new king to his predecessors and suggested that his memory would last just as long. The text of important inscriptions could also be proclaimed aloud or distributed in copies. A. Leo Oppenheim suggested that some Neo-Assyrian 'letters to the gods' were written to be read to the assembly of the city of Aššur at the end of a campaign, and contain devices such as colloquial language, small jokes, and variation of tone to hold this audience's attention.[311] As it happens, two fragments of an ancient copy of the Cylinder onto a flat tablet were identified in the British Museum in 2009 and 2010.[312] While the Cylinder was buried in the ground, its message continued to circulate.

3.1.1 Who Spoke and Wrote Late Babylonian?

Texts in Babylonian had a wider reach in the sixth century than has sometimes been thought. In the standard overview of Akkadian grammar Wolfram von Von Soden called Babylonian from the Chaldaean period onwards “a Babylonian-Aramaic creole, which was just a written and scholarly language, while the people spoke Aramaic.”[313] After all, cuneiform writing and learning seem to have died in Assyria after the destruction of the Assyrian kingdom. This suggests that in Assyria

308 Nabonidus, cylinder inscription describing the rebuilding of several temples, Schaudig 2.14 pp. 452 (text), 462 (German translation)

309 Charpin 2010: 241 citing J.L. Huot ed., Larsa 10e campagne, 1983 et 'Oueili 4e campagne, 1983: Rapport préliminaire. Paris 1987.

310 Cyrus Cylinder 43-45 tr. Manning

311 Oppenheim, “City of Assur in 714 BC” pp. 143ff. For later support see eg. Grayson, “Assyrian Royal Inscriptions: Literary Characteristics” p. 43

312 John Curtis ed., The Cyrus Cylinder and Ancient Persia, p. 45

313 GAG §2h „Trotz krampfhafter Altertümelei in den Königseinschriften … wird es immer mehr zu einer babylonisch-aramäischen Mischsprache, die nur Schrift- und Gelehrtensprache ist, während das Volk Aramäisch spricht. “

cuneiform culture depended on the patronage of the kings and great temples and could not find another source of support once the kingship was taken away and the temples were destroyed. The number and variety of cuneiform texts from Babylonia decreases dramatically after the second regnal year of Xerxes, although cuneiform documents continued to be written in Babylonia until at least 75 CE.[314] Texts composed in the sixth century BCE and later are often quite difficult for someone trained in earlier forms of Akkadian to understand due to changes in orthography, morphology, syntax, and vocabulary. Some of these changes, such as carelessness in writing short vowels and the merger of the different case endings, made Babylonian texts written in cuneiform more like Aramaic and other Northwest Semitic languages written in abjads. Von Soden had argued that this was no accident but the result of speakers of Aramaic trying to write Babylonian.[315]

Two major developments in the last decade challenged this view. On one hand, Assyriologists have paid more attention to Mesopotamia after the fall of the Neo-Assyrian kingdom. One of their insights is that the period from the foundation of the Chaldaean kingdom at the end of the seventh century to the disruption of archives in southern Babylonia in the second regnal year of Xerxes can be seen as a unity, a "long sixth century," rather than being divided into different periods named after dynasties or lumped with the following centuries into a "late period."[316] On the other hand, Assyriologists have looked at Late Babylonian from the perspective of modern linguistics. Linguists today assume that language change is constant and neutral, that spoken language is more interesting than the writing systems which attempt to represent it, and that one can rigorously test theories that one language influenced another. Kathleen Abraham and Michael Sokoloff observed that only 43 certain and 42 possible Aramaic loan-words in Babylonian have been identified.[317] Since a very large number of Akkadian words are attested (on the order of 15,000 entries in the *Concise Dictionary of Akkadian* alone) and cuneiform scholars have been eager to propose relationships between Akkadian and other Semitic languages, that is not an impressive figure.[318] In contrast, the much smaller corpus of surviving Aramaic texts contains many loan-words from Akkadian, such as *hykl* "temple, palace" from Sumerian *e_2.gal* and Akkadan *ekallu*. Stephen Kaufman identified 107 in Aramaic texts from the first millennium BCE alone.[319] Johannes Hackl focused on methodology and on examining the spread of particular innovations from the sixth century onwards rather than generalizing about Late Babylonian as a whole.[320] Hackl stressed the problem that cuneiform sources become scarce from the beginning of the reign of Xerxes, while Aramaic texts are most common from the reigns of Xerxes to Darius II and mainly come from

314 Ratio of texts before and after the second regnal year of Xerxes: Eg. Hackl, „Language Death and Dying Reconsidered" p. 4 lists 2,000 Late Babylonian letters of which only 120 date after the second regnal year of Xerxes. End of archives in Xerxes' second year: See Waerzeggers 2003/2004. Last dated cuneiform tablet: M.J. Geller, „The Last Wedge," *Zeitschrift für Assyriologie* 87 (1997) p. 45 (but note his arguments that some priests could still read and write cuneiform in the third century CE)

315 GAG §2g 2h 192 193 (cp. Kathleen Abraham and Michael Sokoloff, "Aramaic Loanwords in Akkadian- A Reassessment of the Proposals")

316 I encountered this idea in Waerzeggers 2003/2004: 59

317 Abraham and Sokoloff 2011: 58

318 CDA contains 450 pages of entries. Pages 272 and 273 contain 48 full lemmata and a number of reference to other entries to help readers locate words whose spelling varies. Pages 326 and 327 contain 90 full lemmata. 450 pages x (48 + 90)/4 entries per page gives about 15,525

319 Kaufman, The Akkadian Influence on Aramaic, pp. 65 ff.

320 Hackl 2011

outside of Babylonia. Under these circumstances, it is difficult to show that a feature appeared in Aramaic before it appeared in Babylonian. He also suggested that some of the changes in Late Babylonian continued earlier developments, and that „Aramaicisms“ were more common in the small corpus of texts after the long sixth century than in the large corpus of texts from that century. Hackl felt that in the sixth century a large part of the population of Babylonia, perhaps even a majority, spoke Aramaic, but he could not find much evidence that this had affected written Babylonian at that date.[321]

In better-documented times, one language has gradually replaced another in a community without affecting it. This was the case amongst the Flathead of Washington State and Montana. Although English has slowly become the common language of their community, and the several hundred Flathead who still speak their native Salishan language also speak English, when they do speak Flathead Salishan, influence from English is extremely difficult to detect.[322] Because of the scarcity of sources, it is likely that scholars will continue to debate the exact chronology of the transition of Babylonian from a language of everyday communication to a language of scholarship and recordkeeping. But this transition seems to have occurred after Xerxes' second regnal year.

The idea that cuneiform writing was overcomplicated and confined to a narrow class of scribes can also been questioned. Some romantic statements about the glories of alphabetic writing show signs of hindsight bias, and China, Taiwan, and Japan have all achieved widespread literacy without giving up characters. While evidence for the role of writing in ancient societies is always ambiguous, there are signs that in a few times and places, literacy in cuneiform was widespread. Earlier studies often pointed to the Assyrian trading posts or *kanū* in western Anatolia in the early second millennium BCE. The excavations of these sites revealed about 20,000 tablets written with a small inventory of signs which described a network of trade stretching from eastern Anatolia to Assyria with connections much further east and west. Writing was clearly an everyday part of life for these travelling merchants, and many aspects of these texts suggest that they were often written by the merchants themselves or by members of their households. Claus Wilcke has now collected a list of other sites from the first and second millennium BCE where a tenth or more of the private houses contained documents on clay.[323] School texts are most often found in private houses, and it appears that many children learned to read in the house of their parents or a friend or relative rather than in the special “tablet house” full of different kinds of students and staff which appears in Sumerian literature.[324] In some times and places, functional literacy and numeracy in cuneiform was common amongst middling urban families, the "craftsman's literacy" of William Harris' studies of literacy in the Roman empire.

321 Hackl, “Language Death and Dying” p. 12

322 Sarah Grey Thomason, Contact as a Source of Language Change, in Brian D. Joseph and Richard D. Janda eds., The Handbook of Historical Linguistics (Blackwell Publishing: Malden, MA, 2003) p. 689

323 Wilcke 2001: 9 ff. Charpin 2010: 62 warns that the excavations focused on rich districts and that people can store documents which they not intend to read, but in general agrees with Wilcke's conclusions.

324 Robson, “Production and Dissemination of Scholarly Knowledge” pp. 561-563; cp. Veldhuis, “Levels of Literacy,” p. 83 and Konrad Volk, “Edubba'a und Edubba'a Literatur: Rätsel und Lösungen,” Zeitschrift für Assyriologie 90 (2000) p. 5-10 contrasting the *e2.dub.ba.a* of Old Babylonian literature with other evidence for scribal training in that period. I thank Cinzia Pappi for reminding me where school tablets tend to be found.

By the first millennium BCE Akkadian cuneiform was a writing system which could be used at many levels.[325] Somebody who wished to write simply could get by with less than a hundred characters representing common syllables and the most important logograms. Someone who wished to write concisely, play with the writing system, or demonstrate their learning could use hundreds of characters and use common characters in uncommon ways. The Cyrus Cylinder is written in a straightforward way, with most words written phonetically using common readings of the signs, but a number of nouns written logographically. Surviving exercises by students have been divided into three levels: first basic knowledge of the writing system based on copying excerpts from lexical lists, then intermediate knowledge focused on copying phrases and short passages and writing different inflected forms of verbs, then advanced knowledge of particular genres such as contracts, inventories, medical-magical texts, and so on.[326] Not all scribes completed all three levels, or mastered the full breadth of scholarly cuneiform (reading medical texts requires different skills than reading astronomical texts), and Niek Veldhuis has suggested that even the curriculum attested in the exercises presupposes a basic functional literacy.[327] The population which could read simple letters, contracts, and inventories was much larger than the population which engaged deeply in the nuances of cuneiform script and its scholarly tradition. The eccentric orthography and limited inventory of signs in many late cuneiform texts suggest that many scribes were satisfied with a basic knowledge of cuneiform.[328] Texts from earlier periods whose spelling, script, and grammar differ from the norm have been interpreted as the product of amateur scribes rather than scribes who did not know Akkadian.[329]

In short, Babylonia in the sixth century BCE seems to have supported a wide variety of people with knowledge of cuneiform, from a large group who could read and perhaps write simple texts, to a small scholarly elite who could talk intelligently about the writing system, its traditions and nuances, and all the kinds of texts which had been written in it. Knowledge of the Babylonian language was probably also common, whether or not a majority of the population were fluent. The copies of royal inscriptions on monumental stelai or foundation deposits were complimented by copies held by individual scribes, who sometimes travelled to copy famous texts. Some inscriptions were probably read aloud in public. Just what contemporary, mortal audience were royal inscriptions meant to reach?

3.1.2 Who Heard and Read Royal Inscriptions?

The exact context of royal inscriptions in the sixth century is difficult to understand since no royal archives from this period have been found. In the ancient Near East, archives are usually preserved when a royal seat is destroyed and abandoned, such as Mari, Ugarit, or Nineveh. Cyrus' and his troops chose to occupy rather than destroying the great cities of southern Babylonia. While this was no doubt appreciated by the Babylonians, it has left scholars grumbling about propaganda and wishing that they had burned at least one archive to the ground. While the lack of direct

325 Veldhuis, “Levels of Literacy” pp. 68, 70-74
326 Jursa, “Cuneiform Writing in Neo-Babylonian Temple Communities,” pp. 190, 191
327 Niek Veldhuis “Levels of Literacy,” pp. 82, 83 85
328 Hackl, “Language Death and Dying” pp. 15, 16
329 Brigitte Lion, “Literacy and Gender,” in Oxford Handbook of Cuneiform Culture p. 103 cf. Hackl “Language Death and Dying” n. 68

evidence is frustrating, comparison with earlier periods and examination of the wording of inscriptions allows scholars to suggest two likely contexts.

The main context of royal inscriptions was the communities of scholarly Babylonians who attached themselves to the temples or palaces.[330] These literati had deep scholarly knowledge of cuneiform and of its literary and technical traditions. This scholarship brought them prestige and qualified them for special kinds of work, although "the 6th century BC was not a period in which scribes and doctors grew rich through their intellectual activities."[331] Many of them held prebends- that is, rights to collect an income in exchange for providing a temple with a good or service (baking sacrificial bread, slaughtering sacrificial animals, and ritually shaving those who were about to enter purified spaces are typical examples). The Assyrian kings each had a *ummânu* „expert" or *rab ṭupšarri* „chief cuneiform scribe" who composed inscriptions and advised the king on scholarly matters.[332] An equivalent office from the Neo-Babylonian period is harder to identify, due to the lack of royal archives. Nevertheless, it is possible to identify some literati who seem to have been sponsored by the kings, such as Nabû-zēr-līšir who copied ancient inscriptions under Nabonidus, and Ina-Esangila-lilbur who was successively *šangû* or "bishop" of the Ebabbar at Sippar, *šākin ṭēmi* or "governor" of Babylon, and *šatammu* or "chief administrator" of Esangila at Babylon under Darius.[333] It is hard to envision such a career, moving between temples and city offices in different cities, without the patronage of a king, and the surviving archives of the Neo-Assyrian kings mention them appointing temple officials.

The literati probably did most of the work of composing inscriptions and were the most sophisticated readers. Whereas modern readers often find official public statements tiresome, the Babylonian literati often copied inscriptions and letters of earlier kings. The corpus of tablets copied after 600 BCE containing 'literary' texts includes at least a dozen royal letters, whose nominal authors vary from the kings of Isin in the early second millennium BCE to Assyrian kings of the seventh century BCE.[334] Letters and copies reveal that scholarly tourists visited Susa to copy the Codex Hamurabi and other royal inscriptions which had been brought to the city by earlier monarchs and were no longer available in the original in Babylonia.[335] Whereas in some cultures the literati try to keep themselves at a distance from worldly powers, and Sumerian literature contains some warnings of the dangers of associating oneself with the mighty, in the first millennium BCE the Babylonian literati seem positively eager to ally themselves with the kings. Recent research stresses that the leading officials in the major temples were appointed by the kings. In the sixth century, kings seem to have returned this interest. The large number and length of Nabonuídus' foundation inscriptions are one measure of his interest. Eckhart Frahm points out that after Nabonidus the only kings of Babylonia to leave long cuneiform inscriptions were Cyrus, Darius I, and Antiochus, all of whom became king of Babylonian by violence and needed to satisfy

330 Audience of royal inscriptions: Rollinger, "Thinking and Writing History" p. 204
331 Quote: Veldhuis, "Levels of Literacy," Oxford Handbook of Cuneiform Culture p. 201
332 Oxford Handbook of Cuneiform Culture pp. 521, 522
333 For Nabû-zēr-līšir see Schaudig p. 69 a) and NABU 1988 No. 3 Text 55 pp. 39, 40; for Ina-Esangila-lilbur see Jursa, „From the Neo-Babylonian Empire to Achaemenid Rule" p. 76
334 Frahm, "On some recently published Late Babylonian copies of royal letters." NABU 2005 no. 2 cap. 43 pp. 43, 44; for an overview see Frahm, "Keeping Company with Men of Learning" p. 515
335 Rollinger, "Thinking and Writing about History," pp. 199, 200

the local elites, so the contrast between Nabonidus and his successor is striking.[336] In the third year of Cambyses, the *šatammu* of Eanna in Uruk passed on the following order:

> (1) {md}NA3.GIN.IBILA /{lu2}ŠA3.TAM\ E2.AN./NA\ A-šu2 ša2 {m}Na-di-nu A {m}Da-bi-bi (2) a-na ... (15) {lu2}TIN.TIR{ki.meš} u2 {lu2}UNUG{ki}-a-a {lu2} {na}ki-niš-tu4 (16) iq-bi um-ma {lu2}mar šip-ri ša2 LUGAL u3 {lu2}GAR-UMUŠ TIN-TIR{ki} (17) iq-ta-bu-u2 um-ma a-su-mit-tu4{meš} ša2-ṭa-ri (18) ša2 LUGAL{MEŠ} la-bi-ru-tu ša2 ina E2.AN.NA šak-nu (19) kul-lim-a-a-in-ni a-su-mit-tu4{meš} ša2-ṭa-ri{meš} la-bi-ru-tu (20) ša2 ti-da-a4 {lu2}mar šip-ri ša2 LUGAL kul-lim-aʾ (21) mim-ma ša2 ha-as-sa-tu-nu u ti-da-a4 (22) {lu2}mar šip-ri ša2 LUGAL kul-lim-aʾ
>
> (1) Nabû-mukīn-apli, the *šatammu* of Eanna, son of Nadīnu, seed Dabibi, spoke (2) to [thirteen different people], Babylonians and Urukaeans, the college, as follows: (16) "A messenger of the king and the governor of Babylon have spoken as follows: (17) 'show us the stelai, the cuneiform texts of the kings of old, which are set up in Eanna.' (19) Show the stelai, the cuneiform texts of old, which you know, to the messenger of the king! (21) Show whatever you remember and know to the messenger of the king."[337]

Whatever the purpose of this command, it shows that someone at Cambyses' court was interested in old inscriptions, and was not willing to trust the priests to summarize them. Instead, he wanted a trusted agent to read them for himself. The so-called propaganda texts which criticize Nabonidus may also have been composed on the suggestion of Cyrus or one of his courtiers. While earlier scholarship read these texts as reflecting a struggle for power between the priests of Marduk and those of Nabonidus' patron Sîn, until his defeat Nabonidus had done the things which a strong king of Babylon was expected to do such as conquering foreigners, restoring temples, and collecting riches from distant lands. Michael Jursa stresses that both the magnates nor the temples had many obligations to the kings and could hardly act independently.[338] The Verse Account presents the *šatammu* of Esangila and the *zazakku*, both men from a scholarly and temple background, as cooperating with Nabonidus' blasphemies.

The other major context is the wider circle of wealthy, powerful, and influential Babylonians. Babylonians in these circles sometimes had a scholarly education, but always had access to cuneiform. Dealing with deeds, contracts, letters, and other 'business Babylonian' was necessary for anyone who owned large amounts of property or held office, although as in most societies the wealthy may have relied on clerks to handle the bulk of their correspondence. Many of them were members of families which had traditionally been influential in their city and held offices and prebends, and practiced the arts which were learned through cuneiform such as medicine and astrology. Any ruler of Babylon had to make peace with this notability, whether supporting the existing families and officeholders, or trying to replace them with people who seemed more

336 Frahm, “Keeping Company with Men of Learning” pp. 514, 515

337 BM 113249 in Kristin Kleber, Tempel und Palast, AoAT 2008 (Ugarit-Verlag, Münster, 2008) No. 33 tr. Manning; for other commentary and translations see M. Jursa, "The Transition of Babylonia from the Neo-Babylonian Empire to Achaemenid Rule." In H. Crawfored ed., Regime Change in the Ancient Near East and Egypt: From Sargon of Agade to Saddam Hussein (London: Oxford University Press, 2007) p. 78, Veldhuis in Oxford Handbook of CUneiform Culture p. 199, Rollinger, "Thinking and Writing about History" p. 193

338 Jursa, „Transition of Babylonia“ pp. 76ff, „Cuneiform Writing in Neo-Babylonian Temple Communities“ p. 189

agreeable. Their property, dependents, and offices (and probably their influence and prestige) made up a significant part of all the men and goods in Babylonia. The major temples, for example, could raise dozens or hundreds of armed guards to protect their properties or campaign with the king.[339]

Contact with the temples and palaces also kept the notability in contact with the royal ideologies emanating from those circles. It would be dangerous to assume that less scholarly members of the notability accepted these ideologies completely and without question, or that they did not have their own ways of thinking and talking about kingship. Historians of religion in recent times have often discovered that people outside of learned circles had and articulated their own ideas about religion and rather than simply accepting the main points of learned theology.[340] But in sixth-century Babylonia these other readings and ideologies are difficult for us to access. Texts from the first millennium contain few stories about everyday life or ordinary Babylonians, and in cuneiform culture criticism of the king or scholarly ideologies tended to be disguised as parables and stories about bad kings in the distant past.[341] We can only say that popular ideas about kingship would have reflected the same events, cultural forces, and intellectual movements which intellectuals also responded to.

3.1.3 The Relationship between Ideology and Practice

Although 'Babylonian ideology' may not have been accepted by all Babylonians, it would be a mistake to underestimate its influence. There is an old tradition that elites create religion, propaganda, and ideology as a way to manipulate the credulous and ignorant masses. It is certainly the case that some people go to great trouble to promulgate ideas which they themselves do not believe. On the other hand, assuming that the propagandists can fill their wold with persuasive words and images while being unaffected by them may give them too much credit. Often the propagandists' first victims are themselves, as they endlessly rehearse the persuasive words they intend to use and complain to each other about the outsiders who do not understand why their preferred policy is the best. For every manipulative Augustus whose beliefs are difficult to pin down, one can list hundreds of Greek and Roman aristocrats whose words and behaviour clearly reflect the ideologies of their own learned culture.[342] Whatever one thinks of Alexander and his successors, they lived up to their heroic code by throwing themselves into battle, suffering wounds in hand-to-hand combat and giving up the opportunity to try to manage the progress of the battle or to disengage safely.[343] In the case of cuneiform culture, it is easier to find examples of individual writers working with the elements and traditions available to them to create something appropriate

339 Size of temple forces: MacGinnis 2012: 8-10

340 Most of the best case studies come from the past 500 years, and my books and notes on them are still in Canada, but see for example Gintzberg's work on the Benandanti in 16th century Italy, or Godbeer 2008 on pious New Englanders who used divination to predict their future partners.

341 Fink, “Intellectual Opposition in Mesopotamia Between Private and State” (he compares the *Flusterwitze* under National Socialism)

342 In modern times, compare the widespread belief that the officeholding and commentating class in the capital have become detached from the surrounding society and convinced each other to adopt policies which few members of the surrounding society support (the “beltway effect,” “Ottawa bubble,” and similar slurs about Vienna, Brussels, etc.) One case which has been thoroughly studied is how American officials in the 1950s and 1960s talked themselves into intervening in Vietnam using much the same arguments as they later proclaimed in public, rather than having one way of talking to each other and another way of talking to the public. Unfortunately I lack the books and notes in Innsbruck to give examples of this research.

to the situation, or hinting at the futility of the search for the good life defined in literature, than proposing an alternative. This certainly does not mean that no alternatives existed in Babylonia, but it does mean that any alternatives were probably not native to learned culture and court circles. To use the model of Babylonian society discussed above, royal inscriptions probably had the most influence amongst the literati and court circles, next amongst the notability and technically literate.

The relationship between ideology and practice has interested several military historians. John Lendon wrote a sweeping study of Greek and Roman ideals from the earliest sources to the fifth century.[344] In his view both Greeks and Romans preferred to look to the past as a model for military excellence, so changes in practice needed to align with changing ideas about how things were done in the good old days. Writers who have engaged with Victor Davis Hanson's ideas about early Greek warfare have usually agreed that Greek ideals shaped Greek practice even if they understand both ideology and practice differently than Hanson does.[345] One of the rare attempts at a general model is "the discourse and the reality of war" by John A. Lynn.[346] Lynn observes that warmaking cultures often develop one or more discourses about war which attempt to define warfare and how warriors should engage in it. This discourse is always in tension with practice, creating cognitive dissonance which inspires participants to change their practice or change their discourse. In some circumstances, however, the tension becomes too great. Lynn suggests four common responses to such a crisis. A culture may create a perfected reality, such as the medieval tournament, Aztec flower war, or Roman gladiatorial show, which conforms as closely as possible to the ideal. A culture may develop an alternative discourse which offers some advantage over the existing one. In Greece, ideals about warfare seem to have continually shifted from the time of the *Iliad* onwards.[347] One index of these changes is the iconography of Herakles, which came to stress the club over the bow as archery fell out of fashion among Greek aristocrats.[348] A culture may refuse to acknowledge some violence as war at all. The Roman enthusiasm for calling other people's navies pirates shows signs of this. Lastly, a culture may create an extreme reality where the usual limits on violence do not apply. Although Bruce Lincoln sees Mazdaean ideology creating something similar in the years after Darius' seizure of the throne, it seems more common in situations where the usual holders of cultural power have lost their sway, or where starkly different discourses clash, as in the Pacific theatre of the Second World War. Lynn warns that as cultures are not monolithic, it is important to

343 Tuplin, "Military Dimensions of Hellenistic Kingship," p. 7, 8 notes that at least ten Seleukid kings were killed in battle; the death toll amongst the Diadochoi was just as heavy. Compare Andreas Fuchs, "Assyria at War: Strategy and Conduct," in Karen Radner and Eleanor Robson, The Oxford Handbook of Cuneiform Culture (Oxford University Press: Oxford, 2011) pp. 381-383 who notes that while it was very unusual for an Assyrian king to die on campaign (Sargon II seems to have died in the field), distinct ideals of the king as heroic warrior who kills and the king as wise observer who dispenses rewards and punishments can be found in Neo-Assyrian royal inscriptions and letters, so kings who kept out of the fighting had precedents.

344 John E. Lendon, *Soldiers and Ghosts*; a shorter (but more expensive) version of his ideas is available as "War and Society" in Philip Sabin, Hans van Wees and Michael Whitby eds., The Cambridge History of Greek and Roman Warfare Volume 1: Greece, The Hellenistic World, and the rise of Rome (Cambridge University Press: Cambridge, 2007) pp. 498-516

345 Eg. Krentz 2002: 35-37, van Wees 2004

346 John A. Lynn, Battle: A History of Combat and Culture Apx. I

347 Early Greek warfare is the subject of an immense and controversial literature of very uneven quality. The nature of combat in the *Iliad* is especially contentious. I sympathize with Josho Brouwers (2013) and Hans van Wees (2004). For an overview of the debate with contributions by most of the Anglophone participants see Donald Kagan and Gregory Viggiano (eds.) 2013.

348 Cohen 1994: 695-715

look for different discourses associated with different subcultures, intellectual movements, social classes, or genders. The discourse of war within royal inscriptions certainly qualifies for study within his model.

3.2 Teispid Ideology

The main source for Teispid ideology is a series of texts in Semitic languages, above all the Cyrus Cylinder. This study focuses on the Cylinder, but a number of other texts, including the so-called Verse Poem and a passage in 2 Isaiah, are often read as products of Teispid propaganda. In particular, the Babylonian chronicles have often been read as neutral sources of data which were focused on Babylonia but could be trusted for what they said.[349] Their connection with the astral sciences, whose practitioners were very concerned with recording accurate data, played an impotrant role in this argument. Several recent studies emphasize that most copies of chronicles are late excerpts, and suggest that they were edited to support the current regime.[350] However, Teispid and Achaemenid ideology is such a broad topic that it seems best to focus on the most important sources.

3.2.1 The Cyrus Cylinder

The full text of the Cylinder fills about two pages in English translation, but it can be summarized like this.[351] There is a king in Babylon, but he abuses his kinship, interfering with the rites, harming the city, and oppressing the people. The gods and people complain to Marduk who resolves to chose a new king. Marduk searches all lands and chooses Cyrus, “king of the city of Anshan,” to become king of the world. Marduk subjugates Gutium and the Median troops to Cyrus, and Cyrus shows his worthiness by “shepherding in justice and righteousness the black-headed people.” Marduk is pleased, and orders Cyrus to go to Babylon where he takes Nabonidus prisoner and accepts the voluntary submission of its people. Cyrus rules well, honours the gods and their temples, and protects the people of Babylon and their city. Marduk is pleased, and commands the kings of all lands to bring Cyrus tribute and kiss his feet. The Cylinder ends by describing the good works which Cyrus is even now doing. Implicitly, Marduk will continue to bless Cyrus and his heirs.

In the discourse of the Cylinder, the wars of kings are effects of a cycle where the King of Babylon behaves well or poorly, Marduk grants him success or failure, and the King responds to that success or failure. Military success was fundamentally legitimating, and military failure fundamentally legitimating, since they were understood as signs that the gods approved or disapproved of the king's actions. The Babylonian elite's decision to abandon Darius and go over to Alexander after the battle of Arbela should be seen in this light.

The Cylinder portrays Cyrus' victory as effortless. When Marduk chooses a new king, no other gods appear to support the incumbent. Nor is any mortal opposition described. Nature is just as

349 A classic statement of this is van der Speck 2003
350 Zawadzki 2010b, Rollinger/Ruffing 2012
351 Schaudig 2001 has an edition, translation, and philological commentary; Kuhrt 2007: 70-74 has a translation and historical commentary

cooperative. Mesopotamian royal inscriptions certainly gave models for describing the martial deeds of the king in detail, such as the Sumerian hymns attributed to Šulgi or the letter to the gods about Sargon II's 8th campaign. The literati in Cyrus' court could have composed a version where he cut roads from the highlands to the lowlands with iron picks, crossed the flooded Euphrates, overwhelmed the mighty armies of the Babylonians and their allies through heroic violence, and humbled their gods. Instead, they chose to tell a story where Cyrus was victorious without struggle.

One reading would stress the Cylinder's audience. Whereas most royal inscriptions dealing with war were written by and for the victors, the Cyrus Cylinder justifies the conquest of Babylonia in Babylonian. Portraying Cyrus as barely victorious or opposed by the gods of Babylonia might not have been politic. This reading places the Cylinder in a literary and ideological world. Another line of argument would stress that so far as we can tell, Cyrus conquered Babylonia in a single campaign. This was not unheard of (Tukulti-Ninurta I seems to have conquered Babylonia quickly in the Late Bronze Age) but it was very different from the endless struggles between the kings and cities of Babylonia and their neighbours in the seventh and eighth centuries. In this reading, the cylinder erases obstacles and difficulties because exaggerating them did not fit people's memories of the war.

Cyrus' troops and supporters are vaguely described. The only vivid image is line 16 which describes how Cyrus' approached Babylon:

um-ma-ni-šu rap-ša-a-ti3 ša ki-ma me-e ID3 la u2-ta-ad-du-u2 ni-ba-šu-un GIŠ.TUKUL.MEŠ-šu-nu ṣa-an-du-ma i-ša-ad-di-ḫa i-da-a-šu

“His many troops, whose numbers, like the waters of a river, could not be known, were marching at his side with their weapons harnessed.”[352]

As most translations suggest, this line of Akkadian is full of set phrases and stock literary devices. The word for troops, *ummānu*, was just as ancient and generic. It is also attested for the entire length of Akkadian literature, and had an established logogram. Depending on context it could refer to soldiers, workers, or people in general. Describing *ummānu* as *rapšātu* “great in size or quantity” was also a standard poetic device meant to inspire awe. Whether stressing the power of the king who commanded such an army, or the power of the being or force which was about to destroy it, *ummānu rapšātu* were *rapšātu* for literary reasons first and foremost. The Ehulul cylinder of Nabonidus provides some clear examples. In this text, Marduk first commands Cyrus to attack the Medes.

(27) u_2-šat-bu-nu-niš-šum-ma {m}Ku-ra-a$š_2$ LUGAL KUR An-za-an IR_3-su ṣa-ah-ri

(28) i-na um-ma-ni-šu i-ṣu-tu {lu_2}ERIN_2-man-da rap-ša_2-a-tu u2-sap-pi-ih

"He called up Cyrus, king of the land of Anshan, his little servant; with his few troops he destroyed the many Median hordes."[353]

352 Cyrus Cylinder Schaudig ed. Manning tr.
353 Ehulhul Cylinder ed. Schaudig, 2.12 11 i 27-28 tr. Manning

This terrified Nabonidus and he hurried to fulfill Marduk's command. According to the Cylinder, Marduk had let Cyrus defeat the Medes so that Nabonidus could rebuild the temple of Sîn at Harran. Nabonidus describes his own army as follows:

(33) ... u2-šat-ba-am-ma

(34) um-ma-ni-ia rap-ša2-a-t[i ul-tu KUR Ha-az-za-ti pa-aṭ KUR Mi-ṣir

(35) tam-ti3 e-li-ti a-bar-ti {id2}ZIMBIR{ki!(di)} a-di tam-ti3 šap-li-ti

"(33) I called up (34) my many troops, from the land of Gaza, the border of the land of Egypt, (35) the upper sea, the other side of the Euphrates, to the lower sea."[354]

In the discourse of the *Cylinder*, both terrifying foreign armies and awe-inspiring local armies could be "many." Whereas from the time of Xerxes onwards Greek writers usually stressed the size of an army to indicate that it was barbarian or doomed to disaster, Babylonian writers used it for both "self" and "other." There is no reason to doubt that the Medes outnumbered Cyrus, or that Nabonidus marched to Harran with a large army drawn from all over his kingdom. Yet the simple contrast between "many" and "few" provided a minimum of precision with a maximum of poetic force. Rather than provide details about specific armies in a particular historical context, the Cylinder seeks to assimilate Cyrus' armies into a timeless literary context.

The noun *kakku* "weapon" had probably originally referred to some sort of mace.[355] As a weapon with few uses outside of war, the mace had quickly acquired rich symbolic connotations, which came to dominate its meaning.[356] On one hand, the *kakku* represented armed force and destructive power. The *kakku* of a god could be that god's power, the *kakku* of a king his armed forces, and "to know the *kakku*" to be skilled at war.[357] On the other hand, the *kakku* was the weapon which the forces of order and legitimacy wielded against their enemies. Already in the early second millennium the *Epic of Gilgamesh* contained the verse:

(110) il-ba-aš li-ib-ša-am (111) ki-ma mu-ti i-ba-aš-ši

(112) il-qe2 ka-ak-ka-šu (113) la-bi u2-ge-er-re

He put on a garment, becoming like a warrior

He took up his *kakku* to do battle with the lions.[358]

By taking up the *kakku* and fighting the lions, Enkidu accepted his role as defender of his new human community against dangerous outsiders. While there is no space here for a full discussion of iconography, the image of the hero grappling with lions or monsters was very popular in the iconography of the first millennium BCE. At the same time, the *kakku* could be an insignia of kingship or divinity.

354
355 For an introduction and collection of citations see CAD K pp. 50-57
356 On the problems distinguishing material and metaphorical *kakkū*, see CAD k p. 57
357 CAD K s.v. "kakku" meaning 2
358 OB II Pennsylvania Tablet tr. George p. 177

In poetic contexts the *kakku* could also be used by soldiers. The composer of the Cyrus Cylinder might have recalled a passage from *Enuma Eliš* as he wrote:

> lu-u2 ṣa-an-da-at um-mat-ki lu-u2 rit-ku-su šu-nu GIŠ.TUKUL.MEŠ-ki / en-di-im-ma a-na-ku u ka-a-ši i ni-pu-uš ša2-aš2-ma
>
> your centre should be harnessed, they should have girdled themselves with your *kakkū*.[359]

To say that soldiers were armed with the *kakku* said many things, but very little concrete material detail, any more than Roman invocations of *ferrum* or 19th and 20th century invocations of the sword.

While the Cylinder is vague about Cyrus' troops and their actions, it makes it clear that they were important. After Cyrus has described his deeds after becoming king of Babylon, he describes how Marduk responded to them:

> a-na ia-a-ti {m}Ku-ra-aš2 LUGAL pa-li-iḫ-šu u3 {m}Ka-am-bu-zi-ia DUMU ṣi-it ŠA3-bi-[ia u3 a-n]a nap-ḫ[ar] um-ma-ni-ia (28) da-am-qi2-iš ik-ru-ub-ma i-na ša2-lim-ti3 ma-ḫar-ša ṭa-bi-iš ni-it-t[a-al-la-ka ...
>
> "Marduk, the great lord, ... blessed me, Cyrus, the king who feared him, and Cambyses, my son, the fruit of my loins, and the whole of my troops well, and so in good health we were going about before him (her?)."[360]

Since the purpose of the inscription is to proclaim that Cyrus is the rightful king, it is no surprise that Marduk blesses him. It is also natural that Marduk is made to bless Cyrus' heir, since without an heir Cyrus could not pass on his kingship. Yet Cyrus also mentions his troops. While as noted above *ummanu* can have both civil and military connotations, in previous lines his *ummanu* appear marching armed and entering Babylon. This would seem to be a direct acknowledgement of the worldly power which supported Cyrus' kingship, and perhaps of the Iranians and Elamites who had conquered Babylonia in particular.

If Cyrus was alluding to the soldiers who had made him king of Babylonia, he was walking a narrow rope. Babylonian literature had many traditions about invaders from the eastern mountains, and none of them was favourable.

Cyrus describes these peoples who submitted to him before he came to Babylon as "the land of Gutium, the whole of the *Ummana-manda*."[361] Both of these terms had powerful literary connotations, like terms such as Celt and Scythian in Greco-Roman literature. Gutium was an old Sumerian expression for people living in the Zagros mountains between Urartu and Elam. In the first millennium it may have suggested people living relatively close to Mesopotamia but certainly not part of it.[362] The term Ummana-manda is attested from the Old Babylonian period onwards.

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359 *Enūma Eliš* IV.85, 86. Checked against Philippe Talon, *Enūma Eliš: The Standard Babylonian Creation Myth*. State Archives of Assyria Cuneiform Texts IV. (The Neo-Assyrian Text Corpus Project: Helsinki, 2005) p. 54.

360 Cyrus Cylinder 27, 28 ed. Schaudig tr. Manning

361 Cyrus Cylinder 13 tr. Manning KUR Qu-ti-i gi-mir Um-ma-an-da

362 Adali, Scourge of God, pp. 159-163

Many theories about its etymology have been proposed without any becoming widely accepted.[363] The word was used in diverse contexts, but most references implied that the Ummana-manda came from a distant mountainous land beyond the bounds of civilization, had great military power, and were at once irreverent to the gods and a divine instrument. In his recent study, Selim Ferruh Adali stresses the influence in the Cuthaean Legend, a popular Mesopotamian story most clearly preserved in Neo-Assyrian copies. The Legend purports to be an inscription of Naram-Sin warning future kings to avoid his mistake of ignoring omens and going to fight the Ummana-manda. Texts from royal and scholarly circles which mention the Ummana-Manda seem to constantly allude to the legend. Adali suggests that educated Babylonians used this legend to explain the difficulties which their kings had in campaigning against peoples to the east. In principle the rightful king was expected to triumph over and subjugate all foreigners, and any military failure implied that the gods no longer considered him rightful. If the Medes and Kimmerians had been created by the gods and would eventually be destroyed by them without any action by the king of Babylon, then their military power was just part of the divine plan. The similarity between *ummana-manda* and *ummana-madaja* "Median troops" in Babylonian may have reinforced this connection.

The unfavourable associations of terms for people from the eastern mountains are probably one reason why the Cylinder is vague about the ethnicity of Cyrus and his troops. In general, the language of the Cyrus Cylinder presents Cyrus as a good Babylonian king who ruled in accordance with the will of Marduk. The lack of an ethnic element is normal in Mesopotamian royal inscriptions: Darius would break this pattern.

The expression *kakkū-šunu ṣandū* "with their weapons harnessed" (Cyrus Cylinder 16) seems to be unique to the Cylinder.[364] The verb *ṣanādu* had senses ranging from "to make ready (troops or goods or boats)" through "to yoke, hitch, harness (draft animals)" to "to tie (bandages or other wrappings)."[365] It is possible that the writer wished to hint that the weapons were controlled as well as that they were ready.

In noting what Cyrus and his troops did not do, the Cylinder reveals another and much less comforting view of war. The "boundless troops" of a foreign king were threatening, even if these particular troops obeyed the king chosen by Marduk. A slightly later passage (line 24) is even more suggestive:

> um-ma-ni-ia rap-ša-a-ti$_3$ i-na qu$_2$-reb TIN.TIR.KI i-ša-ad-di-ḫa šu-ul-ma-niš nap-ḫar KU[R Šu-me-ri] u$_3$ URI.KI mu-gal-li-ti ul u$_2$-šar-ši
>
> "my boundless troops were marching in the centre of Babylon in peace; in the whole of the land of Sumer and Akkad I did not create disturbance."[366]

363 Adali, The Scourge of God, 15-34, 173-190

364 Cp. Epic of Erra, IV.6: *ummānu kakkîšunu innadqū* "the troops donned their *kakkū*" in A.R. George, "The Poem of Erra and Ishum," in Hugh Kennedy ed., Warfare and Poetry in the Middle East (London, I.B. Tauris, 2013) p. 53 http://eprints.soas.ac.uk/id/eprint/17171 No transliteration of this text appears to exist, although there is a composite drawing in Luigi Cagni, The Poem of Erra. Sources for the Ancient Near East 1 3 (Malibu: Undena Publications, 1977). The verb *adāqu* (CAD s.v. edēqu) seems to belong to a poetic register of speech and always refers to things worn by humans or gods, whereas *ṣanādu* appears to have been an everyday word.

365 Cad_tsade p. 89

366 Cyrus Cylinder line 24 after Schaudig 2001: 553

Given their recent history, when Babylonian armies had ranged far into foreign lands and foreign armies had sacked Babylon, it is likely that ancient readers had a much deeper appreciation for the "disturbances" which an army could create than most readers today have.

On the same grounds, the Cylinder leaves little room for further heroics by Cyrus. Its worldview is centred on Babylon, and presents his ongoing good works as building projects and divine offerings in the city. Implicitly, a king pleasing to Marduk will remain in Babylon overseeing ceremonies and building projects. The Cylinder does not address what would happen if one of the kings of foreign lands should become unruly and cease to send tribute. One can only be sure that as long as Cyrus continued to rule like a good king, Marduk would continue to make the kings of foreign lands submit.

The decisions to present Cyrus as restoring the past and his victories as the inevitable result of Marduk's favour had other consequences. There is no hint of any technical or technological innovations which might have helped Cyrus defeat his enemies. Modern observers familiar with the ideas of ethnic ways of war and technological determinism like to tell stories about improvements in cavalry technique or archery equipment gave soldiers from western Iran an advantage over their neighbours in Mesopotamia.[367] The Greek sources inspire a counter-narrative, whereby the early Persians were at a disadvantage against their neighbours until they adopted Median customs and learned to fight on horseback.[368] Neo-Assyrian art and texts offered a model for boasting about the diversity and splendid equipment of an army. Yet in the discourse of the Cylinder Cyrus' troops are referred to by the ancient and colourless world *ummanu*.

It is certainly unfortunate that we know so little about how Cyrus addressed himself to audiences other than the Babylonian literati. While there are many problems with seeing Cyrus as essentially (Indo-European) Iranian, it stands to reason that he presented himself to the peoples of the Iranian plateau or Anatolia differently than he presented himself to the Babylonians. The early Achaemenids did present themselves differently in different lands rather than presenting a uniform ideology, and there is no reason to think that Cyrus was less flexible. Under the circumstances it seems best to work closely with the evidence which survives without assuming that Cyrus presented himself to all of his subjects in the same way.

3.2.2 Other Sources for Teispid Ideology

The reign of Cambyses is famously poorly documented. This is usually attributed to the reaction of the Egyptian temples against his memory, and to the confused end of his reign: his reign

367 Eg. Eduard Meyer, Geschichte des Altertums 3rd Ed. 4. Bd. 1. Abteilung p. 71 "Dem Pfeilhagel, mit dem sie die Gegner überschütten, dem Ansturm und der energischen Verfolgung der Reiterei verdanken die Perser ihre Siege über die Lanzenreiter und das Fußvolk der Lyder wie über die babylonischen Heere, die zum Teil nur mit Lanzen und Nahwaffen bewaffnet waren und daher auch eherne Helme trugen." This general idea can be found in many books since, including ones whose authors are unlikely to be familiar with his work, although more cautious authors focus on the Neo-Assyrian period. Compare Zutterman, Bow in the Ancient Near East, pp. 148-149 (with his idea that the "Scythian bow" represented progress over earlier Mesopotamian weapons but the Assyrians were too conservative to adopt it), Shahbazi "Army i. The Pre-Islamic Period," Encyclopaedia Iranica http://www.iranicaonline.org/articles/army-i with his picture of early Iranian horsemen and his affirmation that "The cavalry had been instrumental in conquering subject lands."

368 Head, Persian Army, p. 31, Nefedkin "The Tactical Development of Achaemenid Cavalry"

was also shorter than that of Cyrus, Darius, or Xerxes. The main contemporary source is an inscription recording the burial of the Apis bull.[369] There is great deal of controversy whether this supports or confirms Herodotus' picture of Cambyses as a sacrilegious madman who kills the bull, but it shows that Cambyses adopted a Horus name and participated in rites which the pharaohs before him had participated in. The story that Cambyses ordered the mummy of Amasis (d. 526 BCE) to be burned has also been read as an Egyptian punishment for usurpation, meant to challenge Amasis' legitimacy with the Egyptian elites.[370] Herodotus' hostile picture of Cambyses, and a palimpsest which seems to say that Cambyses removed some revenues from the temples, could be read as signs that Cambyses was less successful at making peace with the Egyptian literati than Cyrus was with the Babylonian literati. That said, the repeated rebellions in Babylonia, several of them lead by men who linked themselves to Nebuchadnezzar or Nabonidus, suggest that the Babylonian elites were not all satisfied with the new regime. Dissenting voices were simply not written down on clay and recopied under the later Achaemenids or the Macedonian rulers. One recent study suggests that the many late copies of texts about famous scholar kings such as Aššurbanipal reflect longing for the days when the kings of Babylonia showed proper appreciation for the scribal art.[371]

3.3 Achaemenid Ideology

Upon Cambyses' return from Egypt in the spring of 522, a confused and poorly documented sequence of events began. Cambyses died before he reached Babylon, and in the spring a man who called himself his brother Bardiya took the throne.[372] The man who called himself Bardiya was then murdered in his palace by a group of Persian noblemen who proclaimed that he was no son of Cyrus but an impostor and no legitimate successor but an usurper who had rebelled against Cambyses. Yet the male line of Cyrus was now dead, and many saw no reason to accept one of the murderers as king. The result was a year of strife between the murderers and local magnates, and a longer but less bloody struggle amongst the killers to decide the form of their new regime and who should control it. In the end, one of the killers, Darius, took control of the realm of Cambyses. Before the fighting was over he had begun a program of monument building to proclaim his way of understanding what had happened to all the world forever. This program is so distinctive and so overwhelming that it seems useful to distinguish the Teispids (Cyrus, Cambyses, and the man who called himself Bardiya) from Darius and his successors who called themselves Achaemenids and who ended a period of short-lived dynasties which lasted for no more than three kings.[373]

The trilingual inscription and rock relief at Behistun were central to Darius' new program, and they are difficult monument to deal with. Early research often focused on details, such as changes in plans (the planned inscriptions seem to have been expanded at least twice), the location and chronology of events, and whether the man whom Darius killed was really an impostor. Later

369 Kuhrt 2007: 124
370 Kuhrt 2007: 130
371 Frahm 2011: 514-515
372 On the death of Cambyses see in addition to Briant, Cyrus to Alexander and Kuhrt, Persian Empire (with their accompanying bibliograhies) Matthew W. Stolper, "'His Own Death' in Bisotun and Persepolis", Arta 2015.002
373 Rollinger 2014a

research stresses the numerological elements of the inscription, the dialogue with much earlier reliefs and inscriptions such as the monument of Anubanini at Sar-e Pol in Kermanshah province,[374] and asks whether aspects such as the differentiation of Persians from Elamites were aspects of the world he lived in, or the world he was trying to create with his words. The text is repetitive and one-sided, but has many nuances, and the three stages of composition suggest that its contents were controversial when it was made. Herodotus was clearly familiar with it, but whether he knew it directly or through an intermediary, and why he leaves out the wars with the liar kings and adds a story about a constitutional debate between the victors, are also controversial. This is a study of war and ideology, so it will focus on what Behistun says about war as war, not about the terrible events of that "long but single year" to which Darius responded.

One of Darius' specific choices must be addressed here. Achaemenid royal inscriptions, unlike Teispid inscriptions, normally appear in three or more languages on the same surface. This was a sharp break from earlier practice, where kings traditionally wrote their inscriptions in the most prestigious language available to them, and left it to others to render them in the vernacular. These multiple versions offer both problems and opportunities to the historian.

Most translations of the Achaemenid inscriptions focus on the Old Persian and cite its paragraphs (sections which begin with "Darius the king says this"). Darius was, after all, insistent that he was Persian, and that he had caused a new Aryan script to be produced in order to record his proclamation.[375] It is possible to read the royal inscriptions in a very Mazdaean and Indo-European way. Yet in fact the relationship amongst the various versions of the inscription is complex, and it is not clear at all that the Old Persian was the model for the others.[376] There is very little evidence of how familiar Darius and his successors were with Elamite and the Semitic languages. However, given Darius' involvement in the campaign against Egypt and the mixture of Elamite, Semitic, and Indo-European traditions in Parsa, it would be dangerous to assume that he was ignorant of Elamite and Aramaic. Aramaic was probably a key langauge for anyone west of the Euphrates who had to deal with lists and records or with multiethnic communities of soldiers. Just who else was involved in composing the inscription, and what languages they were familiar with, is even more difficult to say. As is discussed below, Behistun draws on motifs and ways of talking about war and kingship which are documented in Mesopotamia since at least the third millennium BCE. Thus a reading of the inscription which is centred on the Old Persian text on the grounds that Persians think in Persian is dangerous.

The Babylonian of the Behistun Inscription is remarkably different from that of the texts produced to support Cyrus' reign. As we have seen, the Cyrus Cylinder, Nabonidus Chronicle, and Verse Poem all take pains to use archaic terms with powerful literary connotations. This vocabulary washes away the details of particular places and times with traditional expressions which could be

374 Rollinger 2014b

375 Darius is usually understood as saying that he had created a new Aryan script. A few short inscriptions in Old Persian claim to be the work of Cyrus, but they are usually interpreted as having been written under Darius to support Darius' story about his ancestry. Occasionally it is suggested that he created a new Aryan text.

376 von Voigtlander 1978: 6-8 especially "it seems probable that the Old Persian text is of the second generation and is a translation of either the Babylonian or Elamite version or of a text in another language which has not come to light."

applied to Babylon and its neighbours in any period In contrast, the inscriptions of Darius use terms which appear in letters and contracts, some of which had only recently appeared in written Babylonian. Darius' list of lands, for example, avoids the hallowed terms of scholarly geographers in favour of names which many of the peoples named would have recognized. Although “the Babylonian version of DB generally avoids loanwords” it also avoids old-fashioned language.[377] Translations of the inscription based on the Old Persian often have a formal and archaic tone. A scholarly Babylonian hearing the inscription would probably have been impressed by its informality and eagerness to use everyday "business Babylonian." In contrast, we know almost nothing about how the register of Old Persian and Elamite in the inscriptions would have been understood by contemporaries. There are too few other texts in those languages, and the surviving Elamite texts are very repetitive. (Elamite's status as an isolate, a language with no known relatives, also poses difficulties). The Babylonian text is the only one which I know in the original, but it has some important advantages over the other versions.

3.3.1 The Model of People and Land in DB

Discussions of the narrative of the Behistun Inscription often focus on the liar kings and battles. However, the inscription also presents a model of the population. Since translations often obscure it, this model is worthy of some attention. Sometimes the inscription speaks of peoples or lands. In the Babylonian text these are designated in various ways centred around the logograms KUR (for foreign countries) and LU_2 (for types of people) and names with the ethnic suffix -aia. They first appear in the description of Darius' kingship at the beginning of the inscription (DB 6):

> §6 {m}Da-ri-ia-muš LUGAL ki-a-am i-qab-bi
>
> a-ga-ni-tú KUR.KUR šá ana-ku i-šem-ma-[ʾ-in-ni] ina GIŠ.MI šá {d}Ú-ri-mi-iz-da-ʾ ana-ku a-na LUGAL-ši-na at-tur KUR Pa-ar-su KUR NIM.MA.KI DIN.TIR.KI KUR Aš-šur KUR A-ra-bi KUR Mi-ṣir ina mar-ra-ti KUR Sa-par-du KUR Ia-a-ma-nu KUR Ma-da-[a-a] KUR Ú-ra-áš-ṭu KUR Kát-pa-tuk-[ka] KUR Pa-ar-tu-ú KUR Za-ra-[an-ga] KUR A-ri-e-mu KUR Hu-ma-ri-iz-mu KUR Ba-ah-tar KUR Su-ug-du KUR Pa-ar-ú-pa-ra-e-sa-an-na KUR Gi-mi-ri KUR Sa-at-ta-gu-ú KUR A-ru-[hat]-ti KUR Ma-ka PAP 23 KUR.KUR.MEŠ
>
> Darius the king speaks as follows: These are the lands which hear and obey me, under the protection of Ahuramazda I became their king: The land of Persia, Elam, [etc.] … the land of Maka, total 23 lands.

These lands are presented as homogeneous entities which each has a single allegiance. In the inscription, at any given moment a whole land is either loyal or hostile, never divided.

It is conventional to debate whether the royal inscriptions understand these peoples or lands as areas of ground or communities of people, and whether they corresponded to the administrative structure of the empire. Such ambiguity is common in terms for city or country across many languages and registers of writing, and was an accepted feature of Babylonian: the Standard Babylonian version of the epic of Gilgamesh contains the line “the land assembled before the gate

377 Stolper, Murašu p. 57 n. 27

of Atarhasis" followed by a list of types of men.[378] The inscription on the statue of Idrimi of Alalakh boasts that when he regained power and invaded Hatti "the land of Hatti did not assemble and did not go head-to-head with me."[379] In any case, if there is any difference between "the Medes" and "the land of Media" it is extremely subtle.

Another central term in the inscription is *uqu*. The oldest known example is a letter to the king of Elam which seems to have been written early in the reign of Esarhaddon (r. 681-669 BCE).[380] For the rest of the seventh and sixth century the term is extremely rare, but it becomes more common from the fifth century onwards. The author of the Babylonian text was therefore being lexically adventurous and using a word which had not yet become accepted in written Babylonian.

At first glance the *uqu* seems to indicate an army. Various *uqū* march into Egypt with Cambyses, go over to liar kings, march here and there, and are defeated (if rebel) or victorious (if loyal). On the other hand, it is to the *uqu* that the various liar kings speak or lie. Gaumata, Nidintu-Bēl, Martiya, Fravartish, Shitrantakhma, Vayazdata, and Araḫa all speak or lie to the *uqu*, leaving only Akina (the object of whose speaking is not named in the Babylonian, though it is the *kāra* in the Old Persian) and Frada (who does not speak or lie at all). Thus the *uqu* can be the object of political appeals, and when it goes over to someone he can become king of the land in which that *uqu* resides. In many cases a *uqu*, a land, and a people seem to be more or less the same thing.

Many of these *uqū* belong to a particular land. Some *uqū* are described as "of the land of Persia" or "of the land of Media" (DB §24 [Median], §40 [Persian], §25, 33 [Persian and Median]). In principle such ethnic titles could indicate the ethnicity of the *uqu*, the place where the *uqu* normally lived, or even the allegiance of the *uqu* (the "French army" in 1917 included units of Algerians and Senegalese, and the "Athenian navy" seems to have been rowed by a wandering pool of rowers from all over the Aegean). As often in Achaemenid history, the sources do not make it easy to exclude any of these possibilities, although the first two seem more likely. Perhaps the most useful example of these terms appears in paragraphs 24 and 25, where Darius contrasts the "*uqu* of the land of Media, as much of it as was in the palace" which went over to Fravartiš against the "*uqu* which was with me, of the land of Persia and the land of Media" which was small. Here Darius seems to proclaim that his supporters were Median and Persian or from Media and Persia. No other ethnic titles are used, even for armies which clearly come from particular lands or are comprised of those lands or the peoples of those lands.

While the *uqu* in one land sometimes have the ethnic title of another, both *uqu* and land or people always chose the same side. In the case of the Parthian and Margian revolts, discussed below, the Old Persian text seems to equate "the Parthians/Margians" with "the enemy army

378 Gilgameš XI.49 *ana bāb Atarhasis ipahhur mā[tum]*. Compare XI.35 [kīmi] lūpūl ālam ummānu u šībūtu "How should I answer the city, the troops, and the elders?" and the second-millennium BCE Statue of Idrimi: (70) ma-at ḫa-at-te{ki} (71) u2-ul ip-ḫur u3 a-na UGU-ia u2-ul il-li-ku "[When I invaded,] the land of Hatti did not gather and go head-to-head with me." In light of passages like this, I am not as impressed as Kurt Raaflaub ["Early Greek infantry Fighting in a Mediterranean Context" p. 97] that if "already Alcaeus alludes to the formula 'the men are the *polis*.'" (fr. 112.10: [ἄνδρες γὰρ πόλι]ος πύργος ἀρεύ[ιος) then the relationship between soldiers and community was already different in Greece than in the ancient near east.

379 I cite lines 70 and 71 of Jacob Lauinger's edition on ORACC: ma-at ḫa-at-te{ki} u2-ul ip-ḫur u3 a-na UGU-ia u2-ul il-li-ku. The translation is my own.

380 CAD s.v.

(*kāra*)."[381] When Gaumata lies to the *uqu*, the whole *uqu* becomes hostile to Cambyses. When Vahyazdāta speaks to the *uqu* in Persis, the *uqu* there goes over to him. Thus the *uqu* is not simply an army in the sense of a body of troops gathered in one place, or of a small community separate from the rest of society, but it can be spread out across the land and its loyalty is more or less the same as that of the land from which it comes.

Words for "the militarily and therefore politically significant part of the community" are very common in world history, from Old Iranian *kāra-* and *spada-*, Greek *laos*, Latin *populus*, to German *Heeresvolk*. One specific case which has received a great deal of attention from classicists is the role of the Macedonian army or "the Macedonians" as a source of authority for judges and kings. The Aramaic and Babylonian words *hayl* and *uqu*, the former being derived from a verb "to strengthen" and the later having no obvious etymology, show that these words cannot be understood as pointing to a uniquely Indo-European idea. They can be better understood as examples of institutions and practices which are common in world history and known by names such as assemblies and primitive or pirate democracies. Both terms have received a large scholarly literature which cannot be discussed here.[382] On one hand, military and political power were difficult to keep apart despite occasional vigorous attempts to separate them (such as by recruiting foreign mercenaries, slaves, or common soldiers amongst the desperate and officers amongst the respectable). On the other hand, gatherings of ablebodied and propertied men from a wide area as an army provided rare opportunities in cultures which were normally spread across the land and lacked mass media. These gatherings could be used by a variety of people who wanted to communicate to a wider audience than was normally possible, whether staging a formal ceremony where the soldiers could be stage-managed into publicly approving of something, or quietly seeking out people who shared a grievance.

Translators often handle words in this family by translating them with different words in different contexts, such as "people" and "army." The authors of the Behistun Inscription show no interest in untangling different concepts and giving each a single name, and the words for "the militarily significant part of the community" used would probably not have sounded exotic to their intended audience. However, such split translations destroy some of the meaning of the original: the author of the Babylonian version did not think that "the people" was one thing while "the army" was something completely different. I therefore leave *uqu* untranslated.

3.3.1 The Cause of War at Behistun

The rhetoric of the inscription limits its discussion of the cases of war to the initial offence which inspired Darius to fight. Darius is careful to explain how Gaumata took the kingship away from his family and the family of Cyrus, oppressed the people, and was not helped by Ahuramazda. Within the inscription, it is easy to understand why Darius responded to these insults by killing Gaumata.[383]

381 DB OP §35, 38 tr. Kuhrt

382 Eg. Phil Paine, "The Hunters Who Owned Themselves," in Benjamin Iskahan and Stephen Stockwell eds., The Secret History of Democracy (Palgrave Macmillan: London, 2011)

383 Of course many readers since the Second World War have been unable to reconcile Darius' claims to royal ancestry with the genealogy which Cyrus gives for himself, or to understand why royal ancestry would let Darius claim the throne while his father and grandfather still lived (XPf). If an exceptionally tactful courtier had brought the matter up, Darius would probably have insisted that Gaumata had no connection to the royal family whatsoever, and that

Once Darius became king, the inscription takes for granted that he should fight to keep control of all the lands which Ahuramazda gave him. Yet why nine men lead revolts, or why the people listened to them instead of the rightful king, is not elaborated. In his summary of the first year of his reign, Darius simply explains that "the Lie made them hostile to me, (because) these troops had lied to the *uqu*."[384] With a bit of imagination and a long reading of Zoroastrian sources it is possible to speak at length about the significance which this bald statement could have had, but "the devil made me do it" is rarely a satisfactory answer. Moreover, Darius' own account of his first year as king does not fit this pattern. It is certainly true that lands often become hostile when someone speaks (*qabû*) or lies (*parāṣu*) to them, yet in other cases hostility appears without this initial act of speech. Armenia (DB §26-30 Akk.), Parthia and Hyrcania/Margia (DB §35 Akk.), Margia (DB §38 Akk.), and Babylon (DB §49 Akk.) all become hostile to Darius before anyone has spoken or lied to them. Even earlier in the story, the *uqu* becomes disturbed after Cambyses has gone to Egypt but before Gaumata makes his uprising (DB §10 Akk.).

There is certainly room for mystery when talking about war and politics, whether one sees them from a theistic perspective or a materialistic one. Why someone does something is often difficult to define, and sometimes the outcome of a protest, an election, or a battle is completely different than expected, however learned the predictors and whether they examine the livers of sheep or polls of voters. Royal inscriptions did not normally try to explain what their sponsor's enemies thought they were doing, let alone do so in a sympathetic way. On the other hand, the inscription does not spend many words describing the offenses of the rebels and making their wickedness clear.[385] Thus the inscription neither attempts to explain the resistance to Darius, nor emphasizes how wicked and unjust this resistance was. In the rhetoric of the inscription, after Darius became king what really mattered was whether a people accepted his authority or perversely rejected it. Why they rejected it was not important.

3.3.3 Actors at Behistun

At first glance, the Behistun Inscription tells a story dominated by true and false kings, with one intervention of the Lie (Akk. *pirṣātu*) after which Ahuramazda benevolently oversees events. Darius names his ancestors and some of his agents, and towards the end of the inscription lists six companions who helped him kill Gaumata and the nobles who were with him. He also names a handful of men who commanded rebel armies but were not kings. All other people are treated collectively, whether as populations which become hostile, or armies which Darius destroys with the help and under the protection of Ahuramazda, or groups of supporters of the false kings to be punished. On a superficial reading, these groups are obedient to the gods and kings who drive the story: generals march because kings give then orders, and peoples revolt because kings lie to them or surrender a false king when Darius commands them to do so.

Ahuramazda clearly wanted Darius to be king since he had given him aid in nineteen battles. See Rollinger 1998a or Kuhrt 2007: 135 ff. for introductions

384 Cp. "the Lie made them rebellious, because these (men) lied to the people" (DB §54, 55 tr. Kuhrt). The contrast between an effect in the ta-perfect followed by a cause in the imperfect without additional prepositions is used several times in the Behistun inscription: see Malbran-Labatt, La Version Akkadienne pp. 83, 84 (German Assyriologists sometimes speak of the ta-perfect in Late Babylonian as a Nachfolgetempus).

385 For examples see Fales 1987 and Oded 1992

A closer reading reveals some exceptions to this pattern. After Cambyses kills Bardiya and marches to Egypt, distrust appears in the heart of the *uqu* (DB 10: *arki uqu libbi bīšu ittaškan*). Armenia became hostile to Darius during the first winter and was the site of many battles without containing a single liar king. The inscription does not accuse them of being the victims of a liar king. Some time later the lands on the other side of Media became hostile:

> The Parthians and Margians (OP: Hyrcanians) became hostile to me and took sides with Frarvartish. Hystaspes, my father, lived in the land of Parthia. The *uqu* which was with him went over to Fravartish. After that Hystaspes went with the *uqu* which was true of heart. At the city named Umishpazatu in the land of Parthia they did battle ...

Darius presents this as occurring in parallel with the revolt of Fravartish in Media. A third hostility is even more striking:

> A land named Margiana became hostile to me. There was a single man named Frada, a Margian, who became chief at their head.

While the Babylonian is vague about agency, the Old Persian version is explicit that the Margians made Frada their chief.[386] While Frada appears as a liar king at the end of the inscription and in the accompanying relief, the main narrative presents him as something more like an Athenian *strategos*, and insists that Margiana became hostile before he became chief. Darius thus acknowledged that resistance to his authority might not be inspired by a single figure, but could have a wider origin. It is striking that in both Parthia and Margiana this wider origin is in the land, not the *uqu*. Lastly, while Darius was in Media and Persia the Babylonians became hostile to him for a second time. Only then does Araha appear and lie to the *uqu*. For all of his efforts to focus the story on nine liar kings and their lying words, Darius hints at a more complicated story, where ordinary people had agency.

3.3.4 Organization and Equipment of Armies in Behistun

In the discourse of the Behistun Inscription the organization and equipment of armies are irrelevant. Darius sometimes gives an army one or two ethnics, such as “Margian” or “Median and Persian.” But the inscription has no interest in describing whether an army was made up of footsoldiers or cavalry or charioteers, whether the soldiers were armed with spears or bows, how it was organized, or where the different parts were stationed on the battlefield. Darius famously boasts about crossing the Tigris in the face of the army of Nidintu-Bēl on horses, camels, boats, and inflated skins (DB §18 Akk.). This technical detail is placed before the battle. Sometimes the leader of a rebel army flees from the battlefield with a few men on horseback (DB §20, 32, 42, 47 Akk.). This information appears after the battle, and belongs to a tradition of accusing enemies of being struck by panic and trying to escape when the true king approached.[387] Within the discourse of the inscription, the help of Ahuramazda and the victory of his chosen king are so important that they make technical details irrelevant.

386 Kuhrt 2007: 146
387 For more examples see Rollinger and Ruffing 2012

Darius sometimes remarks that an army or group of nobles was small (*iṣu*). This is never presented as a technical detail, as when Xenophon discusses how to arrange a small army against a larger one, but as a dramatic one; Darius' few supporters emphasize the danger which Fravartiš' revolt created, and the small numbers of horsemen who flee from a battle emphasize that their side has been completely defeated. Once again, the inscription erases details to emphasize the central message: with the help of Ahuramazda, Darius and his generals defeated all of their enemies and punished their leaders.

3.3.5 Sinews of War

The sinews of war have a peculiar place in the Behistun inscription. On one hand, Darius is very insistent that no less than 23 lands brought him tribute and obeyed his commands. His description of how after killing Gaumata he restored things to the way they had been in the beginning expresses his help for the gods and the *uqu* in material terms:

> The houses of the gods, which this here Gaumata the Magus had destroyed, I gave back to the *uqu*. The cattle and sheep, the fields and the hired workers, the bow estates which this here Gaumata the Magus had taken away from them, I returned to the *uqu*, everything in its proper place. (DB §14 tr. Manning)

Bow estates, indivisible and inalienable properties whose holders had special military obligations, will be discussed further in chapter 4. Their presence in the inscription probably struck Babylonian readers as bold and colloquial, since they were not part of the timeless picture of learned writing but instead part of the world of taxation and service obligations which burdened the inhabitants of cities.

On the other hand, once the other revolts begin the inscription loses interest in such material details. The inscription does not specify where soldiers came from except with ethnics or “in the palace” (DB §24, 40). Neither expression explains whether they were a militia of commoners, a levy of propertied settlers, a household supported at the expense of the king and his most important followers, or a standing army. No false king tries to bribe the faithful, or commits sacrilege to obtain silver. As discussed below, Darius does not boast of the spoils he took from defeated enemies. He certainly does not suggest that such factors could have anything to do with which armies and lands supported him, and which became hostile. In the discourse of the inscription, neither Darius nor the liar kings offers wealth for loyalty; words are enough. Once different figures have proclaimed themselves king, Gaumata is presented as a purely destructive figure whose kingship benefited nobody, and how the liars exercised kingship is not described at all.

3.3.6 Initiative

The story of each each revolt is divided into two phases. First the people or land become rebellious and the *uqu* changes sides, then Darius responds and his troops win a series of victories until the leader of the revolt is captured. In the first phase a series of individuals or groups reject Darius' authority one after another. No responses by loyalists are described. In the second phase the pattern reverses and Darius or his generals and armies have the initiative. Everything they do is deliberate and every action brings them closer to their goal. The rebels sometimes come out to

fight, flee to a particular place, or seize and hand over their leader, but all of these actions are in response to Darius and his supporters, and neither fighting nor fleeing brings them success. The inscription does not acknowledge the possibility that Darius' enemies might neither submit not give battle. Instead, tension is created by descriptions of how many lands became hostile and how many armies abandoned Darius, by the description of one revolt after another, and the possibility that the hostiles will continue to fight after each defeat. The sections on Armenia and Areia have slight variations of this pattern, since Darius does not say that someone in either land proclaimed himself king. In Armenia the second phase begins immediately. Darius sends two generals, Dadarshi and Vaumisa, who fight and win five battles, "wait for Darius," and vanish from the story (DB §26-30). No rebel leaders are named, and none are said to be captured. In Areia the first phase consists of Vahyazdata choosing a named general and ordering him to go to Areia and smite the army which obeys Darius. They then give battle twice until their general flees and Darius' general captures him. Even though this appears to have occurred before the final defeat of Vahyazdata, the inscription places it after and treats it as a separate story.

In the same way, in the second phase Darius and his supporters move from success to success. Only statements that an army waited for Darius to come, or long gaps of time between battles, allow readers to tell stories where Darius and his supporters faced difficulties. This focus on the positive is typical of royal inscriptions, although there are one or two exceptions.

3.3.7 Decisive Battle

After an army has been dispatched, the next significant event is a battle. Most of these are carefully assigned to a particular day and a named location, typically a town, fortress, or mountain. However, the inscription has no interest in the details of exactly how the loyalists and the hostiles do battle. In every case, Darius informs his audience that Ahuramazda brought him aid and his forces defeated the forces of his enemies. Darius modestly does not say that he himself defeated his enemies unless he was present at the battle, although it was common for the authors of royal inscriptions to speak of the actions of their subordinates in the first person.[388] Perhaps this has something to do with his oath that what he says he did in the first year after he became king is true.[389]

The Babylonian and Aramaic versions specify how many enemy soldiers Darius' armies killed and captured in each battle. Unfortunately the numbers are poorly preserved, and there are discrepancies between the Babylonian text at Behistun and the Aramaic text from Elephantine. Mesopotamian royal inscriptions often counted enemies killed or captured. How many of Darius' own men were killed and captured is left delicately unstated. On the other hand, the Semitic versions refrain from describing the gory details of how so many men were killed or captured, except that after the battle at Zazana "the river took them" (DB §19).

388 This kind of *pars pro toto* is not uncommon in other kinds of discourse; consider "Saddam Hussein invaded Iran" or "Steve Jobs invented the iPhone."

389 I owe this insight to Bruce Lincoln, 'Happiness for Mankind': Achaemenian Religion and the Imperial Project. Acta Iranica 53. (Peters: Leuven, 2012). pp. 31-34 which points out that Darius does not swear that he has told the truth about his ancestry, the death of Cambyses, or the man who called himself Bardiya.

Ideally, the first battle is decisive. In the rhetoric of the inscription, such battles are followed by the capture of the enemy leader and the end of a revolt. Often this does not occur in the first battle and it is necessary to fight once or twice more, leading to Darius' boast that he fought nineteen battles and captured nine kings (DB §52). The fighting in Armenia creates particular problems, since the hostiles are not associated with any named leaders. The story of the campaigns of Dadarši and Vaumisa in Armenia fade away with these generals "waiting for Darius," and the audience is not reassured that Armenia became obedient again. Regardless, readers are informed of who won each battle. The Babylonian and Aramaic versions add numbers of enemies killed and captured. Whether a particular battle is decisive or not, it is fit into the scheme where first the rebels and then Darius move from success to success.

This rush to battle was an established element in royal inscriptions, but it also fit the military and political situation.[390] As noted above, in ancient Southwest Asia it was widely accepted that the outcome of battle showed which side the gods favoured. And as Darius himself acknowledges, so many lands became hostile to him when he killed Gaumata that he needed to respond quickly. Military historians often stress that great battles rarely caused great changes, although they could be very important on the human scale as they killed, wounded, or impoverished some and enriched others. Yet in the ancient near east there are many examples where after a battle large areas submitted to the victor.[391] While modern scholars sometimes try to deconstruct this as a literary topos or talk about power as an exchange where the subaltern can quietly influence or subvert their new hegemon, it is hard to find either concern in the thought-worlds of ancient Near Eastern elites.

The Behistun Inscription also elides all of the fighting outside of its list of battles. Skirmishes, sieges, assaults on strong places, and even battles which did not involve Darius or one of his named supporters are not mentioned. Sometimes the wording of the inscription leaves room for the listener to imagine some other kinds of violence. "Afterwards under the protection of Ahuramazda I took Babylon and I took Nidintu-Bēl" (DB §20), "In a city named Kundur in the land of Media this here Fravartiš ... came against my position with the *uqu* to do battle" (DB §31), "Then this here man, who was chief at the head of the *uqu* which Umizdata had sent, fled with a small *uqu* on horseback and approached the city named Aršada in the country of Arachosia. A stronghold of Vivana was there. Then Vivana went against their position with the *uqu*; he took him in the middle [of his troops] and killed the full citizens who were with him. The total dead and alive of the *uqu* which Vivana [defeated] was 4,2xx." (DB §47). Each of these incidents could be understood as involving some fighting on the walls or in the streets of a city or fortress. Yet no resistance is described when Darius took Babylon, and these three incidents are separated from the fighting which proceeds or follows them. If they did involve assaults on cities or fortresses, they are clearly distinguished from the battles.

The reduction of wars to a single decisive battle had a long tradition in the ancient near east. The tradition of battle as a *judicium deorum*, discussed above, also encouraged storytellers to focus on a single incident where the gods made their judgement known. However, earlier kings had not been shy about boasting about sieges and the destruction of cities and fortresses.

390 Rush to battle: See Fink article
391 Consider the aftermaths of the battles of Gaugamala or Actium

It is likely that the nineteen battles were chosen for literary, numerological, or political reasons.[392] Once the decision was made to reduce the fighting to a list of battles, any fighting which the composers wished to include needed to be treated as one. Similarly, the list of nine liar kings and relief showing them as captives imitates the monument of Anubanini of Lullubi at Sar-e Pol. It is likely that many of Darius' supporters wished their deeds to be remembered. The end of column 4 of the inscription contains a jumble of miscellaneous material as well as the famous list of six companions who were with Darius when he killed Gaumata. One interpretation would be that as the text of the inscription was being finished, Darius' supporters made it known that they expected a place in the inscription too. The counts of enemies killed and captured in the Behistun Inscription also suggest that some of Darius' nineteen battles were much bigger than others.

The scholarly Greek tradition about Alexander the Great offers some intriguing similarities.[393] This tradition about Alexander the Great is notorious for neglecting fights which did not occur close to Alexander himself. The naval fighting in the Agean islands, the Spartan war against Macedonia and the Persian counteroffensive in Kappadokia are covered in a few sentences, about the amount of space given to minor military decisions by Alexander himself. This tradition also acquired a canonical list of four battles which participants were expected to describe in detail, and a longer list of fights which could be left out or described in a much more cursory way. While the Granicus, Issos, Arbela, and Hydaspes were all important, the special prominence of the Granicus and Hydaspes probably owes something to literary needs, since the armies involved were small and the issues at stake not great. Neither of these battles involved Alexander's whole army, and the Hydaspes did not result in great conquests but in Porus' submission to Alexander and Alexander's finding an excuse to turn his army back towards Babylon.[394] The Granicus could have been as ephemeral as Agesilaus' great victory over Tissaphernes sixty years earlier. But the Granicus showed that Alexander could defeat Persian armies, and the Hydaspes let Alexander's Indian adventures be associated with a climactic event.

DB insists that each battle took place at a particular day and month at a named place: a city, fortress, river, district, or mountain. This is customary in our tradition, but not so much in the classical and archaic period or the ancient Near East: the modern names for ancient battles such as "second Mantinea" are often hard to find in the sources, just like Thucydides and Xenophon describe many battles which have not become cannonical. Neo-Assyrian sources give a general sense of chronology, but rarely date battles to the month or the day. A great deal of work has been done to sort out the chronology and place these battles in our geography, but it would also be worth asking where the idea that battles should have a name and a date comes from.

3.3.8 Lack of Interest in Details of Armies or Fighting

The inscription has no interest in describing the composition, organization, technical capabilities, or armament of armies in detail. Chapter 18 does contain the famous description of how Darius

392 Windfuhr 1994

393 The ideas from this paragraph can be found in the wider literature on Alexander the Great, but I can no longer say where I encountered them.

394 Heckel 2003

crossed the Tigris with his troops in the face of Nidintu-Bēl's troops.[395] The inscription also reminds the reader that after the *uqu* in Media went over to Fravartish, the *uqu* of the lands of Persia and Media which was with Darius was small (*īṣu*) (DB §25). Both details are distanced from the fighting itself, and both belonged to types of detail which had long been common in royal inscriptions. As previously discussed, the inscription often gives ethnic labels to *uqū* or "hostiles." Yet not once does it suggest that this affected how an army fought or which side won a battle. The inscription has no interest in ethnic weapons or ways of war. In the discourse of the inscription, what really matters about an army is whether Ahuramazda brings them help and whether they are serving a true king or a false one. All hostile armies give battle, and all are defeated. If Median and Persian armies are especially prominent in the inscription, this is not justified in military terms. That is, although the inscription implies that Medes and Persians are important, it does not suggest that Medes or Persians fight better or differently than other peoples.

The Babylonian and Aramaic versions specify how many enemy soldiers Darius' armies killed and captured in each battle. Unfortunately the numbers are poorly preserved, and there are discrepancies between the Babylonian text at Behistun and the Aramaic text from Elephantine. Mesopotamian royal inscriptions often counted enemies killed or captured. On the other hand, the Semitic versions refrain from describing the gory details of how so many men were killed or captured, except that after the battle at Zazana "the river took them" (DB §19).

The inscription's lack of interest in the details of combat was shared by the inscriptions of most Neo-Babylonian kings, and by many historical texts written by Babylonian scholars. These rulers described their service to the gods and the people in detail and described their conquests of foreign lands in a general way but without the details which Neo-Assyrian kings had chosen to record. On the other hand, the authors of the inscription also had access to models which described combat in more detail, such as New Kingdom and Neo-Assyrian reliefs and Mesopotamian inscriptions which lovingly describe mounds of corpses, blood filling the canals, and enemies losing control of their bowels as they fled. The lack of extraneous detail serves to sharpen the focus on the outcome of each battle and its official interpretation. In the discourse of the inscription, the nineteen battles manifested the will of Ahuramazda that Darius, and no-one else, be king. Anyone who wondered why Darius became king while his father and grandfather still lived, or if Darius' family were as important as he said, but it was impossible to deny that he had defeated his rivals and their armies again and again. Of course the detailed descriptions of violence in Neo-Assyrian inscriptions were also meant to legitimatize the kings, and demonstrate the power which the gods had granted them to chastise their enemies. But the details were not essential, and Darius seems to have felt it better to leave them out. Tastes in such matters often fluctuate back and forth, between periods of baroque detail and Spartan simplicity, and between criticisms that a minimal version is not satisfying and that a detailed version is difficult to understand and nobody can agree on the details.

3.3.9 Capture and Punishment of Ringleaders

After one or more battles, the story of each revolt ends when its leader is captured or killed. Darius says that he killed seven of the nine liar kings himself, with one, Martiya, being killed by the

395 See Rollinger Fluss

Elamites whom he asked to rebel, and another, Frada, never being mentioned after his forces were defeated in battle. In the summary at the end of the story of his one year, Darius says that he captured all nine liar kings (DB §52, 53). While this is difficult to reconcile with the earlier part of the narrative, it shows that Darius was conscious that liar kings ought to be captured.

The importance of this pattern can also be seen in the treatment of Gaumata. Darius simply says that he killed Gaumata and some of the nobles who were with him. This is a startlingly brief description, even within the laconic discourse of the Behistun inscription. Darius describes how certain other of his rivals were humiliated and killed, and none of his rivals was as important as the one who called himself Bardiya. Some ancient audiences clearly preferred a more detailed story such as that given by Herodotus III.76-79, where the struggle and killing fill about two pages of English text. Even Photius' summary of Ctesias devotes about a paragraph to the event (FGrH 688 F. 13.16, Llewellyn-Jones/Robson p. 180). Yet “I killed him” is the language which Darius later used to describe his execution of Akina and Vivana's killing of the supporters of Vahyazdata who invaded Archosia. Providing no further details let Darius assimilate the killing of Gaumata to the punishment phase of the revolt-battle-punishment pattern, even at the cost of leaving out the battle phase. And indeed Darius chose to show himself deciding the punishment of his rivals in the sculpture at Behistun, compressing time and space to bring his nine rivals together in a single image.

Darius is careful to describe the punishments which he inflicted upon the nine liar kings and, sometimes, upon their supporters. In general these punishments are common ones in Southwest Asia in the first millennium BCE.[396] The symbolic meaning and practical importance of these punishments have often been discussed: for example, displaying maimed or killed rivals made it difficult for anyone else to deny that they had died.[397] This judgement and punishment is confined to the leader of each revolt and sometimes a small number of their nobles. It is definitely not applied to peoples, cities, lands, or *uqū*.

Earlier royal inscriptions often described how the victor punished hostile lands, cities, or peoples. (Neo-Assyrian inscriptions are particularly enthusiastic about listing cities destroyed, tents burned, and livestock stolen). Such collective punishments have no place in the inscription. Darius, like many kings before him, boasted that his subjects obeyed his command and brought him tribute. Yet he did not boast that his victorious armies had done this.

In the discourse of the inscriptions, each revolt ends when its leader has been captured and punished. Any further resistance is presented as a separate revolt with another leader. In practice it is likely that the subjugation of each land was a long process, just as it is likely that each campaign consisted of more than a handful of battles. Yet Darius does not encourage his audience to dwell on this. In the discourse of the inscription, once the armies of his enemies have been punished by defeat in battle, and the leaders of each revolt have been executed, no further punishments are needed.

396 Rollinger 2010: 609-622 (with discussion of the gruesome punishments in Ctesias which do not appear in sources in Near Eastern languages)

397 Bruce Lincoln's Zoroastrian lens is one approach here although it would benefit from more engagement with primary sources from the wider Near Eastern world

3.3.10 Space, Time, and Empire at Behistun

The inscriptions after Behistun contain increasingly grandiose statements of the extent of the empire. At Behistun, Darius is simply king of kings, king of lands, and king of 23 named lands. On his tomb his titulature had widened to "king of countries containing all kinds of men" and "king on this great earth far and wide" (DNa §2 = Kuhrt 2007: 502). Xerxes added his Gate of All Lands at Persepolis (XPa). These titles complimented more specific expressions of the breadth and diversity of the empire. Earlier scholars sometimes combined this with the speech which Herodotus puts in the mouth of Xerxes, in which Xerxes informs the Persians that they have always been at war, that he ought to increase the empire as Darius had before him, and that after conquering Greece he will take all of Europe so that he controls the entire world, and saw an ideology which called its believers to fight to conquer new lands and establish an *imperium sine fine* (Herodotus 7.8). However, the royal inscriptions do not completely support this view.

The Achaemenid royal inscriptions present the empire as something which was created in the past and must be preserved in the present, rather than as something which is in the process of being acquired, or as something which will be seized in the future. Assyrian ideology had insisted that the king went on campaign every year against an ever-varying list of exotic foreigners who had defied the king and committed evil deeds. Darius had experimented with this approach. The narrative of his first year as king imitated earlier narratives structured around regnal years, with a special emphasis on the first year, and column V of the Old Persian text at Persepolis describes a campaign against the Elamites and against the Saka across the sea as "what I did in my second and third year." Darius seems to present his campaign against the Saka as the conquest of a new land, and any tradition of an annual campaign would have encouraged kings without any rebellious subjects to venture into new lands. However, after Behistun none of the Achaemenid inscriptions claims to have conquered new territories or lost existing ones, and none is organized by years. The famous *daiva* inscription of Xerxes (XPh = Kuhrt 2007: 304-306) is explicit that the "turmoil" and "worship of the *daivas*" were among the lands which Xerxes ruled when he became king. Some writers have seen attempts to claim new conquests implicit in the various lists of lands in the royal inscriptions.[398] The *daiva* inscription adds the Dahae and the Afaukafa to the peoples named by Darius, and it would be possible for a reader familiar with the older lists to assume that Xerxes had conquered these peoples. If this message is deliberate, it is a subtle one. If Xerxes had wished to present himself as a conqueror, he could have easily said "these are the lands which Darius the king, my father, ruled ... and by the grace of Ahuramazda, I added to them the lands ..." Similarly, chronicles were a popular genre in Babylonia and the Aegean, but neither Xerxes nor any of his successors chose to return to it.

The Achaemenid royal inscriptions seem to engage with texts and monuments from around 2000 BCE (including the relief of Anubanini at Sar-e Pol and the claims of Sargon of Akkad to rule the world), but after Behistun they also present a timeless, unchanging world where one king follows after another but there is always a Persian king.[399] Many of their audience were well aware that this was not the case: they saw ancient reliefs or read inscriptions and letters from kings who they

398 Eg. Kuhrt 2007:. 305 n. 5
399 On likely inspirations for DB see Rollinger 2014b: 198-200

thought had lived thousands of years before Darius, and there must have been a wealth of stories about how their land was conquered by the Persians. Some work in the field of historical memory, and of decisions not to talk about some parts of the past to avoid conflicts in the present, is relevant. However, a practical consequence is that the Achaemenids deflated any ideological pressure to compete with the kings who went before them or keep sending armies into ever-more-distant lands.

3.3.11 Palace Art

Darius' long inscriptions were only part of a program of monument-building. His palaces at Persepolis, Susa, and Babylon are famous for their reliefs and inscriptions.[400] These draw on Egyptian, Mesopotamian, Aegean, and Central Asian traditions: for example, the motif of "throne bearers" representing the lands of the empire is also seen on the throne of Sennacherib in a Neo-Assyrian relief.[401] In his famous inscription at Susa (DSf = Kuhrt 2007: 492-495), Darius presents his palaces, and the different materials and crafts used to build it, as a microcosm of his empire.

Martial imagery in Achaemenid palace sculpture falls into three main categories. First are images of armed guards, courtiers, or attendants, their clothing, weapons, and accessories portrayed in exquisite detail. These presumably represent people who one might see at the palace, even if identifying them today is difficult. Second are images of a lion pouncing on a bull from behind. Like the 'tree of life' or plaques of naked goddesses, this motif clearly had a deep significance across a large part of the ancient world, but no surviving text explains that significance. As I am not an art historian, I will not attempt to interpret it. Third are images of a crowned hero grappling with a lion or monster and stabbing it with a dagger. Here the idea would seem to be that the king commits righteous violence against the forces of disorder. Scenes of armies marching, fighting, besieging cities, piling up corpses or severed limbs, or leading prisoners are absent.

So far, hunt scenes are missing. Hunting is very prominent in the classical literary tradition, and appears on seals, but it was not a part of the program of sculpture at Persepolis and Susa. Authorities from Xenophon into the early modern period stress the value of hunting as preparation for war: for example, moving quickly over rough terrain with sharp weapons is a skill, and practising that skill while chasing rabbits or boar is just as useful as practising it alone. Hunting brought elite men together to sweat and face danger for a common purpose, and in many societies, including Achaemenid Persia, it involved elaborate rituals of deference which reinforced the social order.[402]

Distinct individuals are also scarce. There are debates whether the famous relief of the enthroned king with his son greeting a visitor shows specific kings or simply "the king" but there are no captions, unique crowns, individualized facial features, or other details which link sculptures to specific people. Guards guard timelessly: processions of gift-bearers endlessly proceed towards

400 For the "Perserbau" with glazed brick reliefs of guards at Babylon, see Kuhrt 2007: 618, Koldewey 1913: 126-129
401 Root 1979: 147-153
402 There are overviews of the royal hunt in Kuhrt 2007 and Llewellyn-Jones 2013; these should be read in parallel with works on Greek and Roman hunting, and on hunting in late medieval early modern Europe. Talking to people who hunt with spears and bows is educational too.

the king.[403] Coins show Persian heroes with spears and bows rather than distinct portraits, even though individualized portraits of satraps appear on silver coins from the western fringes of the empire from the end of the 5th century onwards.

It is natural to contrast this program with (on one hand) Neo-Assyrian iconography, and on the other hand with images on seals and grave monuments. Both of these genres contain many scenes of battle against human opponents. Darius portrays himself giving judgement to the liar kings, where Assyrian reliefs show their soldiers actually carrying out punishments. At first glance, this suggests a kinder, gentler kind of imperialism. Two factors temper this interpretation.

First, Christopher Tuplin once remarked that soldiers are everywhere at Persepolis.[404] The motif of the royal hero also seems to represent combat against human challengers, even if it represents it in a indirect way. The palaces present the world as a place of peace, order, and gentle movement, but that order is overseen by armed force and threatened by leonine and griffin-like monsters.

Second, it would be dangerous to assume that empires which portray their soldiers destroying settlements and massacring their populations are more brutal than empires which keep these sorts of actions out of their art. Athenian art of the fifth century provides a good counterexample. As Athenian power grew, sculptors and painters developed a visual language to describe Athenian hegemony over the Aegean. Yet this language remained abstracted, focusing on scenes from myth and battles against the Persians. The writings of Greek historians reveal that the Athenians often extorted money, destroyed farms and settlements, and massacred or enslaved populations in the Greek Aegean, but they did not depict themselves doing these things in monuments. The Neo-Babylonians ruled most of the territories which the Assyrians had ruled, and fought many wars in the west, but their inscriptions focus on renovating temples. Nebuchadnezzar may have been just as had a neighbour as Tiglath-Pilser III, and simply have not commemorated his deeds with reliefs and inscriptions. Researchers have also noticed signs that some ancient commanders exaggerated the devastation which their troops had inflicted.[405] The Assyrians present themselves as overwhelmingly strong, able to do horrible things to anyone who defied them, but this was not always the case. Some empires glorify the violence which underlies their rule, while others minimize it, but this does not necessarily make a difference to the victims.

On the other hand, the choice to depict war and empire in such an abstract way was still a choice. Although most of the Assyrian reliefs were buried underground, some may have still been visible. Less than a century since the fall of Assyria, art in other media such as painted wood, tapestry, and ivory would still have been available. Darius and his successors could have commissioned reliefs of battles and sieges and executions if they had wished.

Court art reflected the ahistoricism of Achaemenid ideology. Sculptors did not depict specific military events. Instead, they depicted recurrent types of events, such as guards protecting the

403 The idea that the gift bearers are specifically delegates at *Nowruz* reoccurs over and over again despite the lack of ancient evidence. Regardless of what one thinks of it, delegates to an annual festival would be representing something which happens every year, not a specific event in a single year.

404 Tuplin 2014a: 13

405 Internal criticism of the Assyrian annals (was a city really taken, burned, and destroyed three times in five years) and pollen analyses of Gaul in the time of Julius Caesar are typical examples.

palace, obedient subjects bringing tribute, the lion devouring the bull, or the royal hero slaying monsters. There is no sign that the recurrence has a beginning or an end. Just like in the inscriptions, obedient subjects provide tribute and skills specific to their individual lands, watched over by the king and his law. There are no indications of how Persian rule began, or that anyone still resists it. While this is unfortunate for our understanding of armies and warfare, it helps us see how the Persian elite may have thought and talked about them (and the material culture portrayed at Persepolis is often a very close match to archaeological finds).

In short, the treatment of armed force in the reliefs compliments that in the royal inscriptions. The reliefs of spearmen from Meydançikkale in Rough Kilikia suggest that 'court style' sculpture may have been more widespread than it seems. As numismaticists often argue, visual expressions of ideology reached further than famous texts. Thinking in terms of a system of discourse and reality of war, with one influencing and constraining the other, helps temper any superficial judgements.

3.4 Conclusion

Reviews of narrative histories of the Persian wars often complain about the implication that ancient commanders thought like 19th century staff officers, and call for more consideration of Achaemenid ideology, but there is still some confusion about what that ideology was.[406] It is often said that Darius and his successors wished to conquer the world, impose order, and bring the spear of the Persian man even farther than the kings who went before them. But in fact, a close reading of the Behistun inscription shows that Darius presents the world as already conquered.[407] In traditional Near Eastern thinking, the world was surrounded by the ocean, and proud kings often boasted about marching to it, or subduing the peoples who lived in the islands in the middle of the sea. Darius' boast at the end of the Behistun Inscription to have actually crossed the ocean to fight the pointed-cap Scythians let him say he had gone even farther than the kings who went before him, but like Alexander's crossing of the Danube and the Oxus, or Caesar's adventures on the Rhine and in Britain, it reinforced the status of these waterways as the boundary between the lands which he ruled and the wastelands full of barbarians beyond.[408] None of his successors felt the need to put up further monuments boasting about new conquests. Like Darius, they present their rule of the world as a fact which begins with Creation, and refuse to acknowledge the existence of lands which do not pay them tribute. Historical thinking is reduced to genealogies and statements that the king has finished work which his father began, even though at the same time scholars in Babylonia, Judea, and the Aegean were keenly interested in writing about the chain of causes and effects which had brought the world into its present state.[409]

This new ideology seems to be reflected in Persian policy. For all the Athenian and Spartan warnings about the fearsome Mede, the third Persian expedition to Greece saw Pharnabazos occupy Kythera, land at Corinth, rebuilt the walls of Athens, and then hurry home (Diodorus XIV.84-85,

406 eg. Hyland 2011: 270-272
407 Rollinger 2014b, Bichler/Rollinger 2017
408 Rollinger 2018
409 Rollinger 2014b

Xen. Hell. IV.8.7ff). The so-called King's Peace a few years later showed no interest in conquering the cities beyond the sea as long as they acknowledged Persian supremacy, and most especially the king's control of Ionia with its rich tax revenues and strategic ports. After the first years of the reign of Xerxes we do not hear about kings sending expeditions into ever more distant lands, even though it was certainly in their power to send small armies across the Oxus, into India, or up the Nile. Such expeditions were ideologically useful for the Neo-Assyrian kings and Roman emperors, even when they had no chance of leading to lasting conquests, but it seems that they were not so useful for the Achaemenids.

Herodotus describes a series of aggressive wars in Ionia, Thrace, and mainland Greece, but Achaemenid ideology does not explain them. This raises the possibility that the "Greek wars" were responses to events, and that individuals with connections in the border districts may have driven policy. It also raises the question whether Xerxes intended to conquer Greece at all, or simply intended to avenge the sack of Sardis and establish a system of client states. Both possibilities harmonize with some of Herodotus' *logoi* and with readings of Herodotus as a witty narrator who played with existing traditions and subverted his audience's expectations. Herodotus has stories about the slave with orders to remind Darius about the Athenians (5.105) and prophetic dreams which compelled Xerxes to finish his father's plans (7.12-19), but he also has stories that individuals like Histiaios (5.35) and Mardonios (7.6) tried to start wars for their own personal interests. The latter fit with some strands in research about 19th and 20th century imperialism which stress the agency of people on the frontier: imperial officials who conquer a new district to solve their own immediate problems, even if their superiors wish them to leave it alone, and locals who quietly structure their societies so that they cannot be easily annexed and taxed.[410] However, interpreting Herodotus is a difficult task. Before we turn to the *pater historiae* and his interpreters, let us see what warfare was like for common soldiers in the heart of the empire.

410 I can no longer recover my sources for the first idea, which come from the works of specialists in the British and French empires. One summary is Douglas Porch, Wars of Empire. Smithsonian History of Warfare (Harper Perennial, 2006). On the second, see Willem von Schendel's idea of Zomia, a region of plateaus and mountains stretching from Indochina to the Tibetan Plateau which he argued was just as worthy of consideration as a 'region' as established terms such as Central Asia (Willem van Schendel, "Geographies of Knowing, Geographies of Ignorance: Jumping Scale in Southeast Asia," Environment and Planning D Society and Space (January 2005) pp. 647-668), and its popularization by James C. Scott (The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia [New Haven, CT: Yale University Press, 2010]. In Scott's view, Zomia's weak integration into the states which theoretically control it is best explained not by objective geographical facts, but by the choices of people who live there.

Chapter 4: Commoners at War: the Perspective of Letters and Documents

4.1 Introduction

Historians of the Achaemenid empire are blessed with plentiful documents. A recent study cites almost 600 tablets connected to soldiers at the Ebabbara at Sippar alone.[411] Although the cuneiform sources from Babylonia become much less common after the second regnal year of Xerxes, and the latest documents from Persepolis date to the early years of Artaxerxes I, many Aramaic texts date to the reigns of the last Achaemenids and the first Macedonian kings. While these sources are central to many aspects of Achaemenid studies, they have not yet been fully integrated into the study of Achaemenid armies. Although Eduard Meyer wrote a book on the Aramaic texts from Elephantine, he never revised his treatment of the Achaemenid army in the *Geschichte des Altertums* to make use of them, let alone the texts on clay from Babylonia. In the past 20 years, many Assyriologists have studied soldiers under the Chaldean, Teispid, and Achaemenid kings, but their research is rarely addressed or acknowledged by classicists.

Scholars who wish to make use of these sources certainly face barriers of access. The cuneiform sources are usually cited by tablet number or the *editio princeps*. Decoding these abbreviated citations is a skill, and in many cases they point to either editions which only sketch the tablets, or editions with an out-of-date transliteration. Modern transliterations and even translations are often available, but finding them is difficult unless one is already a specialist in Neo-Babylonian and Achaemenid texts. Simply put, a researcher who wishes to see the evidence backing a citation to a cuneiform tablet, or to read a whole text which is cited for a single detail, must invest significantly more time and concentration than a researcher who wishes to do the same for either a passage in the classical sources, or the Aramaic texts which are published in a handful of volumes with both transcriptions and translations. This is especially serious since the very extensive secondary literature often paraphrases dozens of texts from half a dozen volumes on a single page, so simply finding the latest edition of the works cited can take many hours.[412] Moreover, some of the translations most familiar to non-specialists are often very free and hide that some aspects of the original text are clearer than others. Use of these sources is much easier with a basic knowledge of Akkadian and Aramaic, and this knowledge is not universal amongst specialists in military matters. Therefore, one goal of this chapter is to reduce these barriers.

For military purposes, the most important documents fall into two groups. A vast number of texts in Babylonian on clay survive from southern Mesopotamia. Most of these were gathered by

411 MacGinnis 2012 (5 pages of texts cited, each with 2 columns of 61 texts, or 610 entries a few of which are blank or refer to Greek and Latin texts)

412 Perhaps this is a culture clash: coming from ancient history, I expect works in papyrology or epigraphy to quote key passages in the original in either the body or footnotes, and to cite either the latest edition of each text or one of a handful of well-known volumes such as *Roman Inscriptions of Britain*. Specialists in Neo-Assyrian documents also tend to cite the *State Archives of Assyria* which gives a full transliterated Akkadian text of tablets originally published in many different places. Assyriologiy is a young field, and until the middle of the 20th century many key resources (dictionaries, transliterations) existed as private manuscripts and card catalogues rather than printed or electronic resources open to all.

private individuals or the major temples of cities such as Sippar and Uruk. Particularly important collections of texts are the Murašû archive from Nippur (mostly dating to Darius II and Artaxerxes II) and the archives of the Ebabbar temple at Sippar (from the Neo-Babylonians to the second year of Xerxes). The Ebabbar was responsible for protecting its flocks and providing soldiers for the king, while the Murašû had claims to land which belonged to collectives of soldiers called *haṭru*. Thus far, royal or governor's archives similar to those known from the 8th and 7th centuries BCE have not been found from Neo-Babylonian and Achaemenid Babylonia. However, a number of letters to and from kings and governors survive as isolated finds.

The second group of texts is written on skins or papyri in Aramaic and mostly comes from the south-western and north-eastern parts of the empire: Elephantine on the Nile, Idumaea in the Levant, and an unknown site in Bactria. These are much fewer in number, but contain many references to military administration.[413] The texts from Elephantine mostly date to the fifth century BCE and seem to come to an end around the time of the death of Darius II and the collapse of Persian control in Egypt. In contrast, the texts from Idumaea and Bactria date to the fourth century, from Artaxexes II or III to Philip Arridaeus. It appears that administration continued uninterrupted through the Macedonian invasion, only to be changed around the time of the Third Diadoch War as the warring generals began to claim the title of king. The texts from Idumaea record the operations of a storehouse which collected and distributed food and livestock, while the texts from Bactria record the receipt of various commodities but also include letters on various official topics.

4.2 Methodological Problems Posed by Documents

As we have seen, the Achaemenid period was one where a variety of writing media and scripts were in use. Texts were written on papyrus, skins, waxed tablets, clay tablets, stone, metal sheets and probably other materials. Sites in modern Afghanistan have revealed clay tablets with Elamite writing, wooden tally sticks (*Kerbholzer*) with Aramaic writing, and skins with Aramaic writing, not to mention the Greek texts written on stone and organic media at Ai Khanum in the Hellenistic period.[414] On the other hand, thus far Achaemenid Anatolia has mainly revealed a cluster of seal impressions (*bullae*) at Dascyleion and a variety of stone seals from other sites which were presumably used to sign documents.[415] The presence of these seals, and of funerary inscriptions in many languages, makes it clear that reading and writing were a significant part of upper-class life in the western satrapies. But very few documents have survived.

At the same time, these texts existed in a world where most communication occurred face-to-face through speech. When Cyrus the Younger saw that some waggons were stuck in the mud, he hardly took time to write out an order. Instead, he orally commanded Gaulites and Pigres to take some men and pull the waggons free, and then commanded the nobles near him to do it themselves (Xen. An. 1.5.7-8). While the Aramaic texts from Elephantine include some short, informal notes sent between the island and the mainland, the role of writing was certainly much less than in a modern bureaucracy.

413 I thank Christopher Tuplin for this observation
414 Elamite: Fisher and Stolper 2015. Aramaic on sticks and leather: ADAB, Henkelman and Folmer 2016.
415 Dusinberre 2013

Methodologically, these documents pose two fundamental problems. One is implicit knowledge. The surviving documents are not accompanied by treatises which describe the organization of the temple bureaucracy or the technical jargon for requesting supplies from a storehouse. They presume that their readers already understand the system. The royal and temple bureaucracies only touched on many areas of life, but what went on between these contacts with the bureaucracy is invisible to us. We see weapons and pay being distributed before and after a campaign, but not what the soldiers did with their equipment.

The other problem is that the survival of texts is not random, but reflects human choices. Documents written on clay were far more likely to survive than documents written on other materials. Documents written in the dry climate of Upper Egypt were much more likely to survive than those written in the marshes of Lower Egypt. Many private archives in Babylonia end around the second year of the reign of Xerxes, and this seems to be connected to the great revolts which occurred at that time.[416] On the other hand, Aramaic archives from Bactria and Idumaea continue from Artaxerxes III to Philip Arrhidaeus, suggesting that there was continuity of administration until the end of the Argead dynasty. Archaeologists chose which sites to excavate, and which parts of these sites to concentrate their attentions. In the case of the Roman army, a classic study noted that out of hundreds of millions of records of monthly salary payments to soldiers from Augustus to Diocletian, only 50 survive, all from Egypt.[417] In contrast, several hundred auxiliary diplomas survive from all over the empire, despite the fact that they were only issued at the end of some soldiers' careers, because they were written on durable bronze. The decision to excavate particular locations at Vindolanda or Carlisle has produced hundreds of new texts, and even new genres of records, which would remain unknown if a grant application had failed or a test trench had been dug here rather than there. A recent review of a study of Ptolemaic law accused the author of neglecting Demotic texts which show that institutions with a new Greek name were adapted from old Egyptian institutions, not created *ex nihilo* or imported from overseas.[418]

The use of different materials for different purposes seems to have been governed by certain norms. A famous letter to Sargon II (SAA XVII.2 lines 13-21) denies the petitioner's request to send a letter in Aramaic instead of cuneiform.[419] However, texts like this which state what kinds of writing are appropriate for what purpose are very rare. It is suspicious that the Elamite cuneiform archives from Persepolis refer to whole departments which did not leave texts: were the records of these departments stored elsewhere, or were they written on media which do not survive? We must reckon with the probability that whole classes of document which were once common do not survive, and that the records which we do have were meant to be understood in connection to them. In this regard, the tally sticks from Bactria are particularly significant, since before their discovery, it had been thought that tally sticks were a medieval invention.[420] Only after some examples with Imperial Aramaic script appeared on the art market were other ancient texts which might refer to tally sticks identified.

416 Waerzeggers 2003/4
417 Speidel 2018: 183 citing Fink 1971 (*non vidi*)
418 Lippert 2014 http://bmcr.brynmawr.edu/2014/2014-11-02.html
419 Fales 2007: 103, 104 reminds that the sender seems to have been thinking of secrecy not convenience
420 Henkelman and Folmer 2016

Through 170 years of patient effort, Assyriologists have reconstructed much of this implicit knowledge. However, many questions cannot be answered with certainty. It seems appropriate to acknowledge the uncertainties and discuss the evidence on which the current interpretation is based. At the same time, these documents provide a wealth of information, comparable to that available for the lives of Roman soldiers in the two centuries after Augustus.

Faced with large numbers of documents each containing small amounts of information, researchers have taken two general approaches. One, preferred by Christopher Tuplin, John MacGinnis and Matthew Stolper, is to methodically catalogue evidence and go through it in bulk, focusing on patterns and trends. While this is the most popular method in Assyriology, classicists have been less eager to respond. Another is more anecdotal, citing a handful of documents for illustration. This has been the most common in short surveys, whose authors lack the time and Assyriological training to find and read hundreds of tablets. This study leans towards the second approach, but will begin with a close look at one particularly famous document.

4.3 UCP 9/3 269ff.: The Gadal-Iâma Contract

Since its first publication in 1928, the contract between Rīmūt-Ninurta and Gadal-Iâma has attracted a great deal of attention. The tablet was well-preserved and clearly written, and contained unusual things of interest to many areas of research. Translations or summaries appear in the surveys by Cook, Shahbazi, Head, Sekunda, and Briant, as well as the encyclopedia *Civilizations of the Ancient Near East*, while comments are scattered through the footnotes of books and articles on Late Babylonian and the Achaemenid empire. At the same time, the scattered comments by specialists have become difficult to gather and interpret, and the writers of surveys often lack time to take them into account. No detailed commentary on the tablet as a whole and the problems of interpreting the Akkadian has been published since 1952.

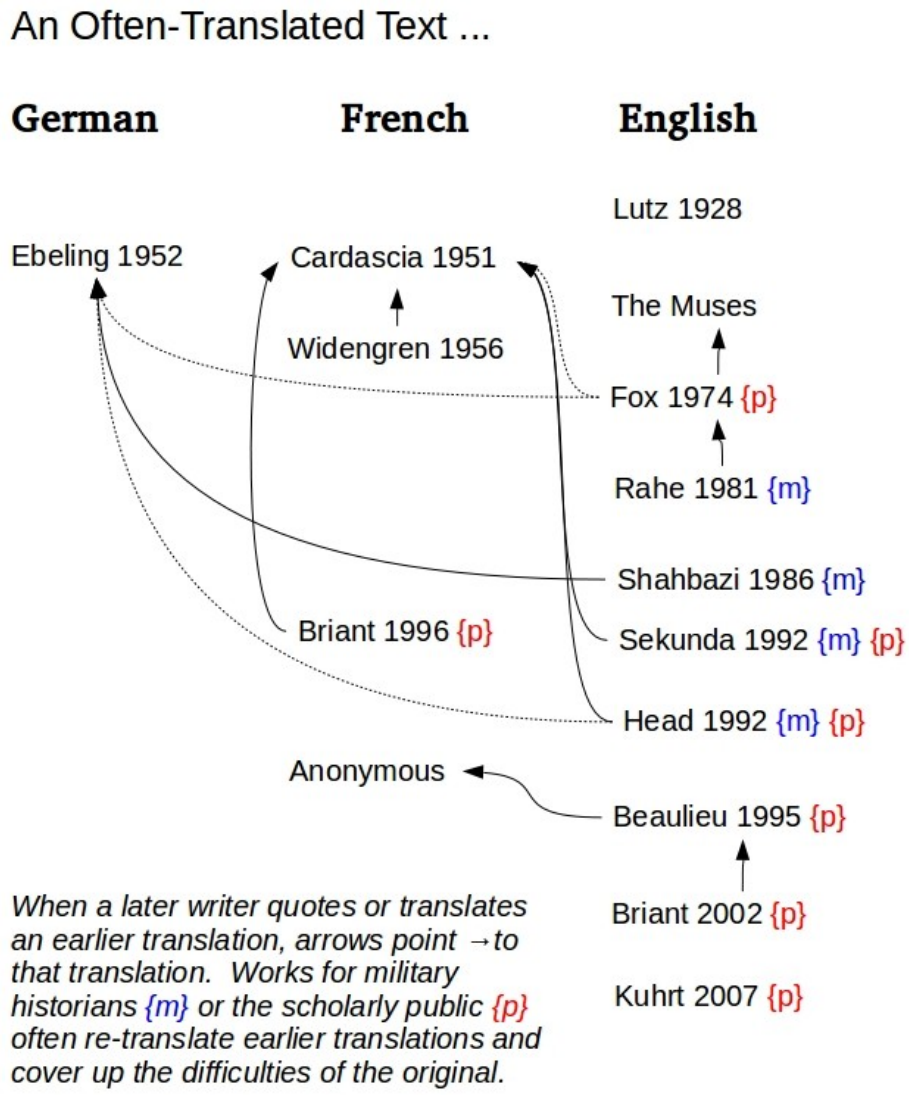

Figure 4-1: Translations of UCP 9/3 269ff.

As figure 4-1 shows, between 1928 and 2007 no direct translation of the contract into English was published. Instead, the English versions of the text derived from French or German versions. Most of these publications are surveys and works for beginners, so this choice is an understandable one. However, the gap between these surveys and the very detailed research by specialists has grown difficult to cross. Moreover, these translations tend to err on the side of presenting a fluid, understandable text rather than on indicating which parts of the translation are more or less certain. Again, this is a reasonable choice in works for beginners, but creates difficulties for researchers who are not specialists in cuneiform but interested in the details. It therefore seems appropriate to present such an overview and follow it with a text and translation.

Researchers who have examined the tablet or its photos are in broad agreement about the cuneiform text, although a few small changes have been suggested since the last edition in 1952.[421] Many differences in transcriptions reflect different conventions, such as whether to transcribe determinatives with Sumerian or Akkadian readings (GIŠ or *iṣ* "wood, tree"), or different judgement about how to transcribe signs which can be pronounced in several ways. Thus H.F. Lutz was familiar with AN.BAR = Ninurta "a warlike god", but not AN.BAR = *parzillu* "iron," and the later editors have changed his transliteration without disagreeing about what signs the scribe wrote.

However, there is considerable disagreement about the meaning of particular words and phrases. The contract appears in a large number of entries in the Chicago Assyrian Dictionary, sometimes with no, one, or two parallels. These difficult words have been addressed by Cardascia and Ebeling but also in passing in books and articles on a wide variety of subjects.[422] Following this research requires a large library and a considerable investment in time reading three modern and two ancient languages. Because translations after 1952 have been written for beginners and presented without commentary, it can be difficult to see which choices are firmly grounded and which more speculative.

The first difficulty is the adoption clause. Although this phrase is complicated, and some translations attempt to simplify or rationalize it, the text can be understood literally and I have done so in the following translation.[423] Bariki-Ilē adopted Enlil-šum-iddin, brother of Rīmūt-Ninurta and son of Murašû, into the sons of Raḫim-Ilē, who had previously included Bariki-Ilē, Gadal-Iâma, and possibly others. Each of the sons received a proportion of the revenue and accepted a proportion of the military obligations. We would expect that each of them had performed service in the past. The normal operations of the "son-ship" did not require documentation within the Murašû family archive. However, on this particular occasion, Rīmūt-Ninurta did not want to go, and Gadal-Iâma felt it wise to record their special arrangement in writing with witnesses.

421 In addition to the editions in UCP 9/3 269ff (Lutz), Cardascia *Murašû*, and Ebeling "Rusting" Matthew Stolper quotes an unpublished transcription by Benno Landsberger in Stolper, "Texts from the Murašûs and their Surroundings," p. 120

422 Stolper, *Enterpreneurs and Empire*, cites UCP 9/3 269 ff. seven times but only in passing. While he is very interested in military service, there were other texts for any of the aspects which he addressed, while the unique aspects of this text (the adoption, the list of equipment) were not his main focus. He returned to this text in "Fifth-Century Nippur" pp. 120ff. with detailed treatments of lines 17 and 18.

423 "Some translations": Cardascia 1951: 180, Fox 1974: 159, Beaulieu 1992: 1481, Kuhrt 2007: 722, Alstola 2017: 173 all make the adopter Rahim-Ile the father not Bariki-Ile the brother. Ebeling 1952: 210 puts Enlil-šum-iddin in the accusative but follows it with (!)

The second major difficulty is the vocabulary of the list of equipment which Gadal-Iâma asks for. The list uses technical language, including many loan-words, and this kind of language is poorly documented in the Achaemenid period. Like all clothing terminology, they are difficult to translate outside of the community which once used them (one could hardly translate "suit coat" or "t-shirt" into Classical Latin!) While these words are difficult for us to understand, they were presumably clear to both parties of the contract.

The third major difficulty is the pair of clauses on lines 17 and 18 which deal with substitution and enrollment.[424] These both seem to be legal formulas, similar to the language used in other documents but not identical. A literal translation of the second would be “Gadal-Iâma will register (*uzuzzu*) with Zabin and give (it) to Rimut-Ninurta.”

Despite these three problems, the general message of the letter is clear. The brothers have been told that the holder of Bariki-Ilē’s share must go to Uruk and serve in the army. That holder is Rimut-Ninurta. Gadal-Iâma offers to serve for his brother’s share if his brother provides him with the produce of the share, a horse and battle equipment, and money for expenses. His brother agrees to give him the horse, the battle equipment, and money (but not the produce) so he can serve. Gadal-Iâma agrees not to substitute something and to enlist with the *šaknu* of his *haṭru*, the “alphabet-scribes of the *ūqu*,” in place of Rimut-Ninurta. Nine witnesses give their names and seals, and the document is signed by its scribe and dated.

Table 4-1: The Text

Gadal-Iâma, the son of Raḫim-ilē, spoke in the joy of his heart to Rīmūt-Ninurta, the son of Murašû, as follows:	(1) {m}Ga-da-al-ia-a-ma A šá {m}Ra-hi-im-DINGIR{meš} ina hu-ud lìb-bi-šú (2) a-na {m}Ri-mut-AN.BAR A šá {m}Mu-ra-šú-ú ki-a-am iq-bi um-ma
He will provide me with	(12) … i-bi-in-nam-ma
(i.) the standing grain and stubble,	ŠE.NUMUN zaq-pu u KA šul-pu
the horse estate of Raḫim-ilē,	É ANŠE.KUR.RA šá {m}Ra-hi-im-DINGIR{meš}
as much as is the share of Bariki-Ilē, who adopted Enlil-šum-iddin, your brother, into the sons of Raḫim-Ilē,	ma-la (4) HA.LA šá {m}Ba-ri-ki-DINGIR{meš} ša a-na DUMU-ú-ut {m}Ra-hi-im-DINGIR{meš} (5) a-na {m.d} EN-LÍL-MU-MU ŠEŠ-ka a-na lìb-bi il-qu-ú
(ii.) and a kit:	u kul-la-ta
one horse with its bit and tack,	(6) išten ANŠE.KUR.RA a-di hu-šu-ki-šu u pu-gu-da-tum
one *suḫattu*-textile,	išten {túg}su-hat-tum
one iron armour,	(7) išten ši-ir-i ʾ -a-nu AN.BAR
one hood of the armour,	išten kar-bal-la-tum šá ši-ir-i ʾ -an-nu
one *suḫattu kūrapānu*,	(8) išten ku-ú-ra-pa-nu šá su-hat-tum

424 At least a dozen articles have discussed this clause in footnotes, but see Ries 1976 and Stolper 2001: 120 ff. for different takes on the grammar.

one *suḫattu* hood,	išten kar-bal-la-tum su-hat-tum
one bronze/empty bowcase,	išten {kuš}šal-ṭu šá e-ru-ú
120 ?mounted? arrows 10/and ? campaign? arrows,	(9) 1 ME 20 ši-il-ta-ah šu-uš-ku-pu u ši-il-ta-ah gi-ir-ri
1 iron ?beater? of the bowcase,	išten ri/di-e-bu AN.BAR (10) šá {kuš}šal-ṭu
2 wooden spears with iron heads,	2 {giš}aš-ma-ru-ú AN.BAR
(iii.) and 1 mina of silver for provisions, in order to go to Uruk on king's business so that I may go represent the horse estate, as much as is your share.	(10) … ù 1 ma-na KÙ.BABBAR (11) a-na ṣ i-di-tum a-na ṣ i-bu-tu šá LUGAL (12) a-na a-la-ku a-na Uruk{ki} ... (13) a-na muh-hi E2 ANŠE.KUR.RA ma-la HA.LA-ka lu ul-lik
Then Rīmūt-Ninurta heard him, and gave him	(13) … ár-ku {m}Ri-mut-AN.BAR iš-me-šú-ma … (17) MU{meš}id-daš-šú
(a.) one horse and battle gear,	(14) išten ANŠE.KUR.RA u ú-nu-ut ta-ha-zu
everything according to that which is written above,	gab-bi a-ki-i šá ina la-li en-na šá-ṭar
(b.) and 1 mina of silver for provisions in order to go to Uruk on the king's business	(15) ù 1 ma-na KÙ.BABBAR a-na ṣ i-di-tum a-na ṣi-bu-ut-tum šá LUGAL a-na (16) a-na a-la-ku a-na Uruk{ki}
and represent the horse estate	(16) … u(!) a-na UGU É ANŠE.KUR.RA
Gadal-Iâma takes it upon himself not to appoint a substitute	pu-ut la šá-ka-nu šá pi-qú-ud/me-KU-tú {m}Ga-da-al-ia-a-ma (18) na-ši
Gadal-Iâma will register himself with Zabin, the foreman of the alphabet-scribes of the *ūqu*, in place of Rīmūt-Ninurta, the son of Murašû.	ú-ša-az-za-az-ma {m}Ga-da-al-ia-ma it-ti (19) {m}Za-bi-in {lú}šak-nu ša {lú}si-pi-ri{meš}šá {lú}ú-qu a-na (20) {m}Ri-mut-AN.BAR A ša{m}Mu-ra-šu-ú i-nam-din
Witnesses, scribe, date (18-x-2 Darius II = Dec. 422/Jan. 421 BCE)	

While this is not the place for a full commentary, this contract touches on most of the aspects of military service addressed in documents from Babylonia.

UCP 9/3 269 ff. belongs to a genre known as the dialogue contact, *contrat dialogué*, or *Zweigesprächsurkunde*.[425] In this genre, one party makes an offer, the other accepts it, and their agreement is written down before witnesses. It belongs to the famous archive of the Murašû family from Nippur, most of whose texts date to Artaxerxes I and Darius II. The Murašû were wealthy, renting land and water rights from outsiders, and subletting them in turn to smaller families alongside cattle, seed, and tools.[426] They also loaned money against collateral in the form of real estate. Other documents in the archive let us sketch a family tree of the people involved:

425 Cardascia 1951: 125ff, Ebeling 1952: 203 (with earlier literature)
426 Stolper, 1985: 27ff.

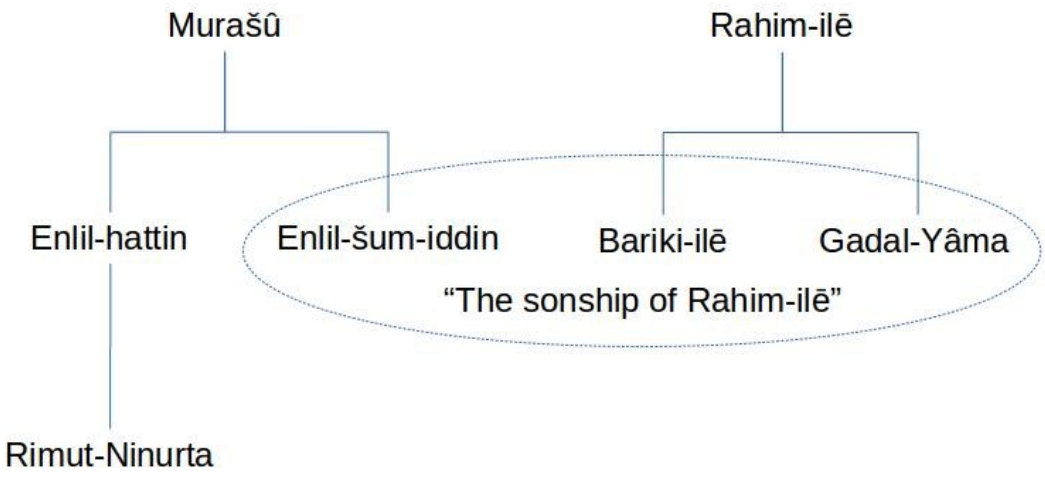

Figure 4-2: Family Tree of the Gadal-Iâma Contract (after Stolper 1985: 18, 19)

Understanding the formal, legal nature of this document is key to interpreting it. Even though parts of the letter sound conversational, it is a legal instrument created before nine witnesses and governing valuable property. While non-Assyriologists often see this text in isolation, specialists see it as an example of a large class of texts.

4.4 The Haṭru Organizations

The contract takes for granted that Gadal-Iâma and Rimut-Ninurta were members of a community called a *haṭru*, specifically the *haṭru* of the alphabet-scribes of the *uqu*.[427] The *haṭru* or *hadru* were groups of families, each of which held a bow, horse, or chariot estate. Each *haṭru* had a name (often derived from an ethnic group or an occupation, sometimes from an individual or an office) and a foreman (*šaknu*) who kept records, received payments, redistributed unoccupied land, and ensured that members paid taxes and provided service when required.[428] The office of *šaknu* was not held for life, and was not limited to members of the *haṭru*, although some *šaknū* held land in other *haṭrū*.[429]

It seems that bow, horse, and chariot estates were inalienable except by death, when they were normally passed down to the owner's heirs. However, they could be held in common. It is often assumed that Bariki-Ilē adopted Enlil-šum-iddin in order to give his new brother a share (*zittu*/HA.LA) of the horse estate.[430] In addition, those who held a whole or partial estate could lose the right to work it. By the time of Artaxerxes I, businessmen like the Murašû took bow estates as security for loans.[431] If their debtor paid on time, all would be well, but if not, the lender acquired the right to use the land until the debt and interest were paid. By a remarkable coincidence, one of the oldest known texts to name a bow estate describes just this: a document from the 35th year of

427 For overviews see Stolper 1985: 70ff.
428 Stolper 1985: 70
429 Stolper 1985: 83-88
430 eg. Cardascia 1951: 181, 182
431 Stolper 1985: 104ff. (summarizing Cardascia, Murašû)

Nebuchadnezzar states that Nergal-dān has borrowed 12 *kor* of barley from a certain Gimillu, and then adds security: “1 *kur* 2 *pi* of seed (ie. field which is sown with 7 bushels of barley), the bow estate of Dannēa, which Nergal-dān acquired to sow, is pledged to Gimillu, until Gimillu has recieved the barley.”[432] This estate has been transferred twice: once to Nergal-dān, who presumably paid rent and intended to recoup his investment by working the land, and once to Gimillu, who held it until Nergal-dān repaid the debt, just like the Murašû held bow estates under Artaxerxes I and Darius II. Such an arrangement could easily become a trap: without the revenues from the bow estate, their debtor would find it even more difficult to pay. Records of such loans were supposed to be destroyed when the debt was paid, so it appears that the Murašû controlled more than a hundred bow estates.[433] Thus Stolper postulated a crisis amongst holders of bow land near Nippur in the first year of Darius II, during the struggle for the throne described by Ctesias.[434] However, the *haṭrū* of Nippur under Darius II can also be seen in a wider context.

Earlier scholarship often emphasized the men who held fractions of bow estates, and used them to support theories that ordinary Babylonians were impoverished by their Persian rulers (theories which will be discussed further at 5.11.1). Matthew Stolper refers to "divided inheritance" while Robin Lane Fox claimed that "even by 420, colonists were living on thirds, quarters, eighths or even fifteenths of their original grant."[435] Unfortunately, he does not cite any examples, and the smallest fraction of a bow estate known to me is the one-fifth share (HA.LA ša 5) of BE 9, 8: 5. While the Murašû archive encourages us to think of sinister loan sharks, dividing an estate amongst two or three men could also be an alternative to a single owner hiring men to work the land while he served. TCL 13, 203 is a contract where four men divide three pieces of property near Nippur amongst themselves for 14 or 15 years. Amongst these is a bow estate, and they agree that each accepts his own share of the service obligation. This reminds us that just because someone held a fraction of a bow estate does not mean that they had no other property!

The granting of land to potential soldiers, usually enough land that they could live off the rent while others worked the fields, was a primeval tradition in Mesopotamia which can be documented since the Ur III period in the third millennium BCE.[436] As Cardascia put it, “les Perses n'ont pas inventé la rétribution des services par la concession de ternures. Dans tout le Proche-Orient et à toutes les époques antérieures la tenure est un mode courant de rétroibution des fonctionnaires”[437] As we have seen, the term “bow estate” (*bīt qašti*) and differences between the holder of the estate

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432 Jursa 1998 (Akkadian retranslated Manning):
(15) 1 GUR 2 PI ŠE.NUMUN E2 GIŠ.BAN ša2 {m}Dan-/e-<<x>>\-a
ša2 {m}{d}U.GUR-da-a-nu a-na er-ru-šu-tu2
i-ir-ši maš-ka-a-nu ša2 {m}Gi-mil-lu
a-di {m}G-mil-lu ŠE.NUMUN i-šal-lim

433 Stolper 1985: 106

434 Stolper 1985: 107ff. especially 120

435 Stolper 1985: 26 just mentions “Divided inheritance of fiefs.” Lane Fox 1974: 159 declared that “even by 420, colonists were living on thirds, quarters, eighths or even fifteenths of their original grant.” However, we should consider the case of TCL 13, 203 where four men from three families divide three fields near Nippur, including a E2 GIŠ.BAN, amongst themselves for a period of 14 or 15 years. While each held a quarter of a bow estate, that share was not their only land! The smallest share of a bow estate which I know is one fifth (HA.LA ša 5) in BE 9, 8: 5 and I would welcome sources to back up Lane Fox's statement.

436 Jursa et al. 2010: 199

437 Cardascia 1977: 6

and the man who had the right to farm it already appears under Nebuchadnezzar. While some early research saw these estates as feudal, Iranian institutions imposed on Babylonia, and emphasized that *haṭru* is a loanword which only appears in late texts, bow estates existed before Cyrus' conquest and granting land to soldiers was a traditional Babylonian practice.

At least two different aspects of this contract have strong parallels with texts from the second millennium BCE. The first is the "fictive adoption" of Enlil-šum-iddin. While there are no other examples in this archive, and a recent thesis described it as "unusual in the documents of the late period," the best parallel is with Late Bronze Age texts from Nuzi.[438] The second is the transfer of service from one person to another, and the agreement not to substitute a third party. As we will see (§5.11.2), the Codex Hammurabi and the archive of the Old Babylonian soldier Ubārum show that Old Babylonian conscripts sometimes found someone to serve in their place. The iconography and cuneiform script of the late period show many similarities with art and script from the Old Akkadian (Sargon and his successors) and Old Babylonian periods.[439] Is it possible that in the antiquarian mood of the late period, Babylonians tried to revive old legal forms and institutions?

Historians have often presented substitution and the division of estates as special features of the late Achaemenid period which created special problems. However, both are documented under other dynasties. If we change our perspective and see them as typical responses to the pressures of service and the demands of farming, we can ask whether sources like the Murašû archive show a system in decline or a system functioning about as well as it ever had. As Cardascia wrote in his last words on the subject, "Cette évolution [of the bow, horse, and chariot estates from strength under the first Achaemenids to weakness under Darius II] est possible mais ne peut être justifiée par la disproportion des sources (rareté à l'époque de la splendeur, abondance à l'époque du déclin): ce déséquilibre ne correspond pas à une réalité historique mais au hasard des fouilles ...".[440]

The *haṭru* are especially visible in sources of the Achaemenid period. This is partially because of the chance discovery and publication of the Murašû archive. However, it appears that under the Teispids and Achaemenids the language of bow estates and bow service was applied to kinds of of tax and service obligations which had previously been described in other language.[441] While the Achaemenids did not introduce bow estates, they may have classified more property in this way than the kings who went before them.

4.5 Soldiers Outside the Haṭru Organizations

Although the *haṭru* system is well known, it was not the only source of soldiers in Achaemenid Babylonia. A useful starting point is CT 22, 74, a letter from a certain Gūzānu to a Širku at Babylon, probably the *šākin ṭēmi* (governor) and the member of the wealthy Egibi family whose

438 Cardascia, Murašû, p. 181. Tolini 2011: 565 does not cite any more recent contributions to the debate, and concludes "Ce transfert d'un bien immobilier à travers une adoption est surtout documenté dans les archives de Nuzi au II e millénaire . L'adoption-vente évoquée par le texte UCP 9/3, 269f. est exceptionnelle dans la documentation d'époque récente."

439 Schaudig 2001: 81, 86-87; cp. the specific seals with archaizing motifs in Garrison and Root 2001: 255, 382, 441

440 Cardascia 1983: 550

441 Jursa et al. 2010: 652

full name was Marduk-naṣir-apil.[442] If these identifications are correct, it dates between the 25th and 28th year of Darius I, and Darius the king is mentioned by name (line 25). This letter is one side of an argument about authority over various kinds of troops in Babylon: *mārū sisî* "sons of the horse" (lines 6, 9, 15, 28) who are part of a *kutallu* "reserve", *tašlišū* "third men" who helped protect the other two members of a chariot crew, the *rab dūri* or "fortress commander," *ṣābū mār banê* "citizen soldiers" (line 19), *ṣābū ša gardu* "*gardu* troops" (line 26), and watchers of the gate ({lu2}EN.NUN KA2.GAL{meš}), as well as *ṣābū ša bīt-Dakkuru ša ina Bābili ašbū* "the troops of *bīt-Dakkūru* who are living in Babylon" (lines 29, 30) It also describes some of these troops as belonging to Gūzānu's *bīt narkabti* "chariot estate." Clearly, there were a wide variety of forces at Babylon who rarely appear in the private and temple archives which are our main sources. Moreover, the writer does not see chariot troops as obsolete: instead, he is fiercely determined to keep control over them. This letter will be returned to later, but for now it is sufficient to note that it uses a large and technical vocabulary.

John MacGinnis recently proposed a list of five types of men other than holders of bow estates who could be called upon to serve:[443]

- Temple dependents
- The citizens (*mār banê*) of important cities
- Chaldean tribes living outside the cities
- "contingents from subject dominions"
- Mercenaries

However, applying some of these categories to the cuneiform sources poses problems.

4.5.1 Temple Dependents

The soldiers of the temples of Sippar and Uruk have been the focus of several recent studies.[444] It seems that the unfree dependants of temples known as *širāku* owed service to the temple or the king, and that the temple was responsible for equipping them. From the king's perspective, it may have been simpler to command that the temple provide a certain number of troops, and let the temple decide who would go and deliver them. Most of the texts refer to archers, but a number of texts indicate that some soldiers served the temples on horseback. Darius 253, from the Ebabbar archive of Sippar, lists *rikis qabli* for four horsemen who were to spend three years in the encampment of the king. Darius 141, from Sippar and possibly an Ebabbar text, lists 1/2 mina silver for Tattannu and his troops (LU2.ERIN2.MEŠ-šu2), the shepherds on horseback (LU2.SIPA.[MEŠ]) as *rikiš qabli* of the 4th year of Darius I. The *šušānu*, literally "grooms," also appear in various texts connected with the temples. BM 60858 (MacGinnis no. 13) lists them next to shepherds and *ikkaru* (another kind of worker dependent upon the temple) as men on horseback who receive silver, provisions, and clothing. Other texts show them serving as archers. Like the

442 For the identification see Abraham 2004: 46-48. For the text and translation, see Jursa et al. 2014.
443 MacGinnis 2012: 51
444 See especially MacGinnis 2012 and Kleber 2014

širāku, there is great dispute about their exact status: one possibility is that they were free people who lived in the steppes between the cities and waterways who the kings were forcing to settle down along a canal, farm, and provide taxes and service. It is not clear that the temples maintained chariots for war, as opposed to the ceremonial chariots which carried the cult statues when they left the temple.[445]

Because the temples left large cuneiform archives, and were the focus of excavations in the 19th century, these temple dependents are very well documented. At the same time, they are completely absent in CT 22, 74. John MacGinnis suggests that the forces of 50 or 60 men which temples commonly equipped were only a small fraction of the men liable to service in a city and its hinterland. Of MacGinnis' five types of soldiers, the best documented was probably not the most important.

4.5.2 Citizen Soldiers

MacGinnis' second category, citizen soldiers, appear in CT 22, 74 as one of the kinds of troops which Gūzānu insists are still under his own authority. Although the term *ṣāb mār banê* is not common, it may have been less surprising to ancient ears than modern ones.[446] Diodorus Siculus also describes the army recruited from the citizens of Sidon in 351/350 BCE as πολιτικόι στρατιῶται as opposed to the στρατιῶται μισθοφόροι Ἕλληναι (16.42.2). This suggests that the citizen soldiers of some cities remained important under Artaxerxes III, and that Diodorus Siculus (hardly a lover of barbarians in general or Phoenicians in particular!) saw them as analogous to the troops of Greek cities.

Many citizens were organized into tens (*ešertū*) under a chief of ten (*rab ešerti*) or into bows of ten men named after a specific individual.[447] Men in a decury or bow often had the same parents or profession. As a collective, they needed to provide silver or service to meet various obligations. Jursa cites a variety of unpublished texts where men in the circle of Bēl-Rēmanni the *rab ešerti* pay *ilku* and *qaštu*.[448] On the other hand, Marduk-nāṣir-apli of the rich Egibi family, whose career roughly coincided with the reign of Darius I, appears more in supervisory roles, collecting payments from others and paying for large numbers of men who were going to serve.[449] If he is the Širku of CT 22, 74[450] then he also claimed significant numbers of troops, and argued with the *šakin ṭemi*. Just like the *politai* of many Greek cities, the *mār banê* included both rich and poor families.[451] Therefore it is not surprising that some *mār banê* were simply expected to provide a soldier or payment, and others were involved in organizing and financing the conscripts.

445 MaGinnis, Arrows of the Sun, p. 15
446 According to Abraham 2004: 371 Stolper proposes correcting this line to LU2.ERIN2.MEŠ LUGAL(!?) but recent editions stick to the original reading.
447 This overview is based on Jursa, Bēl-Rēmanni, 99ff. and Abraham 2004: 57ff. There is another summary in Jursa 2011.
448 Jursa 1999 cites
449 Abraham 2004: 33-43.
450 Abraham 2004: 47-50
451 Dandamayev 1997

Administrative texts also mention lists of *mār banê* who were obliged to provide an *urašu* (probably "corvée worker") or *agru* (hired worker).[452] Membership in a decury or bow was probably an important tie between neighbours, since they were responsible for dividing up the expenses or work. It is not clear whether they had these obligations because of their status as *mār banê* "citizens," or because of their property, ownership of prebends, and other privileges.[453] However, the Neo-Babylonian, Teispid and Achaemenid kings were so eager to extract service and taxes from residents in Babylonia that this may be an academic question.

Documents under the Chaldeans and Teispids mention land divided into *hanšê* or "fifties."[454] These seem to have consisted of families with fifty ablebodied men, and with some multiple of 50 cubits of canal front. Like the decuries, the *hanšê* had a chief, the *rab hanšê*. A collection of tablets associated with Zēru-ukin, son of Pir$^{?}$u of Nippur, includes three agreements that if a third party does not present himself to Zēru-ukin on a certain "day when he (Zēru-ukin) will go" (*ūmu ša ... illaku*), a second party will pay a fine.[455] This system seems to have decayed under the Achaemenids, perhaps because of the tendency to describe service in the language of bow estates.

Moreover, citizens were involved in the collection and redistribution of tax and labour. If Kathreen Abraham's identification of the figures in CT 22, 74 is correct, then the adressee Širku was the same as Marduk-naṣir-apli son of Itti-Marduk-balāṭu of the Egibi family.[456] This reminds us that just because someone hired a substitute rather than serve does not mean that they had no role in collecting and commanding soldiers.

Documents mostly attest the existence of decuries and the payment of silver by their members in exchange for service, *rikis qabli*, and *sidīṭu*. However, CT 22, 74 and the Zēru-ukīn archive from Chaldean Nippur show that citizens sometimes served in person. These texts do not show how the *ṣabū mar banê* were equipped, but one would expect that they were equipped at least as well as the *širku* provided by the temples.[457] Moreover, it seems that the king expected soldiers to appear equipped. While lowly *širāku* were armed by their temples, *mar banê* (or their substitutes) were probably expected to provide their own equipment.

4.5.3 Chaldean Tribes Living Outside the Cities

"The troops of *bīt-Dakkūru* who live in Babylon" belonged to one of the three principal Chaldean tribes, MacGinnis' third category.[458] Muhammad Dandamayev believed that "The Neo-Babylonian army was essentially based on Chaldean tribal organization."[459] He did not mention sources, but certainly the Chaldean tribes are prominent in sources from the eighth and seventh century BCE, and it is unlikely that their power immediately faded after they helped Nabupolassar

452 Summarized in Jursa 2011: 438; for a list of texts, see van Driel 2002: 264-268
453 MacGinnis 2012: 24 claims that Bēl-Rēmanni's father Mušebši-Marduk held a bow estate. He does not cite any source, and Jursa 1999: 101 is explicit that bow service is not the same as bow land; on Mušebši-Marduk's sources of income, see Jursa 1999: 35-36.
454 For an overview see Jursa 2014: 438-441
455 Jursa 2010: 649-651 citing TMH 2/3, 196; TMH 2/3, 212; BE 8, 45.
456 Abraham 2004: 47-50
457 MacGinnis 2012: 24 n. 117 is worried about this in the case of fiefs
458 On the three main Chaldean tribes of bīt-Dakkūri, bīt-Amūkāni, and bīt-Yakīn, see Jursa 2014
459 Dandamayev 1997: 47, cp. 43. MacGinnis 2012: 2, 51

become king. The Chaldeans who lived in small settlements in the marshes did not leave many records, or have close relationships with the temples of large cities further north, but the Chaldeans were not simply Marsh Arabs: Sennacherib presents the old cities of southern Babylonia such as Eridu and Larsa as part of the Chaldean tribe Bīt-Yakīn (RINAP Sennacherib 1: 48), and the Chaldeans resident in cities such as Uruk were presumably as likely as any other resident to appear in cuneiform texts. Neo-Assyrian and Jewish sources (eg. 2 Kings 24:2) present armies from southern Mesopotamia as an intimidating list of ethnic groups, whereas the Neo-Babylonian chronicles present their own armies as blandly as possible. At the same time, those who believe that Chaldeans were the backbone of the Neo-Babylonian army cite few sources: Michael Jursa mentioned the "Chaldean and Aramean" invaders of Judah in 2 Kings 24:2.[460] The Chaldean troops in CT 22, 74 are intriguing, but more sources would be helpful.

4.5.4 Contingents from the Subject Dominions

MacGinnis' "contingents from the subject dominions," his fourth group, are also easier to find in classical sources and Assyrian royal inscriptions than Neo-Babylonian documents. It should never be forgotten that Nabonidus ruled an empire which stretched from the Chaldean marshes through northern Mesopotamia into western Arabia, and in antiquity it was common for allies and client rulers to provide troops. However, this category begs the question of how these contingents were raised: were they full-time professionals, conscripts, holders of property which came with military responsibilities, or some other category?

The classical sources describe how Cyrus the Younger wrote and spoke to nearby cities and leaders when he was preparing to rebel. These included free allies like Sparta, individuals whom he had helped in the past like Aristippos of Thessaly, and leaders of lands which paid tribute to the king but were not under Cyrus' control such as the Paphlagonians.[461] These stories remind us that "contingents of the subject domains" had a wide range of relationships with the Achaemenids, and that personal relationships were just as important as established agreements. A leader who had carefully cultivated a network of friendships and favour-exchange could raise more and better soldiers than one who was not known and trusted. It might be worth returning to the research on peoples like the Kadusians and leaders like the Syennesis of Kilikia who came to terms with the Great King which did not involve being governed by a satrap.[462] Sekunda's suggestion that these nations were left free to "keep the rest of the empire down" is hardly the last word.[463]

4.5.5 Mercenaries, Military Colonists, or Wandering Experts

MacGinnis' last category, "mercenaries," raises problems which may not be obvious. In the aristocratic Greek and Roman world which selected classical sources for preservation, receiving a salary was suspect.[464] It was common to call all who had to work for a living "poor" (πένητες) and

460 Jursa 2014: 128, 135, 136
461 Manning 2013: 91-102 (overview), Manning 2018: 12-13 (Paphlagonians)
462 List of citations in Tuplin 2018: 25, 26, or see the index of Briant, Cyrus to Alexander, s.v. Karduchoi, Cadusians.
463 Sekunda 1992: 24
464 For an overview of early Greek mercenaries, see Luraghi 2006 and Hale 2013. For poverty in Greek literature, see Cecchet 2015 (*non vidi*).

the traditional picture of the good life was grounded on property in land and slaves.[465] Terms like *misthophoros* or *mercenarius* had negative connotations, and writers were more likely to describe themselves or their own supporters with terms like *epikouroi* and *auxilliares* "helpers" and *xenoi* "foreigners with whom one has a relationship." Of course *epikouroi* expected generous gifts, and allies might ask for money before they sent troops, but it was not polite to mention this.

The situation in the Achaemenid empire was very different. In the Near East, it was very common and respectable to receive a salary. People ranging from humble slaves to members of the royal family received precisely quantified rations, and Dusinberre suggests that differences in rations were a key marker of status.[466] The Akkadian word for "hired worker," *agru*/HUN.GA2, was a neutral term without strong negative connotations.[467] In addition, many foreign soldiers were granted income-generating property. As will be discussed below (§5.6), it was not uncommon in Babylonia for conscripts to hire substitutes or pay a fine which could be used to hire a substitute. In many cases conscripts and substitutes had a relationship which lasted for years. It is at least possible that had Cyrus won the battle of Cunaxa, many of the Ten Thousand would have been granted salaries or estates. Were they rootless mercenaries driven by poverty, or gentlemen-adventurers trying to help a more powerful gentleman? Xenophon insists on the later (Xen. An. 6.4.8), but clearly this was contested.[468] Thus, on one hand, the concept of mercenary does not have an obvious equivalent in the cuneiform sources, while, on the other hand, the difference between "mercenaries" and politer terms such as "volunteers" or "professionals" is a political question.

Michael Jursa defines substitutes who accepted a payment as mercenaries.[469] Again, substitutes in Babylonia were often neighbours of the men they replaced, and often had relationships with their employers which lasted many years and extended outside this one area of life. This is very different relationship than, for example, the relationship between generals and rowers during the last stages of the Peloponnesian War, where admirals made it known that they were hiring, gathered rowers from all over the Aegean world, and watched them drift away to join another fleet when the money ran out (eg. Thucydides 1.143.1-2, Xen. Hell, 1.5.4-7). The Babylonian way of talking about substitutes emphasized that they were the same as serving in person: the payment to a substitute was *ṣāb šarri* "king's troop" or *rikis qabli* "loin-girdling." This is very different than Athenian political speeches of the fourth century, which contrast citizen soldiers and mercenaries, or Xenophon's suggestion that Athens could bring in some horsemen from outside the city to enlarge the citizen cavalry (Xen. Cav. 1.19, 9.3). Xenophon was impressed by the idea of having rich men who did not want to serve in the cavalry hire a skilled and willing substitute (Xen. Hell. 3.4.15, Xen. Cav. 9.5, cp. Xen. Hell. 6.4.10-11), but modern writers do not call these men mercenaries.

Other Assyriologists who refer to mercenaries seem to think of communities such as the Itu'eans and Gurreans of Neo-Assyrian texts.[470] However, there are indications that these troops also served

465 eg. van Wees 2004: 35-36

466

467 CAD s.v. agru; for examples of use see Abraham 2004: 56 and Jursa et al., Economic History of Babylonia

468 For sources on Greeks driven by poverty to seek employment in distant lands, see van Wees 2004: 40-43

469 Jursa et al., Aspects of the Economic History of Babylonia, p. 248 n. 1457 "men hired to do substitute service, ie., mercenaries"

470 eg. Postgate 1974: 223 (treats "mercenaries" and "professional soldiers" as more or less equivalent), Dandamayev 1997: 45 "The Assyrian and Achaemenid military systems had also much similarity, both comprising the standing

as communities, in exchange for rations and perhaps grants of land. Whole villages were expected to provide soldiers, and their own leaders were involved in the process. Moreover, many of these communities were settled within the king's land. Far from being rootless and isolated individuals or bands of wandering bullies, these soldiers were often part of a community and had an established relationship with the king. Other Assyriologists prefer to describe these communities as auxilliaries, *Hilfstruppen*, or *Vassalenkontingente*.[471] Christopher Tuplin recently defined mercenaries in the Achaemenid empire as "non-Persians in receipt of remuneration for performing military functions more or less directly for the state" and listed the Jews and Arameans of Syene as examples, but it does not seem very useful to use the same term for men in Egypt and Babylonia doing service for pay as their fathers and grandfathers had done, and for migrants from outside the king's land who came, served for a few years, and hoped to return to their homeland.[472]

Thus the term "mercenary" is a poor fit for Late Babylonian society, and is usually applied based on political judgements rather than firm definitions. On the other hand, there were clearly bodies of soldiers of one ethnic group settled amongst another ethnic group in the Achaemenid empire. If calling them "mercenaries" begs some questions, what are some other models which we might use?

One of the oldest models for these communities of foreign soldiers is "military colonists."[473] In the classical world, a military colony is understood as a settlement where men are granted land in return for serving as soldiers when required. In Greek, the settlers were known as κλερόχοι or κάτοικοι "settlers." Hellenistic kings offered these grants to communities with a wide variety of ethnic backgrounds, whereas Rome and Greek cities preferred to grant them to citizens. The question of whether these practices emerged independently or were inspired by foreign models cannot be addressed here. However, the term "military colony" descries a group of practices which often appear together and serve the same function in many societies. These settlements are often planned, to ensure that each settler receives his fair share of land, they are usually organized to facilitate recruitment, and they represent the distant central authority. At least in theory, the colonists should be loyal to the authority which granted them land and supports them as a minority in a distant country. Moreover, the term has room for agreements which both sides made *ina hūd libbišunu*, and for agreements which did not make everyone's heart full of joy. When we think of examples like the colonies of Roman veterans under the Principate (who were usually content as long as the land was sufficient), of the 4,000 Jews exiled to fight brigands on Sardinia by Tiberius (Tacitus, *Annales*, 2.85, Josephus, *Jewish Antiquities* 18.3.4-5, Suetonius, *Tiberius* 36), the mercenaries hired by Alexander who discovered that they were not allowed to return home from Bactria and Sogdia, or the Galatians who after ravaging Anatolia were "allowed" (Strabo 12.5.1) to take land in Phrygia and Cappadocia and soon appear as soldiers in the armies of their former enemies, we see that military colonies were a flexible solution which could be adapted to various relationships. While it is not always clear which communities in Mesopotamia should be described

armies, partly consisting of mercenaries, as well as of persons who performed military service carrying out their ilku-obligations or, finally, of people called up during important wars."

471 eg. Reade 1972: 106 ("the tribal auxilliaries whom the Assyrians knew as Gurraya"), Dornauer, Tell Hallaf: 28, Mayer 1995: 425, 466

472 Tuplin 2018: 20

473 For a history of the idea of the haṭru as a military colony, see Stolper, *Entrepreneurs and Empire*: 98-99

as military colonies, this reflects the limits of our sources more than the political nature of the question.

Another model is that of the wandering expert. It seems that in the Mediterranean and Near East in the first millennium BCE, skilled workers were often highly mobile. The horse-trainer Kikkuli, the "horse trainer from the land of Mittani" whose teachings survive in a Hittite text, is one famous example.[474] Greek writers loved to tell stories about well-born doctors and soldiers who found work in the east, such as Phalinus the tactician (Xen. An. 2.17ff), Antimenidas the brother of Alcaeus, Democedes of Crotone the doctor, and Ctesias of Cnidus. Were the Greek soldiers of Psammetichos who carved their names at Abu Simbel (Meiggs and Lewis, *Greek Historical Inscriptions*, 7a)[475] so different from the Greek sculptors who worked at Persepolis? There is no need to assume that all of these workers were happy with their jobs, and more than it is necessary to assume that all were compelled by poverty or powerful lords. However, describing them as “foreign workers” who happened to be skilled with lance or bow instead of medicine-chest or carpenter’s adze begs fewer questions than the term “mercenary.”

In his study of Greek sailors in the Neo-Assyrian, Achaemenid, and Alexandrian empires, Robert Rollinger notes that Sennacherib, the Neo-Babylonian kings, Darius, and Alexander the Great all used workers from Ionia, Karia, Sidon, and Tyre to build and man ships and to carry timbers from Lebanon to Babylonia.[476] Sennacherib presents these workers as “booty of my hands” while the Alexander historians present them as hired workers; Darius and the Neo-Babylonian documents are ambiguous. Because all four dynasties brought sailors and shipwrights from the same area along the same route to Babylonia, there is reason to suspect that the practical mechanics were broadly similar from the 7th century to the 4th, but that different sources present them differently: Neo-Assyrian kings presented themselves as conquerors taking things from terrified foreigners by force, while Alexander took pains to present himself as dealing with free Greek cities on equal terms. Just as texts from the Amarna Age hide international trade in the language of gifts, Sennacherib may have needed to offer some incentives to bring so many skilled workers from distant lands.

Whether we prefer the term "mercenaries," "military colonists," or "wandering experts," significant numbers of ethnic minorities and immigrants in Babylonia were expected to serve in the army. Far from relying upon a Persian elite or Greek mercenaries, the Achaemenids appear eager to draw upon every available source of manpower within and without their empire. This flexible approach was also used by the Hellenistic kings and Roman emperors, and indeed by many later rulers and republics. Even France, in the heady aftermath of the French Revolution and theories about citizen soldiers, drew soldiers from its allies, colonies, and *départements d'outre-mer* to meet threats in Europe. One problem with the term "mercenary" is that it is tied into a discourse about who *should* serve in the army (citizens or the dominant ethnic group, motivated by love of the fatherland or duty to their lord not compulsion or greed) rather than the language and thought of the ancient Near East.

474 A history of research into the Kikkuli text since Kamenhuber 1961 is Raulwing 2009.
475 For a recent overview of research into these texts, see Dillon 1997.
476 Rollinger fs. Kettenhofer

To judge by the cuneiform documents, many different kinds of men in Achaemenid Babylonia were expected to serve themselves, pay cash, or provide a substitute. Far from relying upon a Persian elite or Greek mercenaries, the Achaemenids appear eager to draw upon every available source of manpower within and without their empire. This flexible approach was also used by the Hellenistic kings and Roman emperors, and indeed by many later rulers and republics. This pragmatic policy meant that most men in Babylonian at least faced the prospect of military service, just like they faced taxation. They might go themselves, hire a substitute, agree to serve as a substitute, negotiate with their neighbours about who would go this time, try to evade service, desert, or even advocate as a community for exemption. The 7th century copy of a *Fürstenspiegel* from Nippur warns that if the king conscripts the citizens of Nippur, Sippar, or Babylon for corvée work or military service, the gods will punish him.[477] This anonymous text presumably reflects the feelings of the literati who wrote or copied it, like a number of other 'literary' or 'prophetic' texts.[478] But it seems that most men faced demands and had to take some definite action in response, unlike in societies with a small professional army or where service is dominated by a particular ethnic group or class.

4.5.6 The Gardu-Troops

Another well known category troops is hard to fit within MacGinnis' six-part model. CT 22, 74 is one of many Akkadian texts of the Achaemenid period which mention *gardu*-troops. There is no agreement about the etymology of this term, which appears in Aramaic as *grd*.[479] Jan Tavernier suggests that it comes from Old Iranian *+gṛda* and translates it as "domestic staff, workmen" but others link it to Middle Persian *kārdāg* "traveller, vagrant."[480] Briant equates this term with the Elamite *kurtaš*, a category of workers in the Persepolis archives which opens the possibility that it is of Elamite origin.[481] Nicolas Sekunda mentions another theory that the *gardu*-troops and *kurtaš* are the same as the καρδάκες of Greek and Latin literature.[482] In turn, some writers identify the *kardakes* with the Kardouchoi of the classical sources (or even with the Kurds of modern times), although Nepos, Strabo, and the lexicographers all say that *kardakes* are a kind of barbarian soldier not an ethnos. The *kardakes* of the classical sources (Polybius 5.79.11, Strabo 15.3.18, Cornelius Nepos, *Datames* 8.2, Arrian, *Anabasis* 2.8.6, and various inscriptions, commentaries, and lexicographies from after the Achaemenid period) are so mysterious that it would be comforting to have a Near Eastern source for them.[483] However, Assyriologists do not seem to have responded to the theory that Akkadian *gardu* = Greek καρδάκες, and the *gardu*-troops and *kurtaš* of the cuneiform sources appear in the long sixth century, whereas the *kardakes* are first mentioned by classical writers describing events in the fourth century BCE.

477 Cole 1996 no. 128 lines 24ff.
478 Fink 2013
479 For a history of research up to 2010 see EncIranica s.v. Kárdakes
480 Tavenier 2007: 423, 424 (note p. 426 where he lists Middle Persian *kārdāg* under a different entry).
481 Briant, *Cyrus to Alexander*, 456-5459
482 Sekunda 1992: 52-53. He attributes this to Steven W. Hirsch, but I cannot find it in Hirsch 1985. In an email exchange, Hirsch said that he does not remember such a theory, but wrote an unpublished article in that period suggesting that the troops who Curtius Rufus 4.12.11 calls Gortuae might have been called *gardu* in Akkadian.
483 EncIranica s.v. Kárdakes presents the various modern theories

The documents assume that readers know the meaning of social groups such as the *gardū*, *šušānū*, and *širāku* rather than defining them. In the Persepolis archives and the Aršāma dossier from Egypt, *gardu* appear to be lowly individuals: while some had special skills such as sculpting (TADAE I A6.12 = Kuhrt 2007: 819), they were sent from place to place by officials and received small rations. It seems that the bodies of *gardū* and *širāku* were often marked with the names of their masters, just like the bodies of slaves and sheep.[484] This suggests that in the Achaemenid period, the *gardu* were not the young men undergoing a 'Persian education' of Strabo, but it does not explain exactly what they were. Some recent studies avoid mentioning the term at all.[485] Although the *gardu*-troops are prominent in the documents, they cannot be placed within a typology until their meaning is better understood.

Despite all of these criticisms, a typology of soldiers in Achaemenid Babylonia is clearly desirable, and MacGinnis' provides a valuable starting point for discussion. A model does not have to be perfect to be useful. At the same time, the problems fitting the term "mercenary" to Babylonian society, the rarity of sources for troops like Chaldean tribes, and the difficulty fitting the abundant sources for the *gardu*-troops into the model suggest that it could be improved upon.

4.6 Service and Substitution

As we have seen, a wide variety of men in Babylonia had to provide service, but that did not mean that they had to serve themselves. Gadal-Iâma agreed to substitute himself for Rimut-Ninurta. TCL 13, 203 contains a clause that as the four parties are now co-owners of a bow estate, each of them shall go in turn when called upon. A collection of texts from Larsa shows that Itti-Šamaš-balāṭu and his sons had an arrangement with an Amurru-ibni and his son which lasted from the 4th year of Nabonidus to the second year of Cyrus.[486] In ten different tablets, Amurru-ibni or his sons received cash and goods as *ṣidītu* and *rikis qabli*, agreed to do *kutallūtu* (see below) or present themselves to the recruitment-officer (*dekû*) of *kutallūtu*, or took silver from Itti-Šamaš-balāṭu as *ṣāb šarri*. No weapons are mentioned. The agreement between Nergal-dān and Gimillu (Jursa 1998, or §5.4 above) shows land which had been transferred twice so that one man held title, another theoretically had the right to work it but had surrendered that right to a third man until a debt was paid. Just who was obliged to provide service for this plot must have been a complicated legal question.

These substitutes do not seem to have had a generally accepted name. Some researchers believe that *kutallu*, a word also known from CT 22, 74, referred to a "substitute", although others understand it as more of a "reserve."[487] Substitutes could also simply be called *ṣāb šarri* and receive *ilku*, *rikis qabli* or *pasa²du*, and *ṣidītu*.

Landowners could chose to pay silver instead of providing labour. Inbāja, the daughter of Nabû-šum-iddin, who we will encounter below, subleased land and made arrangements for the taxes and service obligations. The Zēru-ukīn archive from Nippur gives an insight into the possibilities as

484 Briant, *Cyrus to Alexander*, 457-459, Kuhrt 2007: 819-820
485 Jursa 2011b, MacGinnis 2012
486 Jursa et al. 2010: 651ff.
487 Jursa et al. 2010: 651, CAD s.v. kutallu 5.

seen by a recruitment officer. Zēru-ukīn was a *rab hanšê* and three texts in his archive mention that if men or their substitutes failed to present themselves on the appointed day, they had to pay several shekels of silver for *ilku*. The difference between a fine and a substitution payment is subtle, depending upon the relative costs and local custom. The fact that words like *ilku*, *rikis qabli*, and *ṣidītu* could refer either to goods and services or to payment equivalent to those goods and services reminds us that in the long sixth century, service and silver were seen as interchangeable.

In many archives, these payments are more visible than actual service. However, we should keep in mind that financial agreements, such as loans of silver to pay *rikis qabli*, create a 'paper trail' in private archives, whereas military service was recorded in archives which do not survive. We have the private, cuneiform archive of the Murašû but not the archive of the *haṭru* of the alphabet-scribes of the *uqu*. Jursa suggested that the rich men who left large private archives normally paid, while ordinary men were more likely to serve in person.

Moreover, we now have many references to hired workers from Babylonia in the long sixth century BCE.[488] It seems that early in the sixth century BCE, the use of silver to buy and sell goods and labour greatly increased, as did prices and wages. This is probably connected with the Babylonian wars in Syria and the distribution of the treasure of the Neo-Assyrian empire, and the ambitious building projects of Nebuchadnezzar and the temples of Babylonia. It became convenient to pay workers in silver and purchase finished goods on the market rather than rely on forced labour and produce everything within the temple or palace.

Substitution of one worker or soldier for another and conversion of service into silver or dates was an accepted part of the system in Babylonia. The Gadal-Iâma contract and the two tablets about *agru* in the Egibi archive are signed by a long list of witnesses, so are in no way hidden or secretive. The relationship between the houses of Itti-Šamaš-balāṭu and Amurri-ibni continued for decades. Substitution and the division of estates made it complicated to determine exactly who was responsible for service, but Babylonian scribes did their best to keep track, with lists of men or property on writing boards ({giš}DA).

More specifically, substitution was already an accepted part of the system under Darius I. This makes the theory that the substitutes in the Murašû archive show the end result of a process of decline under Achaemenid rule (see §5.11 below) difficult to defend.

Substitution and commutation also shows the agency of the people who were ordered to provide service. Men who were called up had options other than avoiding service or going themselves. Similarly, men who were not obliged to serve (or not obliged to serve for a particular reason, such as owning a bow estate) often found themselves carrying a spear or digging canals. The governor or king could call for a certain number of troops, but who showed up to meet that call depended on thousands of human decisions and negotiations, not on the impersonal logic of a list of troops. This flexibility is typical of Achaemenid administration, which often adapted to local forms, language, and traditions rather than trying to erase the old and replace it with a new system. Substitution and commutation could be advantageous for all parties: the men who owed service could chose how to respond, the substitutes had a source of well-paid work, and the king got more willing workers and

488 Jursa et al. 2010: 650-744; cp. Stolper 2003

less reluctant draftees. At the same time, we should watch for passive and active resistance to conscription. Documents from Babylonia mention runaway *širāku*, and presumably other men avoided being listed, argued that in fact they were not subject to service, paid bribes, or resisted by force. This has certainly been the case with conscription in the last few hundred years: when Petrie travelled to Tel Defenneh to excavate the garrison there, he found that the marshes of the northern Delta were a refuge for men fleeing from conscription.[489] The frequent mention of service in documents describing the transfer of land suggest that there were disputes about who was responsible.

Substitution and commutation are two of the many reasons why the system of service in Achaemenid Babylonia is difficult to understand. Akkadian words can refer to either actual service, or to payments meant to hire a substitute. However, they show that even if we had a description of how the system worked in theory, as we have for some Greek, Macedonian, and Roman armies, practice inevitably diverged. Men who were not obliged to serve served anyways, and men who were obliged found ways to avoid serving in person. Allowing substitution and commutation was a pragmatic solution.

4.7 Ethnicity and Service

Because Gadal-Iâma's name is West Semitic and means "YHWH is great," it has often been claimed that he was Jewish.[490] (Robin Lane Fox even describes the contact as an agreement between "the banker" and "the Jew" rather than saying Gadal-Yâma's name, and inserts "the Jew" into his paraphrase of the contract). While the contract has no interest in assigning any of the parties an ethnic label, there were certainly many foreign soldiers in Babylonia, and especially in the *haṭru* near Nippur. A number of studies have addressed specific communities: Jews/Judeans,[491] Iranians,[492] Indians,[493] Saka,[494] Karians,[495] Egyptians,[496] and sailors from Yawan, Karia, Sidon, and Tyre[497] while others address westerners more generally.[498] The "Jews and Arameans of Syene" on the Upper Nile[499] and the *haṭru* near Nippur named after ethnic groups have also received intense study. A great number of linguistically foreign names, or names calling upon gods from west of the Euphrates, also appear in documents from the long sixth century. Many of these foreign names appear as holders of bow estates in the Murašû archive. However, Late Babylonian documents rarely assign an individual or group an ethnic: scholars frame their research in ethnic terms because

489 Petrie 1888: 2

490 As recently as 2009, Ran Zadok and Yoram Cohen include this text in their ORACC project Cuneiform Texts Mentioning Israelites, Judeans, and Other Related Groups http://oracc.museum.upenn.edu/ctij/ I am not certain of their citeria for inclusion, but presumably they rely on the theophoric name.

491 Zadok 1979. I have not been able to explore the literature on the approximately 200 "Al-Yehūdu" texts, which mention a community of Jews settled in rural Babylonia, dates between at least 572 and 477 BCE, and have appeared on the art market under suspicious circumstances (see Pearce and Wunsch 2014 (*non vidi*), Waerzeggers 2015 who hints at the ethical and methodological issues).

492 Dandamayev 1992, Zadok 1977 (Tavernier 2007 covers Iranian names in non-Iranian texts more generally).

493 Dandamayev 2017

494 Dandamayev 1982

495 Waerzeggers 2006, Scolnic 2017

496 Zadok 2005 (this also covers nations from the Aegean)

497 Rollinger 2008; an English version is planned

498 Zadok 2005 (*non vidi*)

499 The newest edition of these texts is in TADE.

they believe that ethnicity must have been important, not because it is as prominent in the sources as social status (*mār banî*, *ikkaru*, *ardu* "slave") or profession.

Early research in this area often focused on gathering lists of names and did not worry too much about the complicated relationship between names and ethnicity. In light of the modern understanding of ethnicity as a layered identity (people can be both "Bavarian" and "German," or remember that they are "Irish" a few days before Saint Patrick's Day and forget about it when they recover from their hangover), and acknowledgement that people often have different names which they use in different circumstances, this kind of argument is not very strong. It was common in Babylonia for people to have multiple names: a celebrated case is Marduk-naṣir-apli, of the Egibi family, who sometimes went by the name Širku and may be the sender of CT 22, 74.[500] Babylonians habitually referred to all northerners as Kimmerians (Gimmeraja), much as Greeks used terms like Keltoi and Skythes, so even when documents use ethnic terms, these are likely to be exonymns not enonyms. However, nobody has proposed an interpretation of these names which does not involve a significant number of foreigners moving into Babylonia, and onomastics support the explicit references to communities of foreigners, and to the resettlement of foreign prisoners. At the same time, we should be cautious about assigning specific people an ethnicity based on their name alone. While Gadal-Iâma's father probably worshipped YHWH and had ancestors in Judah, that does not mean that his son saw himself as a 'Jew' more than, say, a member of his *haṭru* or a resident of a particular village.

A very suggestive dossier comes from Borsippa, where between the 5th year of Cambyses and the 9th year of Darius citizens or groups of citizens were responsible for providing rations to specific "Karians" or "Egyptians."[501] These foreigners were organized into tens under a Babylonian *rab ešerti*, and unaccompanied women were prominent amongst them. While these tablets do not use the language of service, it is possible that during Cambyses' conquest of Egypt (traditionally dated to his 5th regnal year), he resettled some communities of Karian soldiers from Egypt to Borsippa. Neo-Assyrian documents imply that the wives of soldiers received rations of grain in an earlier period.[502] The Karian men may have been away performing service, while the women and children stayed closer to their new settlement. At the same time, this dossier shows the complexity of ethnicity: the same individuals can be called Egyptians and Karians, while bearing Karian, Egyptian, Babylonian, and Aramaic names.[503]

It seems that foreigners in Babylon were often settled as communities, assigned land or rations, and obliged to provide service. This service often brought them into contact with men of high social status who were more firmly settled in Babylonia, such as Babylonian *mār banê* or Iranian officials. From the settlers' point of view, these arrangements clearly had advantages and disadvantages. On one hand, deportees like the Jews of Al-Jehud, and perhaps the Karians of Borsippa, did not arrive voluntarily and were not free to leave. On the other hand, exchanging service for land or rations gave them a role in their new land, instead of leaving them alone in a

500 On names in this archive see Abraham 2004: 10-16, 47-50
501 Waerzeggers 2003/2004
502 Dornauer, Tall Ḥallaf no. 61
503 Waerzeggers 2006: §2.1, 2.5 Compare the case of Tamos the Egyptian and his son Glous in Xen. An.: see Manning 2018x

world long before neutral professional judges and police, anti-discrimination laws, or universal human rights. If they had to live as a small community surrounded by strangers, it was important to have someone to stand up for their rights. Jacob Wright observed “that political rights and status in Jewish history go hand in hand with military service in foreign armies.”[504] Over time, it seems that these communities became part of Babylonian society, giving their children Babylonian names, marrying into established families, and learning cuneiform. If settlers took advantage of opportunities, their new life could be attractive.

Even the most unequal relationships often combine carrots and sticks. Proverbs like "do not muzzle an ox while it is treading out the grain" (Deuteronomy 25:4 NIV) show that Near Eastern thinkers were aware of this. Some specialists in Late Antiquity argue that the ultimate goal of many 'barbarian invaders' was to force the authorities to grant them a place within the *imperium romanum*, not to destroy it.[505] Although they did not create the system, immigrants to Babylonia could try to use it to their advantage.

The situation of individuals and small groups must have been even more complicated. While Herodotus and Ctesias tell sad stories of Greeks who were forced to live at the Persian court but wished to return home, historians of Greek mercenaries often assume that mercenaries were landless farmers or exiles. A few years of service to a foreign king, or a grant of land in a distant country, could be very attractive to people who were already on the margins. One of the minor characters in the *Anabasis* is Silanos the *mantis* from Ambracia, who was given 3000 darics (10 talents) for a successful prediction, and afterwards was very keen to return to Greece with his treasure as quickly as possible (Xen. An. 1.7.18, 5.6.16ff, 6.4.13). Closeness to the king offered spectacular rewards as well as the brutal punishments lovingly described by Ctesias, Herodotus, and the biblical tradition.[506] Thinking in terms of both "pushes" and "pulls," as in modern migration theory, might be more helpful than a one-sided picture of unhappy hostages or clever Greeks looking to get ahead.

The many groups of foreign soldiers in the documents are not described as fighting in a particular way. However, in the premodern world, ethnic titles are often used as shorthand for ‘troops who fight in the way customary amongst that ethnic group.’ The Itu’eans and Qurreans in Assyrian armies may be one example, but so are the Turcopoles ("sons of the Turks") in the crusader kingdoms, the "Macedonians" born all over the Mediterranean in Ptolemaic papyri, or the various ethnic contingents in Hellenistic and Roman historians.[507] A 10th century historian tells the story of a young man from Ahwaz who spent his time making friends in low places and his inheritance on wine and music. When the money ran out, he talked to some Daylami mercenaries, bought the necessary equipment, and joined their garrison at Basra.[508] His new paymaster was not interested in his identity or his ancestry, just that he had the skills and equipment to fight in the Daylami fashion and could get along with his comrades. Thus, it is possible that the Indians, Karians, Saka, and other soldiers from distant lands living in Babylonia fought in a different way

504 Wright 2011: 519, 520
505 Guy Halsall is a vocal advocate of this position eg. Halsall 2013
506 Rollinger extrem gewalt und strafrecht
507 Head 2016: 59 discusses the Macedonians in Ptolemaic service
508 Nicolle 1998: 9

than local bowmen and horsemen. On the other hand, there is no reason to assume that every soldier with an Iranian or Yahwistic name, or every soldier called Ionian or Saka, was chained to an ancestral way of fighting, and rejected the local military traditions. The lists of equipment for infantry imply that the temples tried to equip soldiers in a uniform way, but that this equipment reflected a variety of ethnic traditions (see below, §5.9).

4.8 Bowmen, Horsemen, and Charioteers

The three types of estates (§5.4) reflected the Babylonian habit of dividing soldiers into bowmen, horsemen, and charioteers. As in the 8th and 7th century, it seems that footsoldiers far outnumbered horsemen and charioteers. Bow estates are much more common than horse or chariot estates in the Murašû archive, although this may reflect that bowmen were in the weakest economic position and so most likely to have to surrender their land to the Murašû.[509] Some chariot estates had a *rab qašti*, but there is never a suggestion that a bow estate had chariots or horsemen attached.[510] Bowmen also predominate in the archives of the Ebbabar of Sippar and the Eanna of Uruk.[511] The Ebabbar seems to have commonly fielded forces of 50 bowmen, but the largest group of horsemen in its archive is eight (BM 60366 = MacGinnis, Arrows, no. 12).[512]

That the vast majority of soldiers fought on foot deserves emphasis, because in the last hundred years many pictures of the Achaemenid army emphasize the role of cavalry. Some draw on imagery of Turkish, Mongol, and Indian armies of the last thousand years. Early scholars like W.W. How were most explicit:

> The best examples which history offers of this are the great struggles in ancient or mediaeval (sic) times between East and West. Here as a rule the opposing armies differ entirely in character. The Western nation is apt to rely on solid masses of heavy-armed warriors, the Eastern on cavalry and archers skirmishing in open order. This contrast is nowhere better seen than in the Persian War, but something like the same difference meets us again in later history ...[513]

But the same basic idea appears in Ernst Badian's explanation that Darius' reform of his army after Issos was a revolutionary change because:

> Providing effective arms and training for the peasantry and making them play an equal part in defending the kingdom would have social consequences that no King had been willing to face. Hence hordes of primitively armed infantry had for two centuries left

509

510 Driel, Elusive Silver, p. 233

511 On the Ebabbar see MacGinnis, Arrows. On the Eanna, see Kleber 2014 and Kozuh 2006: 238 n. 47 (*non vidi*).

512 MacGinnis, Arrows, pp. 8-10, 14-15. I disagree with him that Dar. 253 should be understood as referring to more than the three or four horsemen which it names.

513 How 1923: 118; cp. Burn 1962: 40 "Between two such armies [as Croesus and Cyrus had], the battle must have been curiously like those between the Turks and Christians in the same part of the world." or several passages in the works of John Keegan, Peter Green, and Robin Lane Fox.

> defence to noble cavalry, and Greeks had been hired to supply effective infantry without upsetting the traditional pattern of society.[514]

As we have seen in chapter 2, traditional Mesopotamian kings can in no way be accused of being reluctant to conscript "the peasantry." On the contrary, it appears that the kings were eager to collect as much service as possible while their subjects resisted: murdering the conscription officer, running away, or brandishing ancient texts warning of the disasters which would follow if the king violated the privileges of their city. Other writers draw on ideas of the Iranians as natural horsemen and cavalry, and the idea that as Aryans they had introduced a new kind of mounted warfare. But whatever one thinks of these ideas, Babylonian armies in the long sixth century were mainly composed of infantry, just like those of the Assyrians, and just like the army in Herodotus' story of the Great Event with 170 myriads of infantry and 8 myriads of cavalry (a ratio of 21 to 1) plus rowers, marines, chariots, camels, and soldiers recruited in Europe (Hdt. 7.60, 7.84-88, 7.184-186).[515] In his review of evidence for cavalry from across the empire, Christopher Tuplin was skeptical that cavalry were as important as many modern writers make them, and that cavalry were much more important to Darius III than to Darius I.[516]

The Gadal-Iâma contract can be placed alongside a handful of other tablets which mention horsemen or service on horseback.[517] Texts from Artaxerxes I onwards mention horse estates, and the Ebabbar at Sippar had a stable (also a *bīt sisē*) with its own officials. One text from the 3rd year of Nabonidus lists eight “men who are are on horses” (BM 60366 = MacGinnis 2012 no. 12), another records distributions of rations (ŠUK.HI.A) for shepherds and *ikkaru* “who are with the *šušānū* on horseback” (BM 60858 = MacGinnis 2012 no. 13). The *šušānu* are a class of workers/soldiers who are very prominent in the Achaemenid and Seleukid periods and whose exact status is difficult to define. The usual thought is that the etymology has something to do with horses ("grooms?"), and that by the Achaemenid period it refers to a lowly and less than free class which performed a wide range of work. Carolyn Waerzeggers proposes that it specifically refers to pastoralists and gardeners from areas of steppe and semidesert whom ambitious kings tried to force to settle down, irrigate the land, and provide taxes and service, while G. van Driel stressed their connection with the king and special service obligations.[518] Stolper suggested that many, or even most, holders of bow estates in the Murašû archive were *šušānu*.[519] The *ikkaru* seems to be farmers bound to temple land.

The Ebabbar sometimes sent horsemen on the King’s business: probably the most striking example is CT 57, 82, a list of various payments of silver including “1/2 mina 8 shekels silver to Šamaš-iddin (7) and the horse troops (8) who returned from the city of Egypt (9) 1 mina 50 shekels

514 Badian 2000: 258

515 Herodotus' numbers have a way of mutating in the retelling, eg. Young 1980: 217 "2,000,000 infantry and 100,000 horses." Herodotus' count of men at 7.184 is not limited to "infantry," and his 80,000 cavalry and 20,000 camel-riders and chariots are unlikely to have brought exactly one horse each: in many societies three or more was the minimum equipment of a proper cavalryman.

516 Tuplin 2010a

517 For lists and summaries of texts see Van Driel 2002: 235-237 and Bonegnaar 1997: 133

518 I learned of Carolyne Waerzegger's theory at a seminar in Innsbruck in December 2018. For other views see van Driel 2002: 210, 211, MacGinnis 2012: 13-15, 49 (where he suggests that they were similar to *ikkaru* but on the king's land instead of the god's land). *šušānu* is obviously one of many Akkadian terms best left untranslated.

519 Stolper, Entrepreneuers, p. 82

silver for mountain garments (10) and *širannū* for troop[s] (11) of the bow ..."[520] This text mentions the 4th year of an un-named king, so this could be connected with Darius I's trip to Egypt early in his reign.[521] Other texts mention a payment of silver, including 1/2 mina silver to Tattanu and his shepherd troops on horseback as *rikis qabli* of the 4th year of Darius I (Dar. 141), and a payment of silver as *rikis qabli*, food, and clothing to four horsemen who are going *ana madākti* for three years in the 9th year of Darius I (Dar. 253). Van Driel suggested that the men who held horse estates were relatively low in status, although an estate which could support a warrior and a horse was significantly larger than one which could just support the warrior.[522] Certainly, shepherds, *ikkaru*, and *šušānu* were rarely men of wealth or influence. Van Driel also wondered whether horse estates were connected to a *haṭru* of bowmen.

Chariot warriors are especially visible under Darius I. In the long sixth century, the standard crew was three men, a warrior (*mar damqi* in Babylonia), driver (*mukīl appāti* or, possibly, *mār sisî*), and third man (*tašlīšu*).[523] These titles appear in documents from Sippar, but not all together, so there were probably war chariots in the city but not necessary at the Ebabbar.[524] No texts describe their equipment or organization. However, control over the chariot troops of Babylon was a subject for debate in CT 22, 74. A contract from Babylon dating to the 5th year of Darius I hires someone to go to Elam with the chariot troops of Bēl-aplā-iddin, the *šākin ṭēmi* of Babylon (Dar. 154). A damaged tablet from Sippar, BM 79541, mentions the third men of several Babylonian and Persian officials in the context of a dispute about silver which required judgement by the king.[525] A handful of texts in the Murašû archive mention chariot estates, but it seems that their lands did not commonly fall into the hands of the Murašû.

Documents from the reign of Darius I show chariot troops as valuable resources who travelled between Babylonia and Elam, but the classical sources (and many modern stories about ancient warfare) present the chariot as long gone and replaced by the superior technology of cavalry. While the classical evidence will be discussed in chapter 6, for now it is worth keeping this contradiction in mind.

What military role did the chariot troops have? Although we will discuss this weapon further in chapter 6, there is no Mesopotamian evidence for the scythed chariot, and the chariots in Neo-Babylonian sources seem more like platforms for commanders than one-use, suicide weapons. G. van Driel proposed that the chariot crew provided the leaders and trainers, ie. the cadre, for a larger levy.[526] As supporting evidence he suggested the Neo-Assyrian text from Tell Halaf no. 48, which

520 tr. Manning based on the sketches in the original publication

521 Bonegnaar 1997: 133. Classical sources and Egyptian inscriptions imply that Darius visited Egypt a few years after he became king, but I am not sure of the basis for the statement that this was in his fourth regnal year specifically.

522 van Driel 2002: 232-233 "in the Murašû archive, the horse fiefs occur in close association with the ordinary bow fiefs, and were therefore not particularly elevated socially."

523 *mār sisî*, "son of the horse," is conventionally translated as "charioteer" or "Streitwagenfahrer" (See CAD S page 335). It appears in only three texts, the second of which (Dar. 483: 14 from Babylon) also mentions Libluṭand the third of which is damaged. In conversation with Martin Lang, he suggests that meanings like *Rittmeister* or *Pferdeknecht* are just as possible from the words themselves.

524 MacGinnis 2012: 13-18

525 MacGinnis 2008

526 van Driel 2002: 233

lists ten sets of equipment for soldiers, a chariot, four horses and two donkeys.[527] In several documents bow estates seem to belong to chariot estates, recalling the practice of assigning ten or 25 infantry to each chariot in early China.[528] The presence of chariot warriors on boats in CT 22, 74 suggests another possibility. In world history, highly trained, well-equipped warriors often identify themselves with a means of transport which they only sometimes use in combat. From late antiquity into the 15th century, European cavalry often fought on foot, or even on shipboard as at the battle of Sluys in 1340. The paratroopers and marines of 20th century armies usually marched into combat, and Thomas Hulit suggests that the 'modular' design of Late Bronze Age armour, and the variety of edged weapons carried on chariots, imply that chariot warriors were prepared to fight on foot.[529] It is possible that in the long sixth century, chariot warriors were skilled and proud soldiers, but rarely charged against the enemy in a mass of clattering wheels, flapping banners, and hissing arrows. They certainly appear important in documents down to the time of Darius I.

The cuneiform documents do not subdivide these three types of soldiers according to details of their equipment. Infantry are simply called bowmen (*qaštānū*) or bows (*qaštū*), horsemen are simply horsemen, chariot crews simply named for their role as part of a three-man fighting team. There are no terms such as "armoured archers" "lancers on horseback" or "light chariots." Sometimes such terms persist long after weapons have changed: the Royal Regiment of Fusiliers in the British Army no longer uses flintlock muskets (fusils), Lord Strathcona's Horse in Canada rides Light Armoured Vehicles except on parade, and the Amarna letters describe Egyptian footsoldiers as “archers” even though in contemporary art many Egyptian soldiers carry spears, axes, swords and shields. Fortunately, the equipment of troops is an important theme in the documents.

4.8 Equipping the Troops

Before they set out, soldiers were equipped. While the Gadal-Iâma contact is the only detailed list of equipment for a horseman in cuneiform literature,[530] a number of texts list equipment for bowmen. Many of these seem to come from the archives of temples such as the Eanna of Uruk and the Ebabbar of Sippar.[531] These temples equipped their dependants as guards and workers, either on their own business or for the king, so these lists describe the equipment of poor soldiers with the bare minimum of equipment.

These lists seem to divide supplies into two categories. Some list shoes, clothing, leather bags (*nuṭu*) and either food and drink or money to buy them. These supplies were known as *ṣidītu*/ŠUK.HI.A or “provisions.”[532] It seems that clothing was provided once a year, because Dar. 253 lists 12 mountain garments, 12 *šir²annu*, 12 leather bags and 24 shoes as supplies for four horse

527 van Driel 2002: 254 note 99
528 Peterson 2008: 245
529 Hulit 2002: 24, 25
530 Dezso, Assyrian Army, I.2 pp. 25-26
531 MacGinnis 2012, Kleber 2014
532 Eg. BM 60858/MacGinnis no. 13

troops for three years.[533] Other documents list bows, quivers, arrows, spears, shortswords, and other offensive weapons. One of the most detailed lists is TCL 12, 114:

> 6 bows, of which 2 are Akkadian, 6 spears, 6 iron daggers (*pat-ra AN.BAR*), 3 quivers (*tillu*), 6 girdle daggrs (*pat-ra ša qab-lu*), 6 bowcases of which 2 are Akkadian, 56 Akkadian arrows, of which 26 have iron tips, 116 [Kimme]rean arrows, of which 46 have iron tips, 2 *pīhātu*-garments, total allocation (*naphar simmanû*) of 8 bowmen who were on watch under the authority of Iši-Amurru and whom Šamaš-zēr-ibni inspected, Adaru, 4th day, 15th year of Nabonidus king of Babylon.[534]

The 15th year of Nabonidus is 541/540 BCE, so the same weapons were probably still in use when Cyrus invaded in 539.

Generally, infantry had a quiver (*tillu*) or bow-case (*šalṭu*, Gr. *gorytos*), a bow (*qaltu*/GIŠ.BAN), and a lance (*azmaru*), often with an iron shortsword (*patru parzillu*/GIR2.AN.BAR) and specific numbers of arrows. The two daggers for each man in this text are unusual, but one of the late Babylonian graves at Uruk contained a bronze quiver, a short knife, and a long dagger.[535]

Only a handful of documents mention *arītu* or any of the other traditional Akkadian words for "shield."[536] It is possible that *ṣallu* "skin" refers to a shield, like the Homeric ῥινός, but this term is rare in lists of equipment.[537] Rimut-Ninurta calls these offensive and defensive weapons *unut tahāzi* "battle equipment" while Iranians probably called them *passāda-* or *pasa²du*, a word which appears in Akkadian texts.[538] The general name for all of these supplies, both weapons and provisions, was *rikis qabli* "loin-girdling," a phrase with echoes in the Old Testament but also in Herodotus' famous description of a fast-moving traveller as εὐζώνος "well-girdled" (Hdt. 1.72, 1.104, 2.34).

A particularly interesting tablet seems to list *rikis qabli* for two groups of 50 soldiers at the end of the reign of Cyrus and beginning of the reign of Cambyses (BM 68702, MacGinnis no. 49). Each is provided with 50 sets of clothing (mountain garment, *šir²am*, *karballatu*, shoes or sandals), 50 sets of weapons (*tillu*, bow, *azmaru*), 5 donkeys with pack saddles and saddlebags, and quantities of salt, oil, and cress. This would seem to describe the equipment of two whole units of 50 levied

533 This text is often said to refer to 12 men or to "valets" (eg. Briant 2002: 405, MacGinnis 2012: 15) The Akkadian text has 3 names and an erasure, and calls them all {lu2}ERIN2.MEŠ ša ANŠE.KUR.RA. The number 12 probably occurs because these four men received provisions for three years, *ṣiditu ša 3-TA MU.AN.NA{meš}*. BM 65055/MacGinnis No. 16 may describe an allowance of 1 mountain garment and one *šir²am* per worker per year; yearly distributions of clothing are known from other cultures, such as Cato the Elder's recommendation that slaves should receive a new tunic or cloak once a year (*de Agri Cultura 59*).

534 Text of TCL 12, 114 after Moore, Neo-Babylonian Documents, translation Manning

535 van Ess and Pfede 1992: no. 724, 732,

536 Kleber p. 444 cites YOS 3 190 as the only published text from the Eanna at Uruk which mentions an *arītu*.

537 MacGinnis p. 50

538 This word was first identified by M.A. Dandamayev (1989) and Tavenier 2007: 451 gives an overview of subsequent research. It appears in at least three Akkadian tablets and some later Sogdian texts: VS 4, 126 (Dandamayev 1989), Dar. 293 (Sippar, dicussed in Joannès TEBR 22, 23, Bonegnaar 1997: 30 n. 65, and Jursa 1995), and BM 49718 (Jursa 1995, Jursa 1999: 99-100, 106).

workers at the Ebababba of Sippar. It seems plausible that these were divided into five groups of ten, each with one donkey and ten men, although proving the existence of such units is difficult.

This armament fits into general trends in the Near East and Mediterranean in the first millennium BCE which were previously discussed in chapter 2. Axes and long swords fell out of fashion across the region, and infantry were armed with spears, bows, and short swords. It does not seem that conscripts were provided with body armour or helmets. Their *karballatu* and *šir²am* were not described as iron, like the *karballatu* and *šir²am* for which Gadal-Iâma asked. While in the second millennium the *šir²am* was a coat covered with leather or bronze scales, in most Neo-Babylonian texts, it seems to be an everyday garment which could be worn everyday for a year and then needed replacement.[539] Words often move back and forth between the semantic spheres of "clothing" and "armour."

Many passages in Herodotus' support this picture of infantry armed with spear and bow and wearing distinctive headgear with a foreign name (3.12, 5.49, 7.61ff). His κυρβασία seems to be the same word as *karballatu*. However, in the catalogue of nations he attributes this armament to nations east of a line running through Media, Persia, and Kissia (lowland Elam), while the "Assyrians" are armed with a bronze helmet, a spear and shield but no bow (Hdt. 7.63). Spearmen with round shields certainly appear in Neo-Assyrian and Phoenician art and in the reliefs at Persepolis, and it is very possible that footsoldiers with spears but not bows were common in Syria. However, Herodotus' catalogue is also shaped by his ideas about the structure of the world: as will be argued in chapter 6, it is probably not a coincidence that all the nations west of Media use spears, the nations east of Elam use bows, and the nations of the Zagros mountains and northern Iran use both. In the logic of the catalogue of nations, Assyrians were westerners, westerners were macho spear-fighters, therefore Assyrians used spears. Herodotus says that the Chaldeans were with the Assyrians, not that they were armed the same way. On the other hand, he certainly does not say that they were armed with spear and bow and κυρβασία either.

Troops in Babylonian documents are usually provided with a mountain garment (TUG_2.KUR.RA), *šir²am*, and *karballatu* (pointed Scythian cap). The mountain garment was a very large woolen garment (weighing 5 or 6 minas, 7 or 8 cubits long and 7 or 8 cubits wide)[540] something like a cloak or poncho. The *šir²am* had one referred to a coat covered with leather or bronze scales, but now referred to some kind of linen or wool tunic. Both garments were worn by men and women. The form of the *karballatu* is better known, since the Babylonian text of inscription DNa describes the pointed-cap Scythians as "the Kimmerians whose *karballatū* stand erect" (KUR Gimirri ša TUG_2 kar-bal-la-ti-$šu_2$-nu zaq-pa-²). Since these Scythians/Kimmerians are depicted on Darius' monuments, we know that the cap they wore could be called a *karballatu*. However, the *karballatū* in Babylonian documents are often linen.

Temples like the Ebabbara at Sippar employed artisans to make tools and military equipment, and stored arms and armour to issue to their troops. One Šamaš-tirri-kuṣur made daggers, sickles, spades, and lances for the Ebabbar.[541] Some of these texts gives an astonishing level of detail, such

539 Kleber 2014, Malatacca 2017
540 Malatacca 2017: 111, Jursa et al. Aspects of the Economic History p. 619ff.
541 Zawadzki and Jursa 1995

as a receipt for 4 minas 10 shekels of iron in the form of eight spears (*azmarū*: BM 61341 = MacGinnis, no. 23), or a variety of texts which give the weights of knives/swords (*patrū*: Kleber 2014: 440).[542] Other temple workers sheared sheep, spun thread, and wove and decorated garments. On the other hand, the records of the Ebabbar do not record work on chariots or the manufacture of iron *širiannu* or *karballatu*.[543] Most likely, these specialized and expensive items, and the equipment of soldiers not dependent on the temple, were obtained privately, through purchase, inheritance, or connections to a wealthy patron. These kinds of transaction are almost invisible in the documentation.

While this standardized equipment agrees with Neo-Assyrian documents and artwork, it is very different than the picture in sources from the Aegean.[544] There, vase paintings and finds from tombs and temples imply that equipment was anything but standardized: spearheads had a bewildering variety of shapes and sizes, warriors could wear anything from a complete suit of bronze armour to their everyday clothing, and shields were diverse too. Swords from the northern Aegean with its cavalry traditions are much longer and heavier than those from sites in the south of Greece. It appears that the division of soldiers into *hoplitai* or *panoplioi* with large shields and long spears and *psiloi* or *gymnetes* with smaller, lighter weapons emerged over the course of the sixth and fifth centuries, and that two hoplites in the same army could have very different equipment. Where most infantry in Babylonia appear to have had the same weapons and clothing (sometimes provided by powerful, impersonal institutions), infantry in the Aegean used a wide variety of gear (usually provided by themselves or individual patrons).

These lists of equipment describe the equipment of the poorest soldiers, and it is likely that actual armies contained men with a wider range of equipment. However, it is worth considering the possibility that the Persian troops who put down the Ionian revolt and sacked Athens were equipped more uniformly than their opponents, and not less. Herodotus' catalogue of nations with its wooden spears, body paint, and lassos is memorable, but in his description of the fighting he implies that most of the Persian troops were armed with spear, bow, wicker shield, and dagger. There is no reason to trust his catalogue, and paint word-pictures of a motley throng with exotic but outdated weapons, while rejecting his descriptions of the troops which actually did the fighting.

Although they are difficult to interpret and focused on the humblest soldiers, these lists of equipment are still precious. Our pictures of the equipment of Greek and Roman soldiers are based upon art and literary descriptions of armies on the march.[545] No lists of the equipment actually carried by specific soldiers at particular dates survive, and archaeological finds (the soldier crushed between a wall at Sardis, the marine from Herculaneum and the skeletons in the mine under the wall of Dura-Europus) tend to show the iron and bronze but not the leather and textiles. Interpreting weapons in graves, or the weapons discarded by sanctuaries, poses its own challenges.[546] Artwork tends to focus on the most respectable soldiers, whether the Assyrian *kiṣir šarrūti*, Athenian hoplites armed in bronze, or Roman centurions who bought elaborate sculptures for their tombs. In

542 On blacksmiths' texts in general see Zawadzki and Jursa 2001
543 MacGinnis 2012: 24 n. 117, 18, 19, 50
544 Brouwers 2013, Van Wees 1997, Van Wees 2004, Krentz 2010
545 For overviews see Bishop and Coulston 2006 or Lee 2007.
546 van Wees 1997 raises problems interpreting armour from Greek sanctuaries.

contract to these Greco-Roman sources, these lists give us a glimpse at the actual equipment of the soldiers who made up the majority of an army.

The kings seem to have transferred as much of the expense of service to their subjects as possible. Not only were their subjects expected to spend a large part of their life in service, but they were expected to equip themselves, and even pay for their own supplies. The last request was quite unusual in the ancient world, and was probably only possible after the silverization of the Babylonian economy in the sixth century. It was impossible for anyone to carry several months' food on their back, but possible for them to carry a pound or two of silver and buy staple foods as needed. This system had many advantages, particularly for locals who were not robbed and tortured by hungry soldiers; the problem was that when supplies ran short, the wealthy could still eat while the poor starved. The story about the Cadusian war where a donkey's head cost at least 60 drachmas (Plut. *Vit. Artox*. 24.2) echoes with accounts of the crusades or Ottoman campaigns in the South Caucasus just as much as with Xenophons' *Anabasis*. When we consider the additional expense of hiring a substitute, the calls for tax relief in the Neo-Babylonian Advice to a Prince or some Old Testament books acquire new significance.

4.9 The Muster at Uruk

The horse estate was required to send a soldier to Uruk. Early on, this and similar passages were placed next to the descriptions of σύλλογοι and ἐξέτασεις by Xenophon and classical writers. Geo Widengren reviewed the then-available evidence in 1956: the appointment of Cyrus the Younger as *karanos* or *strategos* of all who were obliged to assemble at Castolos or Castolou-Pedion (Xen. An. 1.9.7, Xen. Hell. 1.4.3, cp. Xen. Cyr. 2.1.5), the general description of *syllogoi* or assemblies in the *Oeconomicus* (Xen. Oec. 4.5-4.7), and the statement that Croesus lead his army to Thrymbrara "which is still the *syllogos* of the barbarians subject to the king below Syria" (Xen. Cyr. 6.2.11), as well as miscellaneous references to Persian kings assembling armies at Babylon (eg. Diodorus 16.42.1) or Critalla in Cappadocia (Herodotus 7.26.2).[547] It appears that the word which appears as *andēsu* in Babylonian and *hndz* or *hndyz* in Official Aramaic corresponds to Old Iranian *+handaisa-* "assembly of troops."[548] However, Widengren interpreted this evidence within the paradigm of timeless Iranian feudalism, and did not emphasize the Mesopotamian context.

As we have seen in chapter 2, Mesopotamian rulers traditionally ordered conscripts to come to a central location, and held regular inspections of troops and their equipment. Similar practices appear in many cultures, because of the central authorities' limited ability to monitor soldiers scattered in remote villages or wandering with their flocks, and because of the difficulty of practicing manoeuvres without actually bringing large numbers of men together in one place. It should not be surprising that this could be described in many languages, whether Old Iranian, Greek, or Babylonian. While *andēsu* is a loan-word from Old Iranian, Babylonians could also call a "military inspection" or "review of troops" *mašartu*, derived from the Akkadian verb *ašārtu*.[549] Neo-Assyrian texts often mention a *dekû* derived from a verb "to raise, lift" like English <*levy*>.

547 Widengren 1956: 152-160, cited by Briant 2002: 1026, Tuplin 1987
548 Widengren 1952: 152, Tavernier 2007: 451 with earlier literature
549 Abraham and Solokoff 2011: p. 42 no. 139 with earlier literature

There is no need to explain Iranian names for inspections of troops as signs of a special Iranian or feudal approach to warfare, or as a new practice introduced by a new dynasty, any more than the word *beef* implies that the Normans introduced the practice of eating cows to Britain.

A muster at Uruk features in six or seven documents from the second year of Darius II, but at no other time.[550] It would appear that having won the civil war after the death of Artaxerxes, Darius II intended to launch the traditional military campaign to impress his subjects and frighten his rivals. But what was the target for this campaign? Uruk was located south of Nippur, closer to the Euphrates. The Greek sources record stories about wars against peoples in the Zagros Mountains who were reluctant to pay tribute and give up banditry, but Uruk is far from the mountains. The Chaldaeans of the southern marshes had been very warlike in Neo-Assyrian times, but do not appear as the king's enemy in stories from later times. Another possibility is that the army was intended to march along the southern shores of the Persian Gulf. Several Assyrian kings had campaigned in this area, and the Achaemenids seem to have claimed some kind of overlordship over the lands on the south shore, if scholars are correct that the land of Maka was located in this region.

While Gadal-Iâma and Rīmūt-Ninurta must have cared where they were going to be sent, that was not relevant to the contract (the king might change his mind, and Gadal-Iâma would still have to follow him to the new destination). Like the Babylonian chronicles, these documents mention events which were clearly important to people at the time, but escaped notice in the classical tradition.

It was traditional for Mesopotamian kings to lead a military expedition early in their reign, and for conscripts to be called to central locations and inspected. Given these well-established regional practices, it would be helpful to look at Achaemenid practices in a long-term context and define how they differed from the practices of other dynasties. Where the Assyrians had both a service obligation and a *kiṣir šarrūti* which followed the king, the Achaemenids seem to have been accompanied by smaller bodies of troops. Aside from the infamous Immortals in Herodotus, we only hear of bodies of a thousand men such as the Applebearers and several different types of cavalry. Were part-time soldiers more important to the Achaemenids than to the Assyrians? How were the estates in Anatolia granted to Sekunda's 'dukes' similar to, and different from, the land granted to soldiers by earlier dynasties? Looking at medieval and early modern Europe for models could be useful, provided that we avoid easy assumptions that the Achaemenids are Iranians and Iranians are feudal horsemen, while earlier dynasties were Semites and Semites are natural bureaucrats and infantry, and ground any comparison in sources and scholarship from other cultures, not vague general notions.

4.10 Life Ina Madākti

Late Babylonians described life in the army as *ina madākti* "in camp." This phase of life is only implicit in documents dealing with service obligation or the issue of equipment to soldiers.

550 Stolper, Entrepreneurs, p. 123 citing BE 10 61, BE 10 62; PBS 2/1 54, PBS 2/1 162, PBS 2/1 194; Lutz UCP 9/3 269 ff., perhaps Stolper no. 117. The same list appears in Joannès, TÉBR, 16-42. Widengren 1956: 153, 155 adds a muster at Ur in UET 4, 109.

Classical literature shares the same perspective: most descriptions of everyday life or training are in literary *exempla* of especially tough leaders, or in technical literature. However, that does not mean that students of Late Babylonia have no hints about life in the army, any more than classicists are unable to draw upon Old Comedy and Roman diplomas.

4.10.1 Activities of Soldiers

MacGinnis has recently listed twelve activities of the archers of the Ebabbar at Sippar:

1. Going to war for the king
2. Guarding the temple precincts
3. General police duties eg. capturing and holding accused criminals
4. Protecting labourers building earthworks in Sippar or Elam
5. Guarding the temple flocks (whose pastures could be far from Sippar)
6. Accompanying shipments of material
7. Protecting the temple taxes as they were delivered to the king at Babylon
8. Accompanying cult equipment sent from the Ebabbar to Babylon
9. Accompanying temple officials on journeys to other cities, sometimes as distant as Tema[ʔ]
10. Accompanying caravans departing from Sippar
11. Accompanying carpenters sent to the mountains of Lebanon to fell cedar
12. Capturing runaway temple dependants (*širāku*)[551]

The documents imply that a traveller in Babylonia would often see groups of armed men, wearing the clothing and weapons which they carried as king's men, but working for the temple or the city. Similarly, soldiers in the field might find themselves building roads, dredging canals, or carrying supplies- the same tasks which they carried out as *dullu* in peacetime. Both of these facts argue against trying too hard to separate "civil" and "military" service in Mesopotamia. Neither the Assyrians nor the Babylonians seem to have an equivalent of the Roman dichotomy between *arma* and *toga*.

The Aramaic texts from ancient Bactria, which bear dates from Artaxerxes III to Philip Arrhidaeus, show troops at Khulmi moving sand (or vinegar?), building the wall and ditch around a town, and killing an infestation of locusts (ADAB A2, A4). As in Babylonia, various officials (including "the magistrates" *dyny*[ʔ]) want the troops for their own purposes, and letters go back and forth requesting permission or asking for clarification. In this corpus, the Aramaic word *ḥayl* "force" (= Gr. δύναμις in Xen. An. 7.8.15?) is the generic term for these bodies of men, where a Babylonian text would say *ṣābū* "troops."

5.10.2 Organizing, Feeding, and Paying

One of the tablets from Persepolis (PFa 11: 4-5) mentions a *+vīramāra* "man-counter."[552] Many Greek and Latin sources describe counting and inspecting troops as the central duties of Persian commanders, and Herodotus even sees to parody this in his account of Xerxes' army at Doriskos (7.60).[553]

551 MacGinnis, Arrows, pp. 10-11
552 Tavenier 2007: 436
553 Manning 2013: 118-121

It is traditional to cite Aeschylus, Herodotus (especially 7.81), and the *Cyropaedia* (2.1.21-30, 8.1.14) and describe the Persian army as organized according to a decimal system.[554] This is striking since, as is also commonly noted, most early Greek armies do not appear to have been organized according to such a formal, logical system: both Xenophon and Thucydides take pains to explain why the Spartan army had similar arrangements.[555] It is also the custom to cite reconstructed Old Persian terms for commanders of ten thousand (*+baivarapatiš*), one thousand (*+hazārapatiš*), one hundred (*+θatapatiš*), and ten (*+daθapatiš*), mainly drawn from loan-words in Elamite texts from Persepolis. In the view of John W. Cook, "we can take it as certain that the Persian army was built up in powers of ten."[556] The armies of Chinghis Khan and his successors were organized in tens, hundreds, thousands and tens of thousands, as were the irregular forces of Sivaji the Mahratta warlord, Iran under the Qajars, and Burma at the time of the British conquest.[557] This is one of the few areas where documents in Semitic languages have been brought together with classical literary sources and parallels from recent times. However, there are problems with both the arguments and the evidence.

First, neither the passages in the *Histories* and the *Cyropaedia*, nor their inter-relationship, are straightforward. Anything in Herodotus' description of Xerxes' vast army must be read skeptically, and his most detailed description of the decimal system (*Histories* 7.81) ends with "and there were also other leaders of divisions and nations" (τελέων δὲ καὶ ἐθνέων ἦσαν ἄλλοι σημάντορες tr. Manning). This is typical of Herodotus' pedagogical method: often he provides an amusing 'takeaway' on the surface of his narrative, while carefully including other passages which undermine it or allow it to be seen in a different light, so that more sophisticated readers can learn a more complicated lesson. The *Cyropaedia* is equally challenging to interpret, since it blends oral traditions, eyewitness observation, dreams of an ideal army and thinly disguised Spartan practices. Some see the Iranian elements as deep and profound, others see them as 'decor' laid atop a story written by and for Peloponnesian Spartophiles.[558] Moreover, it describes a further level of organization: there are units of five, ten, fifty, one hundred, one thousand, and ten thousand men in the Persian army of the *Cyropaedia*. No such subdivision of each ten into halves appears in Herodotus.

Second, the evidence for these terms is uneven, and terms which do not fit within a decimal system are known. No ancient text uses the word *+baivarapatiš* or *+baivarabam* "group of ten thousand, myriad." While if the Persians had units of ten thousand men, they would have been commanded by a *baivarapatiš*, the only sources for such units are Greek stories bound up with the rhetoric of the vast enemy army (chapter 6). The documents do not confirm the existence of such units in the way that Greek lexicographers confirm that there was a court official called *hazārapatiš*

554 Eg. Widengren 1956: 160ff., Wiesehöfer 1994: 135, Dandamayev and Lukonin 1989: 228, Shahbazi 1986 (with a history of earlier research on this topic)

555 On the internal organization of Greek armies, see Lee 2008: 80-108 and Van Wees 2004: 97-101, who make a strong argument that the sources for a more detailed organization were the exceptions not the rule.

556 Cook 1983: 101

557 Mongol Tümän: see any handbook eg. EncIr s.v. Army ii. Islamic, to the Mongol Period, Qajar tūmān: Rubi and Ter-Oganov 2012: 337, 341, Mahratta and Burmese myriads: Egerton of Tatton 2002: 26, 92

558 Tuplin 1990

"commander of a thousand" in Persian and *chiliarchos* in Greek.[559] Old Persian *θatapatiš* "commander of a hundred, centurion" is attested in Elamite at Persepolis.[560] The Jews and Arameans of Syene were organized into units with the name *mʾh* or "hundred" with a leader. As we have seen, Babylonian citizens were divided into "fifties" (*hanšê*) and 'tens' (*eširtū*) with leaders and fifties and tens were responsible for providing service. But these groups have Babylonian names and appear in a very different social context than the humble workers at Persepolis. Sekunda suggests that the *+pasçadathapatiš* "rear decurion" attested under Xerxes at Persepolis (PT 15: 17) was the same as the commander of five in the *Cyropaedia*, but there is no direct evidence for this.[561]

Moreover, one of the Persepolis Treasury Texts mentions a *+čaθrupatiš* "chief of four" and a *+čaθruvarda-* "group of four" (PT 1963-10: 5, 6).[562] This does not match any of the classical sources, but there are Near Eastern parallels. Dar. 253 lists equipment for three or four horsemen, BM 60366 (MacGinnis no. 12) lists eight "troops who are on horseback," BM 61341 (MacGinnis no. 23) is an invoice for a delivery of eight spearheads, and TCL 12, 114 lists eight sets of equipment for bowmen. Whereas the Neo-Assyrian archive from Tell Halaf contains a list of ten sets of equipment (no. 48), and one of the ostraca from Idumaea mentions ten "horsemen of Eliašib" (Naveh 1981 no. 7), numbers like seven, eight, and nine are more common in the Ebabbar archive from Sippar. Troops at Elephantine seem to have been organized into about four units called *diglin* "standards, banners" and named after commanders. While later Jewish texts equate *dgl* with *chiliarchia*, it is by no means clear that each "banner" at Elephantine contained ten "hundreds." Greek armies contemporary with the Achaemenids also seem to prefer depths like 4, 8, 12, 25, and 50, although these did not always correspond to permanent units with leaders. If we are going to cite the Old Persian names for units of ten, a hundred, and a thousand, it is only fair to cite Old Persian names for other sizes of unit. It is possible that units called "tens" or "hundreds" were never intended to contain 10 or 100 men, any more than a Roman centurion or Macedonian *hekatontarches* literally commanded 100 men (the paper strength of a century was usually around 80 men, while the ἑκατονταρχία of the tactical manuals contained 128).

That said, several armies from Iran and the neighbouring regions in later history were organized according to a decimal system, and Old Persian titles for commanders of ten, one hundred, and one thousand are known. These titles are just not the only ones known, and not always attested in a military context. Roman society had centuries in both civil and military life, and we have few Achaemenid documents from a military context to search for these terms. However, there are signs that decimal organization was not the only system in use, and only classical sources address organization above the 'thousand.' The organization of Persian armies is better documented than the organization of Neo-Assyrian armies (chapter 2) but far from certain.

Regardless of the organization of troops at home, when a large army was gathered new problems emerged. One was organizing smaller contingents into a larger command structure. Did soldiers arrive at the army already knowing their place in a larger organization, or were they

559 The literature on this official is vast. See Hesychius s.v. *azarapateîs* (note the plural and the attached definition!), Justi 1896, Junge 1940, Bienveniste 1966: 67-71, Gignous 1991, Keaveney 2010

560 Cameron 1948: 40, Tavenier, Iranica: 431-432

561 Sekunda, Persian Army, 5. For the word see Cameron 1948: 42, Tavenier 2007: 428

562 Cameron and Gerschevitch1965: 169, Tavernier 2007: 418

assigned to newly created units which ceased to exist when they were sent home like the soldiers in the Hellenistic tacticians or in Polybius' description of a Roman levy, 6.19-26? Herodotus claims that Xerxes' army was only divided into units at Doriskos in Thrace (7.60, 7.81), but the idea that a large army was gathered in eastern Anatolia, marched to Sardis and wintered there, marched to the Hellespont, crossed it, and marched along the penninsula into Europe before it was counted and organized is absurd. The garrison at Elephantine was organized into about four *degelin* "banners" named after their Iranian or Babylonian commanders, and further into centuries.[563] However, we only see them in garrison, and while it is tempting to see the *degelin* as "thousands" containing ten centuries, the relationship between *degelin* and centuries is not completely clear. Some Jewish and Aramean women are described as members of centuries, and Porten wondered if the community was organized into centuries of a hundred families which provided a hundred soldiers.[564]

Conscript armies in the last 150 years usually assign each soldier a place in a fixed hierarchy, but this is a response to the railroad, the telegraph, and the general staff which made it possible to assemble large armies on short notice by careful planning in advance. Greek and Roman writers tend to assume that an army is first called together and then organized from the top down (with commanders of large units choosing leaders for the smaller units). Nicholas Sekunda suggested that cavalry in Achaemenid Anatolia were organized into regions and subdivided into groups of 100 or 200 riders under a great landlord or 'duke' but we do not know exactly what bound the ordinary riders to the 'dukes' and governors. As with organization, this is a topic which deserves further study.

Cyrus the Younger seems to have assembled his mercenary army out of individual contingents of several thousand soldiers, each of which had a personal relationship with him.[565] Rather than create a clear hierarchy amongst the contingents, he let their leaders compete for position. The classical sources imply that the troops from the king's land were organized by ethnicity and had a single leader, Ariaeos who may have been satrap of Phrygia.[566] As we have seen, Babylonia was far from ethnically homogeneous, and ethnic minorities such as Jews, Scythians, and Karians played a significant military role. Ethnicity and ethnic tensions were important at Syene: commanders tend to have Iranian or Babylonian names, there is some distinction between Jews of Elephantine and Arameans of Syene, and the priests of the local Egyptian temples did not approve of the new Jewish temple on their island. However, we do not know whether similar tensions existed in other lands.

Another problem was finding sufficient camping ground, shelter, fuel, and food for large numbers of soldiers. Assyrian reliefs show large tends with solid frames, and Persian tents were famous in the classical sources, so we might expect that many soldiers in Babylonia were provided with tents.[567] The Cyrus of the *Cyropaedia* provided a tent for each company of 100 men (Xen. Cyr. 2.1.25), and while this is not confirmed by cuneiform sources, those sources do not come from military officials or the governor of Babylon. The classical sources imply that large Persian armies

563 Porten 1968, Fabian Winklbauer recommends Rohrmoser 2014 (*non vidi non habemusque*)
564 Porten 1968: note 19
565 Manning 2013: 106-112
566 Manning 2018
567 For Persian tents in the classical sources, see Miller 1997 (focused on the invasion of 480/479) and Spawforth 2007 (the tents of Alexander).

often spent a considerable time training and organizing themselves before they marched to battle. One reason for periodic musters was so that large numbers of troops could practice moving together. If we accept that the Achaemenids sometimes gathered tens of thousands of soldiers in one place (see chapter 6) this strained ancient bureaucracies and transport networks to their limits.

Gadal-Iâma was not expected to bring food (like the soldiers in classical Athenian literature) but silver with which to buy it.[568] Food was heavy, and it was not practical for soldiers to carry more than a few weeks' rations on their backs.[569] His request for silver as *ṣidītu* seems to imply that there would be merchants in the camp (*madāktu*) and the soldiers would buy their provisions from them. The existence of such markets is mentioned in Neo-Assyrian letters:

> I have heard the magnates say as follows: "We will set up a camp (*madāktu*) in Dilbat." If they set up a ca[m]p in Dilbat, the people will starve. Also, no caravan (*alaktu*) will come to them. Rather, their army will go out and plunder a caravan (*alaktu*). Let them place the camp within the enclosure of the camp of Babylon of last year, and let boats and water-skins come to them.[570]

Or another letter:

> The chief eunuch of my lord brought me into Riblah ... [There is] water and oil [for] half of the [men] but n[ot] for the other half. (r 5) If the king, my lord, c[ommands]: "Let them buy and eat thei[r] own food (*ša ramenīšunu lilqiu lekulu*)," then let them buy and eat, (but) the king, my lord, should know (how things are).[571]

Xenophon also mentions that soldiers in Cyrus' 'Greek army' (*to hellenikon*) had to go to the market in what he called 'the barbarian army' (*to barbarikon*) or in nearby cities to buy food.[572] In the *Cyropaedia*, he suggests that an ideal general should offer rewards and loans to merchants who agree to follow the army and provide useful things (Xen. Cyr. 6.2.38-39). Makis Aperghis has gathered sources from the Persepolis Treasury and Fortifications Archives to the Aristotelian *Economics* and an Attalid inscription (OGIS 266) to argue that the keepers of storehouses were meant to sell perishable goods to soldiers and other travellers.[573] This created a cycle where the king paid silver to workers who bought the king's grain, dates, and small cattle with silver, ensuring that there was always silver in the treasury and that produce was consumed before it spoiled. In other cultures, commanders and merchants agreed on other terms, such as standard prices for basic food and clothing, or who had the right to purchase prisoners and lend soldiers money. Behind this single detail is a lost world of social history.

It seems that for many soldiers, life in the army meant purchasing food and drink (*ṣidīṭu*) from merchants. This is worth stating, because the ancient Near East is often seen as a place where

568 Van Wees 2004: 104-108

569 Engels 1978: 18-25 (however, Engels' belief that ancient waggons were inefficient has been refuted by subsequent research, and Briant 2002 also complains that he fails to appreciate the Achaemenid bureaucracy and storehouses)

570 SAA 18 175 r. 8-22

571 SAA 19 37 r. 1-9

572 Xen. An. 1.3.12, 1.3.14, 1.5.5-6 (Lydian market in Cyrus' camp), Xen. Anab. 2.5.30-31(market in Tissaphernes' camp). Lee 2008 suggests that these military markets deserve further investigation; it is striking that they are documented from Neo-Assyrian times into Caesar's Gaul.

573 Aperghis 2004: ch. 7, 9

collective institutions (palaces and temples) produced or collected whatever their workers needed. While the temples did operate their own workshops and storehouses and provide their dependants with equipment and provisions, in the 'long sixth century' this system existed alongside a vigorous cash economy. In this period, wages in silver increased and it became very common to buy goods and services with silver.[574] This process probably begun with the campaigns of the Babylonian kings in Syria, as they collected vast amounts of silver as booty or tribute and redistributed it to the temples and workers on royal building projects. Workers were often hired to build temples, palaces, and canals, sectors where one might have expected forced labourers to provide most of the work.

After food and shelter, pay is another concern of most soldiers. While many soldiers in Babylonia were expected to serve at their own expense, and others negotiated salary in advance, many claimed an allowance for provisions (*ṣidītu*). The lists of Jews and Arameans with small payments at Elephantine are usually interpreted as money flowing in the reverse direction from colonists to a collective goal, but regular payments in kind from the king to workers are well known in Egypt (for example, at Deir el Medina in the New Kingdom).[575] Those who did not receive pay, *ṣidītu*, and *rikis qabli* in advance could have a long wait. Dar. 253, the equipment for four horsemen for three years from Nisannu (the 1st month, overlapping March and April in the Gregorian calendar) of the 9th year of Darius I, was paid on Abu (the 5th month). BM 42352 (Jursa, Bēl-Rēmanni, pp. 151-152) is a receipt for a bow payment for *dullu* on a canal in Elam in the 17th year of Darius. It was paid in the 20th year of Darius, so sometime waited three years for compensation. Matthew Stolper and Michael Jursa have collected letters where temple officials complain that they lack silver to hire workers or barley and dates to feed temple dependants or that promised workers, rations, or silver have not arrived on time.[576] It would be useful to compare this evidence to the classical sources on the pay of sailors and infantry, and indeed to the evidence across world history that princes and republics often hired soldiers first and worried about paying them later.

While military service was expensive, there were financial compensations. Some substitutes claimed generous wages: in one case a mina (60 shekels) for six months, the highest monthly wage which any ordinary worker receives in a text from the Long Sixth Century.[577]

Chronicles and royal inscriptions also emphasize loot, and soldiers were probably even more interested. In his study of the Ebabbar at Sippar, MacGinnis collected references to sacrificial sheep "from the *madāktu*" (MacGinnis no. 36) or "of the bow" and of Kilikian and Egyptian slaves given to the temple.[578] The slaves and cattle given to temples, or the collection of inscriptions and statues from Babylon in Susa, were probably the high-status equivalents of cups of foreign silver hidden away in a date farmer's cupboard, or soldiers' wives and daughters proudly wearing textiles with exotic patterns and bright dyes. We would expect that the merchants who visited the camp or followed the armies were glad to accept bulky or perishable goods in exchange for ones which were compact and immediately useful on campaign.

574 Jursa et al. 2010 chapter 5.6
575 Janssen 1975
576 Stolper 2003, Jursa et al. Aspects of the Economic History 2010: 661-666
577 Jursa et al. 2010: 674-676
578 MacGinnis 2012: 44-47

It is also likely that some soldiers hoped for gifts and advancement. New Kingdom Egyptian warriors received “gold of valour” for brave deeds, and Mesopotamian kings made a point of donating some of their booty to temples. Gift exchange was central to Achaemenid ideology.

The temple archives imply that some officials abused their positions to enrich themselves or hurt their enemies: the notorious Gimillu, a lowly *širku* of Ištar at Uruk, is a famous example. Matthew Stolper has collected a series of tablets where officials complain that they do not have a full allotment of supplies or workers, but are still expected to achieve the same amount of work, or that other officials have taken their workers and not replaced them.[579] Even if Babylonians had distinguished between ‘civil’ and ‘military’ service, CT 22, 74 shows that officials also argued about who had jurisdiction over particular groups of soldiers. In Thucydides’ day, Greek observers worried that Tissaphernes might call a royal fleet into his satrapy in order to make money in exchange for release (ἐκχρηματίσαιτο ἀφείς 8.87.3). Xenophon's Socrates also mentions bad garrison commanders who "neglect their commands or make money from them" and are punished by the king (Xen. Oec. 4.7 ἢ καταμελοῦντας τῶν φρουραρχιῶν ἢ κατακερδαίνοντας). Both writers' Greek is vague and colloquial, but in other armies leaders have let soldiers return home in exchange for a fee or for keeping their salary, charged for exempting them from unpleasant duties, sold things and recorded them as lost in action, or embezzled money meant for pay and supplies.[580] These scams are documented in the armies of the past 500 years, but also in Roman documents and literature, and it would be very unlikely that the Achaemenids managed to prevent all of their officials from abusing their position in these ways.

It seems likely that some men in Babylonia profited from their military service, and others spent their time trying to make service just a little bit more pleasant. For some men, military service probably meant backbreaking labour under an angry sun with inadequate food and clothing while thieving officials and swindling merchants devouring their *ṣidītu* money. A single accident- a gift from the satrap, the death of a friend- could change everything. Any picture of life *ina madākti* must have room for all of these types of men.

The documents do not give us a clear picture of life in camp, but they do let us place it as part of a common human experience which lasted from the first large-scale warfare until the introduction of the railroad and the telegraph. However, it would be worthwhile to elaborate those common experiences, and consider which armies offer better or worse parallels.

4.10.2 Nostoi

Eventually, most soldiers returned home. In the temple archives, this appears in lists of soldiers, invoices for payments of silver or supplies, and records of the return of weapons to stores. BM 83435 from Sippar (MacGinnis no. 9) lists 17 bowmen who have returned from an illegible place in the 13th year of Nabonidus; MacGinnis suggests that Te-ma-a in Arabia would fit the gap.[581] In the 8th century, friends or officials often paid ransom for people who had been taken prisoner (Cole

579 Stolper 2003

580 eg. Egerton 2002: 92 (on Burmese armies shortly before the British conquest). A study of wars in the 20th century will turn up many similar examples.

581 MacGinnis 2012: p. 44 n. 402

1996 *passim*). Did this continue into the Persian period, when soldiers were more likely to be captured by a distant nation than by a tribe which sometimes travelled close to their home city? What happened to the losing side in the various revolts and succession struggles? In the case of the revolt of Cyrus the Younger, the classical sources record that many of the rebel prince's supporters resumed their old careers after a short delay, while his soldiers from outside the empire faced a harsh fate.[582] On the other hand, the "end of archives" in the second year of Xerxes implies that Xerxes replaced the elites of the rebel cities with his own supporters.[583]

The wider social consequences are hard to trace. How did service cause some men to rise in standing, and others to fall? What foreign ideas and goods, or new prejudices about Elamites or Egyptians, did they bring with them? Which rivalries emerged as some groups felt that they were being assigned too many burdens or deprived of the respect due for their labours? What happened to the sick and injured? Did obligations change as men aged, as in Athens, Sparta, and Republican Rome? Were there accepted ways for men who had seen too much war to retire? Here again, a cross-cultural study might suggest things to look for in the cuneiform sources.

4.11 Theories of Decline

As we have seen, the contract between Gadal-Iâma and Rīmut-Ninurta is only one of many documents from Babylonia which describe military service. However, because it addresses many different themes in a single brief space, and because translations are so widely available, it has been used as an *exemplum* in a story about Persian military decline. It seems appropriate to address two of these theories here.

4.11.1 Overtaxation and Military Decline: The Rahe/Lane Fox Thesis

Two influential writers have used the Gadal-Iâma contract to tell a story about why Achaemenid armies lost battles. The first commentators do not appear to have interpreted it in this way. H.F. Lutz, Guillaume Cardascia, and E. Ebeling did not see the contract as a sign of military weakness. Although A.T. Olmstead enjoyed vignettes of everyday life and rhetoric about evil bankers and oppressive tax-men, he did not mention this contract in his *History of the Persian Empire*. In his 1974 doctoral dissertation on the Murašû, Matthew Stolper addressed many aspects of UCP 9/3 269ff. without dedicating a section to it or relying on it for his main argument.[584] He proposed that the holders of bow estates had gradually become indebted and used their land as a security for loans from the Murašû and other rich families. If they were unable to pay their debts, they lost the use of their estates and could no longer spend their time training as soldiers. In Stolper's view, the civil wars after the death of Artaxerxes produced a crisis, where holders of bow estates were forced to borrow money and unable to repay it. This was supported by careful analysis of the dates of hundreds of tablets, not with a single anecdote.

It seems to have been Robin Lane Fox who saw the potential of the contract as the starting point for storytelling. In his chapter on the allegedly decayed condition of the empire before Alexander's

582 Manning 2018
583 Waerzeggers 2003/4
584 This was published as Stolper 1985

invasion, Fox used the Murašû as an example of the local predators who supposedly took advantage of their fellow Babylonians under the pressure of Persian taxes. He creatively retold the first half of the contract, presenting it as a kind of vignette between two stock characters, the greedy but cowardly usurer and the clever Jew.[585]

> Fortunate in his banking brother, the Jew had struck an advantageous bargain; the wild-cat bankers would not fancy fighting and so their adopted agent would finance the armour, the silver tax, horse, and, very probably, the groom, while the Jew would ride out at risk of his life. ... But in summer 333, not every colonist would be sharing his land with a rich wild cat banker who could pay for his army outfit; the adoption of the banker is itself a sign, like the increasing number of leases and mortgages in the Murasu documents, that the colonists had found life more strenuous and awkward as the years went by.[586]

Lane Fox's ideas were taken up by Paul Rahe, who in 1981 published an article which tried to explain why Cyrus the Younger relied so heavily on Greek soldiers.

> Impoverishment could and did deprive many military colonists of the leisure and equipment necessary for regular practice. It is an indication of the straits they were in that some found the means to evade the law against the sale or exchange of Bow Land, Horse Land, and Chariot Land. This is evident from a cuneiform document dated to January, 421, when Darius II mustered some of his troops at Uruk. ... The fact that Gadal-Iama had no horse of his own tells us all that we need to know about his competence as a horse archer and mounted spearman. Gadal-Iama was probably not typical of the military colonists, but the degree to which they found themselves in great difficulty is strikingly evidence from a close examination of the Murašû archives.[587]

Because this article was published in English in a widely-available journal, because it brought together classical and cuneiform sources into a single, clear thesis, and because it was an article on military history in a period when that was out of fashion, Rahe's article was widely cited.

Both Rahe and Fox were careful to refer to the larger body of tablets and warn that "Gadal-Iama was probably not typical of the military colonists." However, anecdotes have a way of sticking in readers' minds which long lists of numbers do not. While Assyriologists have produced an immense and painstaking body of research into Late Babylonian society and warfare, this is much less well known to specialists in warfare than the single text UCP 9/3 269ff. Rahe relied on the version of the contract in Lane Fox's book, and Lane Fox's version is more a 'creative retelling' than a translation of either the French and German versions available to him or the Akkadian

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586 Fox 1974: 159
587 Rahe 1981: 91-92

original.[588] Moreover, evidence published since 1981 allows the practices described in the contract to be interpreted in a different light.

4.11.2 Challenging the Premises of the Rahe-Lane Fox Thesis

As we have seen, UCP 9/3 269 ff. is a dialogue contract. It was written so that if there was a dispute about the terms of the agreement, it could be read aloud in court. While written in the form of a conversation, it is worded according to legal formulas. The initial *ina hūd libbišu* "in the joy of his heart" clause is not a conventional salutation but a formula in contracts, much like "being of sound mind and body" in modern wills.[589] Documents like this are probably scarce because most Mesopotamian private archives focus on documents of lasting legal value rather than ephemera.[590] It appears that archivists in Mesopotamia often went through their records and discarded texts which seemed useless.[591] No less than nine witnesses pressed their seals to the contract, and Rimut-Ninurta expected Gadal-Iâma to explain their arrangement to the *šaknu* of his *hatru* and be enrolled in Rimut-Ninurta's name. This suggests that we should think about which financial dangers the two parties faced, and how they tried to protect themselves against them.

Rahe glosses the first half of the Gadal-Iâma contract with the cutting phrase "The fact that Gadal-Iama had no horse of his own tells us all that we need to know about his competence as a horse archer and mounted spearman."[592] His premise is that if Gadal-Yama had owned something, he would not have asked for it. Earlier commentators had also been puzzled at the mention of arrows but no bow. Ebeling remarked:

> Ein Bogen wird merkwürdigerweise nicht genannt. Es ist daher anzunehmen, daß diese Beiden Arten Pfeile gar nicht zu der speziellen Ausrüstung des Panzerreiters gehören, sondern eine Liegerung für eine andere Truppenart darstellen, nämlich die amêl qašti 'die Bogenleute.' Bei dem großen Bedarf an Pfeilen, den diese Soldaten gewiß hatten, hat man vielleicht auch den bît sisî die Bereitstellung von Pfeilen abverlangt, die gar nicht von den Reitern gebraucht wurden, zumal da das bît sisî eine Unterart des bît qašti ist, wie sich z.B aus BE X Nr. 51 ergibt.[593]

Lane Fox had put it "As the horseman owned no bow, the arrows were presumably to be handed in to the cashier and then distributed to owners of bow and chariot land."[594]

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588 For example, in Fox's book Gadal-Iâma calls himself "Gadal-Yama the Jew" whereas in the original, Cardascia's French, and Ebeling's German he calls himself "Gadal-Yama the son of Rahim-Ile." While Ebeling noted that a name with Yama in it probably invokes YHWH, none of the parties identifies themselves with an ethnic title. In his gloss Fox substitutes "the Jew" for the name Gadal-Iâma *four times*. He simplifies the adoption clause and the list of equipment and leaves out the second half of the letter, beginning with "Rimut-Ninurta heard him." A full discussion of all the deletions, substitutions, and eccentric translations would be too long for this footnote. Rahe laconically remarks "I have adopted the English translation of Robin Lane Fox" then cites the French and German translations and commentaries without addressing the differences ("Military Background to Cunaxa" p. 92 n. 30)

589 See the *schéma du bail dialogué* in Cardascia 1951: 126 and compare the letters in Hackl et al. 2014: 387 or the contracts in Jursa, Bēl-Rēmanni.

590 Stolper 1985: 29

591 This is often brought up in studies of the Old Babylonian texts at Mari

592 Rahe 1981: 92

593 Ebeling 1952: 207, 208

594 Fox 1974: 159

However, both of these interpretations assume that Gadal-Iâma asked for things because he did not have them, and that he only brought things which he received from his brother. These are simply assumptions, and deserve to be tested rather than taken on faith. Ebeling already suggested another explanation for the absence of a dagger or shortsword (*patru*): "Wenn im dem akkadischen Text der Dolch nicht erwähnt wird, so ist dies wohl dadurch zu erklären daß man bei jedem Mann den Besitz einer solchen Waffe voraussetzte, so daß er nicht besonders geliefert zu werden brauchte."[595] Did Gadal-Iâma intend to provide some things himself? While we lack parallel sources from Babylonia, we can look at similar situations in other societies.

Members of complex societies usually find that equipping themselves as soldiers and standing ready to serve when called is very expensive. Equipment cost money, it needed to be repaired or replaced when it wore out or became old-fashioned, and in an emergency it might be the easiest thing to sell or pawn. Scale armour, for example, is simple to make and attractive but also fragile. As it is worn in all weather for months on end, the lining becomes stained, the scales rust, corrode, or lose their waterproof coating, and the laces which hold the scales in place burst. Sakakibara Kōzan, an 18th century armour scholar and samurai, warned his colleagues that while the countless laces of old-fashioned armour were beautiful, they caused problems in the field, and Roman military sites are littered with fragments of scale armour.[596] In peacetime, a man might be able to obtain an adequate set of equipment and keep it in his house, but when he was called into the field, he faced a dilemma. On one hand, having good equipment was important for safety, comfort, and impressing his neighbours. On the other hand, that equipment would be exposed to loss, damage, and simple wear and tear. In many societies, would-be soldiers made arrangements to protect their investment in equipment.

Evidence for the price of arms and armour in the ancient world is very limited, but clothing and large metal objects seem to have been expensive: a single garment often cost half a month to a month's income for an ordinary family, and many people made do with one or two new garments a year.[597] Polybius' description of Roman soldiers, and the balance of the evidence for Greek and Macedonian soldiers, indicate that only the rich or professionals could afford metal body armour.[598]

595 Ebeling 1952: 208; cp. Tuplin 2010a: 126 which is also skeptical of the idea that the arrows were meant to be given to someone else.

596 Kōzan 1962: 93 "A large quantity of lacing is a disadvantage. When soaked in water it becomes very heavy and cannot be quickly dried; so that in summer it is oppressive and in winter liable to freeze. Moreover no amount of lacing will completely free the lacing from any mud which may have penetrated it, and on a long and distant campaign it becomes evil-smelling and over-run by ants and lice, with consequent ill effects on the health of the wearer. It is also easily damaged because it will retain a spear instead of letting it glide off harmlessly. The advantages of kebiki style lacing are indeed few and the Middle Ages (ie. the Age of Battles in the sixteenth century) had no liking for it."

597 Strangely, nobody seems to have collect this evidence, which range from the Amarna Age (Janssen 1975, Steiglitz 1979) to the Long Sixth Century (Jursa et al. 2010) and 5th and 4th century inscriptions from Athens and Delos (Pritchett and Pippin 1956: 203-207), to Cato the Elder's recommendation that farm slaves receive a tunic one year and a cloak the next and pay deductions in the Roman army. The Poor Man of Nippur stresses that the titular character's last possessions are a house and a single garment which he only takes off when he sells it to buy a he-goat. Negotiations for the surrender of cities during the Peloponnesian War often included how many garments the defenders could carry away (eg. Thuc. 2.70, Xen. *Hell*. 2.3.6), and Pharnabazus showed his magnimanity by giving refugees a cloak apiece (Xen. Hell. 1.1.24). Appreciating the status of ordinary garments as treasure is one of the great challenges in ancient history.

598 Polybius 23.14; cp. the Antigonid military decree from Amphipolis, SEG 40.524 (latest edition in Hatzopoulos 1996, tr. in Austin 2006). It is debatable whether Greek military history saw small armies of aristocratic hoplites

The very detailed series of evidence from late medieval and early modern Europe gives evidence on prices, but also for the ways in which would-be soldiers could obtain their equipment. By the end of the thirteenth century Edward I of England was already lending soldiers crossbows and body armour, and in the fourteenth century his successors regularly loaned equipment to individuals or contingents of troops.[599] While in principle soldiers were responsible for equipping themselves, in practice they often needed help. In 1382 an Italian merchant wrote to his agent in Pisa that a company of mercenaries was breaking up, so it was time to buy their equipment as they sold it to pay their debts and raise money for the journey home.[600] In later medieval Europe, loans, pawn-shops, and dealers in used armour helped to keep as much of the available equipment in use as possible. Men who thought they could find work as soldiers could gather the necessary equipment, use it to obtain work and the salary that came with it, and dispose of it as soon as that work ended and the equipment became a fiscal burden. In 1369, the republic of Florence only asked that mercenaries "possess and be armed and equipped with" various types of equipment for the entire length of their employment.[601] The republic did not ask whether they owned it, or what they would do with it after the contract ended.

The lack of comparable sources from the ancient world makes it difficult to confirm that similar practices existed, but the Murašû archive has usually been understood as reflecting a society where silver was scarcer than land or labour, so tying up large sums of money in equipment which might only be required once in several years would have been difficult for many families. Knives and javelins appear among goods bought and sold or divided at divorce or inheritance in the New Kingdom ostraca from Deir-El Medina, alongside bronze vessels, clothing, and livestock.[602] The narrator of the *Iliad* is indignant that Glaukos exchanges his armour, worth 100 oxen, for Diomedes' equipment which is only worth nine. Xenophon hints that he sold his fifty-daric horse to raise money at a low point in his career (Xen. An. 7.8.6, cp. his troubles finding a gift for Seuthes at Xen. An. 7.3.20). A Roman soldier took a loan against a silver-plated helmet and an inlaid scabbard, and letters and wills show that arms and armour often passed back and forth between Roman soldiers, their friends and family, and their creditors.[603] Xenophon's description of the annual inspections (§4.9, cp. Xen. Hell. 3.4.15-18) mentions that the inspectors pay close attention to whether the arms and horses are "acceptable" or in poor condition, and this was also a feature of annual reviews in other societies.

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being replaced by large ones recruited from the middle of society, or changes in art from focusing on the very rich to depicting a wider range of society (van Wees 2004: 47-52). While Roman art presents the legions of Augustus and his successors as all armoured, written evidence suggests that there were always some legionaries without armour: the possibility that some Roman soldiers wore hide or cloth armour is the subject of heated debate.

599 eg. Storey 2003, Bachrach 2006, Richardson 2012

600 Origo 1957: 23. Compare Jones 1980: 26 where a group of would-be mercenaries are ruined when they fail to find work.

601 Eg. Ercole Ricotti, *Storia delle Compagnie di Ventura in Italia* (Guiseppe Pomba e C. Editori: Torino, 1847) Vol. 1-2 pp. 315-329 V. Item quod omnes et sing(uli) equitatores ipsorum conestabilium et caporalium teneant et debeant esse armati et muniti toto tempore supradicto cum et de istis armis, videlicet ...

602 Janssen 1975: 324, 325

603 Bishop and Coulston 2006: 262-263. In addition, durable metal equipment often has a series of names and units on it, but this might have been more of a closed exchange, where soldiers leaving a unit sold their equipment at an accepted price and the *custos armorum* re-sold it to incoming soldiers.

Further tension appeared when those most able to bear the expense (older, propertied, respectable) were not always the same as those most willing to fight (younger, poorer, more socially marginal). Importing foreigners and settling them on land in exchange for service could temporarily solve the problem, but eventually they or their descendents would become settled and prosperous. So in very many societies, ways developed to let those with money pay and those without fight. In the twelfth and thirteenth centuries the lords of Catholic Europe allowed vassals to pay a tax (scutage) instead of service. During the American Civil War, the Union initially allowed conscripts to pay a fine instead of serving (commutation) or provide a volunteer to replace them (substitution). Scutage allowed lords to raise a small force of mercenaries for a whole season instead of a large force for a few weeks, and commutation and substitution helped defuse opposition to the civil war and replaced men reluctant to fight with men who were at least willing to volunteer for money. Thus there is no basis for the idea that the substitution of cash for service was a sign of decline.

Changes from a universal military responsibility to an army of paid professionals tended to inspire concern and warnings about the moral and political consequences. This is still part of political discourse in many countries today. Each system clearly had advantages and disadvantages. However, it is hard to say that the transition to smaller, paid armies made armies less effective.

Xenophon himself comments on these two approaches. Xenophon dismisses the Lacedaemonian cavalry at Leuctra on the grounds that the horses and equipment belonged to rich men who loaned them to whoever was willing at the start of the campaign, but he also approves of Agesilaus' strategem of obliging the rich to either serve in the cavalry themselves or provide a horse, man, and arms, so that those who were reluctant to fight gave him a good soldier.[604] As he tells the story, a single winter's training was enough for Agesilaus' new cavalry to become superior to Tissaphernes' and win a great battle near Sardis. Achaemenid armies seem to have preferred bringing an army together and training for some time before it went into combat. This would seem to agree with the moral of Xenophon's story, where good recruits given time to train under good leaders can become effective, and bad recruits thrown straight into combat fail against experienced soldiers.

Horses created special difficulties. Horses were valuable, movable property, but as living creatures they required even more attention than the most finicky piece of kit. Horses eat, get sick, and need to be trained and exercised. A rusted sword can be polished, but a horse with a broken leg is good only as meat and hide. Moreover, the quality of horses varies widely, and can be a matter of life and death even more than other equipment. While a really good sword offers several small advantages, the speed and agility of a horse can determine whether a cavalryman escapes a skirmish unharmed or is cut down from behind. The city of Athens valued cavalry horses at up to 1200 drachmas, the rough value of Xenophons "50-daric-horse" (Xen. An. 7.8.6, cf. Xen. An. 3.3.19) and specialists suspect that the upper limit was artificial to limit the city's liability if a truely fine horse was lost.[605] The prices of the best horses were only limited by what the buyer could pay: Plutarch

604 Ephesos: Xen. Hell. 3.4.15 = Plut. Ages. 9.3-4. Leuctra: Xen. Hell. 6.4.10-12. These contrasting stories have occasionally been cited, eg. Rahe 1981: 92 n. 30, and by Christopher Tuplin but without carrying the following argument as far as I take it.

605 Bugh 1988: 57, 66-70. Xen. An. 1.7.18 equates 3000 darics with 10 talents, so a daric was worth 20 drachmas a year before the sale. At that rate, 50 darics is 1000 drachmas.

(Vit. Al. 6.1) records that a certain Philoneikos the Thessalian asked thirteen talents (78,000 drachmas) for Bukephalos. The cost of buying and keeping a really good horse, and the potential loss if it died, put would-be cavalrymen in a dilemma: in wartime it was very important to have a good horse, but in peacetime that horse was not essential, and a good horse might save them from injury but expose them to a financial disaster.

Many societies responded by helping soldiers buy their horse, or promising to compensate them for horses lost in service. The polis of Athens offered newly enrolled cavalry an interest-free loan (*katastasis*) to buy a warhorse, and probably compensated them if this horse was lost in service.[606] A fragment of the comic poet Eupolis has one character ask another whether it would not be wise to learn horsemanship before enrolling in the cavalry and taking the *katastasis*, which suggests that the normal procedure was to learn to ride, next to enlist in the cavalry, and finally to buy a warhorse.[607] The first reference to this practice is a fragment of the *Friends* of Eupolis, first performed sometime between 429 and 425 BCE and so roughly contemporary with the Gadal-Iâma contract.[608] While the Athenian cavalry varied in quality, they do not seem to have been worse than cavalry in most other ancient societies. So the idea that no good horseman would need to borrow a horse, or that because Gadal-Iâma borrowed a warhorse he did not have any kind of steed, can certainly be questioned. Papyri from Dura Europos show that the Roman army tracked horses just as carefully as it tracked soldiers, and payments for horses just as carefully as it tracked the payroll, and that some some horsemen in *cohors XX Palmyrenorum* had no horse.[609] In the British Army of the nineteenth century, officers still faced the same dilemma. They were responsible for buying their own horses, and could insure one (but only one) against being lost on campaign. This lead to exquisite dilemmas: Major-General Sir William Posonby died at Waterloo because he decided to keep his best horse safe in the rear and ride a cheaper animal, and after charging too far he was not able to outrun the French lancers during the retreat.[610] Rudyard Kipling's *Kim* (1901) contains a vignette where a retired cavalryman hears that his sons' regiment has been called into the field, and expects them to come asking for money to buy new horses.[611] His musing that each will want a warhorse, a gentle horse to ride everyday, and a pack horse would sound very familiar to many earlier soldiers.

If we look at this contract as being about protecting Gadal-Iâma from financial loss, not about arming someone who had no equipment, then many things become clear. The *kullatu* or "set" of equipment is missing many items which a soldier in the field needed: bedding, spare clothing, tools for eating, cooking, and grooming, a flask or waterskin, a knife, ways to carry all of this equipment, and so on. Many of these items were provided to humble *širāku* by the temples. Nor is a servant mentioned, although cavalry in many societies prefer to have at least one assistant.[612] It seems

606 Kroll 1977, Bugh 1988: 56-59. The evidence for the *katastasis* comes from literature set in the here-and-now and from public archives- two kinds of evidence which are completely absent from Achaemenid Babylonia.
607 Bugh 1988: 56. There is a new edition, translation, and commentary on Eupolis (Storey 2007)
608 Bugh 1988: 56
609 Dixon and Southern 1992: 148-153
610 Keegan 1976: 151
611 Kipling 1901: 83 The key passage comes at the start of chapter 4. "'Thou hast never yet ridden in a charge. A good horse is needed there, truly. A good follower and a good pony also for the marching. Let us see- let us see.' He thrummed on the pommel."
612 eg. Front. *Strat*. 4.1.6, Maur. Strat. 1.1 (Dennis pp. 13, 14). For more comparative data on the size of the trail of low-tech armies, see Manning 2013: 126-130

reasonable to assume that Gadal-Iâma was expected to provide these things himself, perhaps buying some with his *ṣidītu*-money and bringing the others from home. Similarly, it was in Rimut-Ninurta's interest to specify exactly what equipment he was providing, just like the Ebabbar of Sippar recorded equipment which was distributed to shepherds and collected when they returned. It is likely that most of the men who had been called up were busy improving their equipment, but only this one case had been document in writing.

The Gadal-Iâma contract shows an estate which was held collectively, and it is possible that he and his brothers found it difficult to support themselves with a fraction of a horse estate. On the other hand, only two shares are mentioned: one which Gadal-Iâma holds, and one which once belonged to Bariki-ilē and is now held by the Murašû. It is certainly possible that other shares existed, since only these two were relevant to the contract, but there is no evidence for them. For two people to share an estate does not seem excessive. Divided ownership of a horse estates also addressed another common problem, who would look over the land while its owner was in the field. van Driel implies that at first he envisioned something like the obligation to serve for 30 or 40 or 60 days in some parts of Europe in the 12th and 13th century, and when he found signs that service was for at least 3 months, he was worried:

> These people are supposed to have been farmers, and that meant that they, that is all of them, had to be present on the land in certain periods of the year, unless holding a fief implied a family business, with more than one adult male for each person obliged to serve ... it is almost unimaginable that all Babylonians liable for *ilku*, that is all involved in a land for service system, would have been obliged to work for three months per annum in Elam. The burden would have been staggering."[613]

Macedonian and Roman sources hint at how other ancient societies balanced the demands of warfare and the demands of agriculture.

As their wars became more ambitious, Macedonians and Romans seemed to have looked inside the family for the necessary labour. Nathan Rosenstein suggests that in the third and second centuries BCE, Roman society was organized in such a way that most young men grew up at home, spent their late teens and twenties in the army, then returned home to marry, take over the family farm, and engage in politics while only occasionally serving in the army.[614] In his view, from very early times Rome recruited soldiers from too many parts of Italy, with too many different crops and microclimates, for war to have been limited to a "quiet season" of the agricultural year. That season was different from one valley to the next. In a given year in the first half of the second century BCE, about a sixth of (adult, male) Roman citizens were in the army, usually overseas.[615] If the census was not too greatly defective, that was a burden similar to that which Napoleon imposed on France, and which the great powers in the First and Second World Wars imposed on their populations, but it lasted for decades not years. The aggressive wars in the second century BCE eventually caused this system to collapse, as the demand on Roman families and the flow of foreign

613 van Driel 2002: 228, 229, 260, 261. The summary of Driel's views in MacGinnis 2012: 40 is rather loose.
614 Rosenstein 2004
615 Brunt 1971: 424, Lo Cascio 2001: 135

slaves and money destabilized Italian society, but Augustus created something similar when he offered soldiers a land grant upon retirement and forbade them to marry.

A pair of inscriptions from Kassandreia and Drama in Macedonia, dating to roughly the end of the 3rd or beginning of the 2nd century BCE, describe another system, the so-called conscription *diagramma*.[616] The text from Kassandreia opens with ten lines on how horses are to be judged acceptable (δοκίμους, cp. Xen. Ec. 4.7) or unacceptable for military service, with punishments for avoidance, and then moves on to how men are divided into the same two categories. Each household (*oikos* or *oikia*) was expected to provide one recruit and one reserve. Presumably, under normal circumstances the reserve would manage the farm or shop while the recruit was in the army. This also seems like a great burden, but it was not enough to preserve Macedonia as an independent kingdom. From the point of view of a king, requiring too little military service could be as dangerous as requiring too much.

Moreover, the tendency for estates to become divided was common in agrarian societies. In the course of events, some families saw many children grow up and others few, some were lucky and others unlucky, some managed their estates wisely and others foolishly. Rulers could pass laws to establish a hereditary nobility or prevent the alienation of estates, but enforcing those laws required constant effort. The legal manoeuvres which the Murašû used to gain *de facto* rights to bow and horse estates are just one of many examples. Alternative systems had their own disadvantages. The *iqṭāʾ* of the medieval Islamic world were not hereditable, and contemporaries complained that the families which held them had no interest in the long-term health of their properties.[617] The custom of primogeniture in England put younger sons in a difficult situation and encouraged concentration of property. The Murašû texts give us a glimpse into the workings of processes which probably existed in most ancient societies, and which sometimes caused serious military problems and on other occasions were overcome.

If a bow estate was enough to support several men- and examples of divided bow estates suggest that this was true- then one could serve while the others worked the land. From an economic perspective, it did not matter whether these were brothers and sons, business partners, hired workers, or slaves. One can certainly agree with van Driel's suggestion that collecting several months of service from every single bow estate every year would have had serious consequences, and that there were probably formal or informal arrangements to spread the load, but compulsory service was a heavy burden in many ancient societies.

In short, in other societies it was common for soldiers to obtain their equipment shortly before they headed into the field. Until then, they might borrow what they needed, or train with a cheaper version, such as fighting with sticks or riding a bad horse. We do not know whether cavalrymen in Babylonia often bought a new horse before enrolling, but cavalry in Athens often bought one afterwards. Since we have reason to think that Gadal-Iâma was expected to provide some things himself, it is possible that the missing weapons such as a bow and a dagger were among them. Far from being signs of decay under the last Achaemenids, the division of soldiers' estates and the

616 I know this through Chrysafis 2014 but see also Hatzopoulos 2001 (*non vidi*)

617 For an introduction, see EncIranica s.v. EQṬĀ. The wider literature, in both medieval studies and the Great Divergence, is immense.

hiring of substitutes are documented since the Old Babylonian period. UCP 9/3 269 ff. is in no way evidence that one cavalryman was poorly-prepared. However, it is evidence that cavalrymen in Achaemenid Babylonia faced many of the same financial pressures that soldiers in other societies did, and that they found similar solutions.

If we return to Mesopotamia, the Codex Hammurabi has two clauses addressing problems which arise when a man is called to service and hires a substitute (*agru*): "If a 'soldier' or a 'fisherman', who has been told to go on an an expedition of the king, does not go, or hires a hireling (as) his substitute and sends him, that soldier or 'fisherman' shall be killed." (Codex Hammurabi § 26)[618] While other texts suggest that the pious wishes of the Codex were rarely obeyed, it shows that substitutes were known in the Old Babylonian period.[619] The Old Babylonian archive of Ubārum contains agreements between two men: one agreed to give half of his fields and half of his house to the other if the other accepted half of his *ilku*-service.[620] Other texts suggest that Ubarum and his neighbours traded days of service: one man might serve for 20 days in place of a neighbour, then the neighbour would serve 20 days for him. Even more striking is a series of contracts between Itti-Šamaš-balāṭu and his son and Amurru-ibni and his sons at Larsa under Nabonidus and Cyrus.[621] On at least ten occasions over a period of 15 years, Itti-Šamaš-balāṭu and his sons paid *ilku*, *rikis qabli*, and *ṣidītu* to Amurru-ibni or one of his sons who served as their *ṣāb šarri*.

Far from being an innovation of the late Achaemenid period, substitutes served in the armies of some of the most successful Mesopotamian warrior-kings. This suggests that they were not a sign of moral or military weakness. Perhaps in times of ambitious, aggressive kings who demanded a great deal of service, Babylonians were especially likely to hire substitutes. Men who repeatedly agreed to serve as substitutes must have looked very much like professional soldiers.

Two assumptions behind the Lane Fox/Rahe thesis can also be criticized. First, Fox and Rahe wrote at a time when it was widely believed that the Achaemenids had over-taxed Babylonia and caused inflation by hoarding silver. Advocates of this view pointed to passages in the classical and biblical sources and rising prices in cuneiform documents. But in 1996, Pierre Briant pointed out that the classical stories about the greedy king were matched by stories about the king as a generous giver, and that it is not logical to say that the buying power of silver *fell* because silver became scarce.[622] On the contrary, if silver was becoming scarce we would expect a shekel of silver to buy more and more goods. Archaeologists see the middle of the first millennium as a period of growth in population and agriculture in Babylonia, and estimates of the tax rate in Babylonia suggest that it was similar to that collected by other kingdoms.[623] Since Briant's work, few writers have argued that the Persians ruined their subjects while Alexander and his generals enriched them.[624]

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618 Some aspects of this law are difficult to interpret: see Landsberger 1955.

619 Eg. VerSteeg 2000: 13-18

620 Lansberger 1955

621 Jursa et al. 2010: 650-652 summarizes these unpublished texts in the British Museum.

622 Briant, *Cyrus to Alexander*, pp. 800-812. He attributes this idea to Droysen.

623 Economy: Van Driel 2002: i "Slow growth starts again in the second quarter of the First Millennium, which quickens in the Chaldean and Achaemenid period and lasts until well into the Parthian period." Tax rates: Aperghis 2004

624 For a recent overview, see Holt 2016 (*non vidi*)

Second, Lane Fox and Rahe wrote at a time when the bow estates were the best documented source of service in Achaemenid Babylonia (and the type where the sources were most clearly analyzed in French and English). They assumed that if the *haṭrū* were in decline, so were the armies of Achaemenid Babylonia in general. But as we have seen, the kings of Babylonia claimed service from many different kinds of men. If the population and irrigated area of Babylonia were growing, and silver was becoming more common relative to dates and barley, a large part of the population was prospering. This suggests that the struggles of the bowmen of Nippur were not typical.

Similarly, from the time of the first clear written sources, Mesopotamia contained many ethnic groups with different languages and ways of life. The complex environment, with hills and mountains, steppes and desert, marshes and rivers, canal-fed fields and rain-fed land, encouraged people to adapt to specific areas and move from one area to another, while powerful rulers in the lowland often brought back foreign captives or forcefully resettled their enemies. It was common for some of them to specialize in warfare, just as some specialized in other crafts. Indeed, in world history small populations of pastorialists often play an outsized military role in areas where most of the population lives by agriculture. While we hear little of the military role of the Chaldeans and the cities of the southern marshes in the Achaemenid period, or the Aramean peoples of the upper Euphrates, we should be careful about assuming that there were no minorities in Babylonia whose wealth and status depended on their skill at arms.

4.11.3 The Feudal Theory

The second theory is that the bow, horse, and chariot estates were analagous to the fiefs of medieval France, and should be described in the language of feudal law. This has been especially associated with French scholars such as Guillaume Cardascia and Thierry Petit, but H.F. Lutz advocated it in his edition of UCP 9/3 269 ff.,[625] Muhammad Dandamayev, Geo Widengren, and Erich Ebeling were satisfied to use feudal terminology, and John MacGinnis still speaks of ‘fiefs’ in his book on armed forces at Neo-Babylonian Sippur.[626] It therefore deserves to be addressed.

On one hand, property granted in exchange for military service has an established name in most European languages, such as fief or *Lehen*. Bow, horse, and chariot estates could not be sold and returned to the *haṭru* in some circumstances, just like holding land as a fief granted fewer rights than holding it as freehold or allod. At first glance, calling such properties “fiefs” is no more inappropriate than calling temple offices with attached revenues “prebends” or *Pfründe* just like church offices in medieval Europe.

On the other hand, bow, horse, and chariot estates seem to have been granted by the king and only the king. While individual magnates may have distributed land to their armed followers, evidence is limited, and such grants were not part of the *haṭru* system. The *haṭru* was a community with officials and records, not a lord with vassals. Some research in the ‘feudal’ tradition implies

625 Eg Lutz 1929: 270: “This document is thus clearly a feudal grant; the grantor is a feudal lord, and the grantee one of his knightly retainers.” The Murašû “are now seen to be feudal lords, whose position entails a twofold authority; namely, as liege lords on the one hand and as agrarians, on the other.”

626 MacGinnis 2012: 23-30

that aristocratic horsemen were an especially Iranian kind of soldier, but cavalry do not seem to have been much more prominent in Achaemenid armies than in Assyrian or classical armies,[627] and bow estates are documented before Cyrus' conquest of Babylonia (see above, §5.4). It is incorrect to say that the *haṭru* represented an Iranian institution introduced by the Teispids like the 'dukedoms' which Nicholas Sekunda saw in fourth-century Anatolia. Moreover, a powerful tradition within medieval studies is skeptical of the term "feudalism." Researchers within this tradition emphasize that "feudalism" was a construct of academic lawyers in the 16th century which has been given diverse and contradictory definitions, and that "feudal law" was often imposed on medieval societies by kings and bureaucrats rather than growing out of primeval roots.[628] They are suspicious of attempts to reconstruct logical systems behind medieval law, and suspect that terms were poorly defined and their meanings changeable until centralized bureaucracies staffed by officials trained in Roman law imposed a new order. Because of these objections, Michael Jursa recently dismissed the theory in a few sentences,[629] and in his last publication on the subject Guillaume Cardascia declared that "Il es légitime de parler de <<fief>> pour les <<fonds d'arc>> et terres similaires ... il ne serais pas injustifié, mais il est dangereux, de parler de <<féodalite>>."[630]

Attempting to find exact equivalents of Akkadian words in the law or customs of later times has not been a very productive line of research. Many researchers in this tradition agree, and switched their focus to placing Babylonian practices in a comparative context.[631] By the 1970s Cardascia was speaking at conferences which looked at the fiscal systems underlying warfare in a dozen societies from Myceanean Pylos to the East Roman Empire in the 10th century where specialists commented on parallels between the situations their colleagues were describing and ones which they knew better.[632] While Assyriologists emphasize that the land-for-service system appears at a very early date in Mesopotamia, it also appears throughout the history of Eurasia.

Before the 20th century, it was often difficult to provide regular cash payments to helpers, particularly those located in distant regions. Cash was in short supply, and often became available at irregular intervals (eg. after harvest). Without a public post and national banks, delivering money to the countryside was expensive and dangerous. It was equally difficult to manage distant properties. Local agents often stole from or neglected the property. Faced with these pressures, individuals in many cultures hit upon the idea of giving *usufruct* to income-generating property instead of cash. In this way, there would be someone on the ground with a keen interest in protecting the property, and there was no need to ensure delivery of regular payments. This system

627 Tuplin 2010a. Compare Widengren 1956 and 1969 which joyfully combine sources from the Avesta into the Sasanid period to paint a composite picture of *Feudalismus*.

628 Brown 1974, Reynolds 1994

629 Jursa et al. 2010: 246 "Many of the early discussions were couched in terminology borrowed from European feudalism, as can be seen for example by referring to Cardascia's article 'Lehenswesen' in the RlA. Later it was increasingly noticed that the Murašû evidence is but one example of a much larger corpus of material with a bearing on taxes and related matters; it was possible to trace direct precursors of the system documented in the Murašû archive, as well as to document entirely different modes by which the crown obliged its subjects to labour service and tax payments ..."

630 Cardascia 1983: 549

631 Cardascia 1977, cp. Lafont 1998 (*non vidi*) and the volume containing Hauser 2005

632 Cardascia 1977: see especially the forward and the *interventions* on page 11

was rarely limited to soldiers, but soldiers were usually a majority of those who received such grants, simply due to the limited resources available in most traditional societies.

This solution was not without its own disadvantages. The classic danger was that over time, the holders of property would reject the idea that it came with any special obligations. Alternatively, if tenure was short, then holders might neglect the long-term health of their property in favour of immediate revenue. At the same time, the authorities were usually keen to impose expensive duties, such as military service, on everyone who held property. When we consider the natural tendency for some families to grow richer, others poorer, some larger and others smaller, it is clear that the rights and obligations associated with property were in constant flux, and that very different legal theories could produce similar results.

The fiefs and vassals of 12th and 13th century France are certainly one example of this solution. So are the *iqṭāʿ* and *timar* of the Islamic world,[633] the lands in Egypt granted to Herodotus' *machimoi*, the military colonies of the Hellenistic kingdoms, and so on. In my view, specialists in late Babylonia would benefit from knowledge of several of these other cases. Of course no two cases are identical, and the evidence from Babylonia should not be forced to fit a model from another place and time. It is also important that comparisons be based on knowledge of sources and research by specialists in other cultures rather than stereotypes about the orient. However, without some kind of model, it will never be possible to understand the social reality reflected in the cuneiform sources, and it is almost impossible to look at the cuneiform sources without reference to one's knowledge of practices in other cultures and later times.

In addition, historians using charters to reconstruct medieval laws and social history face similar challenges as Assyriologists using contracts to reconstruct Babylonian law and society. In both cases, we have the records of legal practices, but not descriptions of how those records were created and used. We do not know a Babylonian term for "bow, horse, and chariot estates" so if we find this a useful category, we must invent a term ourselves, and any term will have associations and implications. A study of the methods used by medievalists might be at least as helpful as knowledge of the results of their research.

4.12 Conclusion

It is tempting to reduce the complicated emotions and experience of war into a caricature. Presenting an entire army into nameless servants of a mighty king, self-sacrificing patriots full of the martial virtues, or good soldier Švejks looking for nothing more than a good meal and a place to hide from the sergeant is good poetry but bad science. For all of their limits, cuneiform documents from Mesopotamia let us sketch a more colourful picture.

On one hand, the surviving documents place service in the contexts of work, finance, and the networks of personal and family relationships which made up Babylonian society. The first two areas were relevant to the keepers of private and temple archives, the third appears incidentally in lists of witnesses or parties to a contract. Documents from the Bēl-Rēmanni archive from Sippar show how a certain Inbāja, the daughter of Nabû-šum-iddin, leased the land of her son Nidinti-

633 See EncIran s.v. EQṬĀʿ or "fief"

Marduk and paid taxes such as *pasa²du* (the Iranian equivalent of *rikis qabli*) to his *rab qašti*. Was Nidinti-Marduk under age? Away from Sippar for an extended period? Disabled? This was not relevant to the contract, although it was probably very important to Inbāja. Letters sometimes add more details, like BIN I 83:

> A letter from Isinaya of the town of Šarrabānu: to my lord, the administrator: I pray daily to the gods Bēl and Nabû for the good health and the good state of mind and body, and for a long life for my lord.
>
> My lord should not be annoyed because the sheep and goats are late in coming. The king has taken away my sons and I have been sick now for two years. I am in a dangerous condition and cannot possibly rise from my bed. So I am sending my lord by Nabû-malik only [...] sheep. My lord may ask the people whether [end broken] (BIN I 83 tr. Oppenheimer))

Once again, the human story is recorded because it affected the finances of rich men. We should never forget that there were hundreds of thousands such stories, and that they were probably more visible to most people at the time than the financial and administrative details which are the focus of the documents.

However, the tablets also touch on a wealth of other areas. To pick just one example, the tablets give us a glimpse of a rich, informal vocabulary around military equipment and service obligations. A soldier's equipment for the field was loin-girdling or battle gear (*unut tāhazi*, UCP 9/3 269ff. line 14). This last term suggests the sensual love for weapons as weapons which appears in Mesopotamian royal inscriptions and hymns, but also in the talk of hunters and soldiers in much later periods.[634] Similarly, if the *šiltah girri* "?campaign? arrows" of UCP 9/3 269 ff. line 9 and *šiltah garri* of BM 63372 (MacGinnis 2012 no. 26) are named after *girru* "road, journey, campaign" then they recall older expressions like *gerru šarri* "royal campaign."[635] Although the decline of Babylonian as a spoken language in the Achaemenid period has been exaggerated (see chapter 3) it is certainly plausible that an even richer vocabulary was used in Aramaic, especially if Aramaic served as a *Heeressprache*. While it is important to retell the story of the nameless "weak/noble women of Sidon" who were brought to the palace at Babylon after their city revolted against Artaxerxes III (Grayson ABC 9 = Glasner, CM 28, tablet BM 31450), it is also important to imagine the young men who found military service an exciting adventure, or the old men whose rise in society began when they signed a contract to serve as substitutes for a *mār banî*. Their voices are just as marginalized by our sources.

Many of the soldiers in documents are lowly men: the *širāku* "temple dependants," *gardu*-troops, and holders of bow estates who were forced to borrow large sums of money. Just like the Roman empire, the Achaemenid empire depended on the extraction of massive amounts of labour from conscripts, slaves, or serfs on threat of violence. The military role of the *mār banê*, Persian settlers, or hired soldiers from distant lands is more difficult to pin down. However, we should remember that financial transactions and the workings of temple bureaucracies are much more

634 There are examples of this term from the Old Babylonian period. See CAD s.v. tāhazu p. 47

635 Cad s.v. girru A.3 cites examples from the Old Babylonian period onwards. An alternate etymology links these Akkadian words with Aram. *gyr* "arrow" (attested in later Aramaic dialects adn Syriac)

visible in clay than agreements between friends or the lives of 'middling' families. In some periods without a strong central authority, such as the Kassite period in the middle of the second millennium BCE, documents become very scarce, while life (and warfare) continued. Details like the *ṣidītu* money in UCP 9/3 269 ff., generous payments to substitutes, and the long list of types of soldiers in CT 22 74 suggest that the temple and Murašû archives do not give the full picture. Documents from Babylonia let us glimpse the role of violence and coercion in extracting service from low-ranking men, just as cylinder seals and grave monuments from Anatolia show us how higher-ranking men imagined warfare (unfortunately, the chapter on artwork which I intended to write remains unwritten). But focusing exclusively on coercion threatens to reproduce the ideology of our sources, which present themselves as confident and in control, just as in their inscriptions the Achaemenids portray themselves as rulers of the world and erase the existence of other lands which have never acknowledged them. Outside of the inscriptions, Darius and his servants had to deal with wilful individuals who wanted something in exchange for cooperation, and with the endless intermediaries between them and the humble workers who enacted their orders. Thucydides', Aristophanes', and Xenophon's pictures of Persian governors and kings besieged by greedy Greeks are complimented by Babylonian letters and court records where scoundrels like Gimillu used temple and royal offices to their own advantage.[636]

Two case studies remind us of the dangers. Two contexts spring to mind. Within Achaemenid studies, research associated with the Achaemenid History workshops often identified with the Persians and their empire in response to research which identified with the Spartans or Athenians and against the Persians. In the last decade, some specialists have criticized this approach and argued that the unpleasant sides of the empire and the classical sources should be given more weight.[637] Similarly, early Assyriology relied heavily on the inscriptions of powerful kings to put together a narrative and link their research with well-known stories from the Bible and classical authors. In the wake of decolonialization (and with progress publishing texts, grammars, and dictionaries which enabled Assyriologists to spend more time on historical interpretation and less on philological) this approach has come under critique for overlooking the gap between boasts and practice: the clauses in the Codex Hammurabi or the blood-curdling descriptions in Neo-Assyrian inscriptions did not always translate to action.[638]

The slow work to understand the technical details of the tablets will continue, as will the debates about modern abstractions like imperialism or "the state" and theoretical models such as "continuity and decadence" or "Iranian feudalism and Mesopotamian bureaucracy." The Aramaic finds from Bactria remind us that one day new data might resolve some of these controversies, as the prices in the Astronomical Diaries have more or less put an end to the idea that the Achaemenids ruined their subjects by hoarding silver.[639] However, other kinds of research are possible. This chapter sketches a 'humanistic' or 'comparative' approach, focused on ordinary people in Babylonia trying to live their lives in the spaces around the palaces and temples and reading the sources in

636 MacGinnis

637 Lloyd Llewellyn-Jones, Thomas Harrison, and Bruce Lincoln are especially vocal in this area.

638 Richardson 2013

639 Two recent publications are Pirngruber 2017 and Jursa 2010, Robartus van der Speck and Pierre Briant have a number of contributions.

light of the experiences of soldiers in other places and times. There is also room for studies which correlate the equipment in documents with artwork and archaeological finds, or examine institutions like the army market which have not been the focus of Assyriological research.[640] Documents from Late Babylonia have many new things to tell us if we ask new questions.

CONTINUED IN VOLUME 2

640 Kleber 2014, Barron 2010 and some of the contributions in Gaspa/Michel/Nosch 2017 combine texts, art, and artifacts to study material culture. Lee 2008: 280 complains that there is a shortage of research into army markets in the classical world, despite their appearing in most historians up to Julius Caesar.

Chapter 5 Material Remains: The Perspective of Archaeology

5.1 Introduction

If Achaemenid Studies has not yet birthed a subdiscipline of Achaemenid Army Studies, an "Association of Achaemenid Military Equipment Studies" with conferences which bring together archaeologists, art historians, artisans, and re-enactors seems even further away.[641] That is unfortunate, since the close study of material culture can produce very significant results. For all their other differences, the people living in a given place and time have to interact with the same environment and the same system of technologies. This does not necessarily involve enthusiastic adoption. Some cultures chose to reject part of the system, such as the international community's solemn treaties against chemical weapons and chlorofluorocarbons or the Amish's rules limiting the use of electricity. Others push essential parts to the margins of society, such as the lowly role of leather-workers in traditional Japanese society or the modern zoning laws and free-trade treaties which keep dirty industries out of sight of the prosperous. However, rejecting something is still an interaction, whereas many people in antiquity had very little contact with the ideologies and rulers which fascinate intellectuals today.

Moreover, the publication of new archaeological finds also gives an objective basis on which to reconsider well-known texts and images. As we will see in chapter 6, scholars since the 19th century have drawn upon a more or less fixed pool of literary sources yet produced very different pictures of the Persian empire. One reason for these changing interpretations is that each generation of researchers knows different things aside from the sources. Scholars at the end of the 19th and beginning of the 20th century drew upon both orientalist stereotypes and the reports of classically-educated travellers who highlighted the similarities between the texts they had read in school and life in remote parts of the world; scholars in the postwar era took advantage of increasingly cheap photography, but also of archaeological discoveries and developments in philosophy and the social sciences.

A comprehensive study of arms, armour, and tack in the Achaemenid period, and specialized studies of topics such as scale and lamellar armour, will have to wait for future research. So will a thorough study of fortifications in the Achaemenid empire, and the "battlefield archaeology" or "conflict landscapes" which are a significant but controversial part of archaeology today.[642] "Experimental" or "experiential" work is even scarcer, and usually focuses on conflicts with the Greeks, from Blyth's study of arrows and the reconstruction of the trireme Olympias to an amateur

641 The modern subdiscipline of Roman Military Equipment Studies began to take shape in Britain in the late 1980s, although attempts to describe, interpret, and reproduce Roman military equipment have a very long history indeed. It lead to a regular conference, the Roman Military Equipment Conference (ROMEC), and a number of significant publications, including Bishop and Coulston's *Handbook of Roman Military Equipment*, the ARMA newsletter, and the *Journal of Roman Military Equipment Studies* (JRMES) while growing increasingly international. Since the interpretation of military equipment requires so many specialized skills, from archaeological fieldwork to the history of hide processing to blacksmithing to camping, such an interdisciplinary organization is crucial for producing research which scholars with a wide variety of backgrounds can accept. Both the Journal of Roman Military Equipment Studies and the Association for Roman Military Equipment Studies were refounded in 2015.

642 The sites of Tollensee, Kalkrise, and Harzhorn are famous in Roman Army Studies.

project at Marathon in 2011.[643] This chapter concentrates on three areas. First, it considers the obstacles to studying military equipment in the Achaemenid empire. Second, it provides an overview of the published evidence which would provide the basis for future studies. Third, it suggests some themes in Achaemenid history which the study of military equipment could contribute to. Methodologically it draws on Greek archaeology and particularly Roman military equipment studies, since these are the most mature and closely related fields, and the ones most likely to be familiar to readers with a background in ancient history or classics.

Many archaeological studies try to identify "Achaemenid" or "imperial" remains, or pay special attention to "Scythian/Kimmerian" and "Greek" objects. P.R.S. Moorey's survey, for example, concentrates on evidence for luxury goods in the “Achaemenid court style” and sometimes sounds indignant that the inhabitants of the provinces did not start turning their pots or building their houses in a new, distinctively Persian style.[644] Christopher Tuplin's surveys of evidence for cavalry and of warriors on seals and seal impressions express doubt about including some evidence for cavalry or warriors if they lack distinctive 'Persian' features. This has often become an instrument in debates about the nature of the empire: implicitly or implicitly, a strong empire is defined as one which caused many, archaeologically visible changes in material culture. Margaret Cool Root accused modern scholars of engaging in the “politics of meagreness” when they emphasized the difficulty of identifying artifacts as Achaemenid,[645] and Pierre Briant firmly disagreed with the archaeologists who suggested that the Achaemenids had little impact on eastern Iran because the reigns of Cyrus and Darius did not coincide with a new type of pottery.[646] Many older papers do seem to take "Romanization," "Hellenization," and the great colonial empires of the 19th and 20th centuries as the standard against which the Persian empire should be measured.

In the specific context of armed force, this does not seem helpful. Not only is it notoriously difficult to link sites or finds to an ethnic group, but as will be discussed below, it seems that kings and satraps drew on a broad pool of men bearing arms rather than having a large force of their own soldiers. A specialist in medieval archaeology would not expect to be able to distinguish royal castles, or royal armies, from other castles and armies without drawing on texts, or to identify whether the hired soldiers garrisoning a site were Gascons or Flemings. Looking for "court style" or "Persepolitanian" luxury goods, or marks of foreign settlements or an "Achaemenid *koiné*," are reasonable projects, but they are not the best starting point for an understanding of the role of armed force in the king's lands.

The Achaemenid empire was not the British East India Company importing European military techniques, finance, and technology to overwhelm local princes, and it was not the Roman

643 One experiment was published in Bardunias and Ray 2016, but other trials at the same event appear in social media posts by people like Paul Bardunias and Christian Cameron. The "Marathon project" is ongoing, and there is certainly room for professional academics to work with the participants and help them formalize and document their work, much as archaeologists, artisans, and reenactors work together in Roman Army Studies.

644 Moorey 1980 ch. VI eg. p. 131-133 "Very rarely does a piece of decoration [on objects in graves in Babylonia] indicate a strictly Persian influence ... Kathleen Kenyon sought to identify masonry of the Persian period in part of the Temple platform at Jerusalem: but it is in the developed Phoenician, rather than the Persepolitanian, style."

645 Root 1991 and Khatchadourian 2011

646 His first remarks on the subject seem to be Briant 1984: see Briant 2002: 752-754, 1027 for his thoughts 20 years later and Briant and Boucharlat 2005 for the archaeological survey which he wished for.

principate planting a professional army amidst the warlike peoples of the western provinces. It was a successor to earlier kingdoms, including the Neo-Babylonian empire, which so far as possible worked with existing institutions. The spread of an empire does not usually spread its leaders' language and culture, and a culture can spread widely without military conquest: consider the spread of Buddhism from India to central Asia, China, Mongolia, and Japan, or the dominance of French high culture in Europe from the 12th to the 19th century.[647] As we have seen in chapter 5, a large part of the male population of Babylonia was expected to provide service, and the men with special military responsibilities were as likely to be Judeans as Persians. Scythian or Iranian material culture, such as distinctive bows and arrows, had already been adopted under the Chaldeans. Under the circumstances, searching site reports for "the Persian army" or trying to distinguish "imperial" arms and armour from "provincial" or "civilian" is not a promising approach. Given that it is often hard to date finds to the Persian period, does it make sense to hold back on publishing dated finds because they cannot be assigned the right ethnic label?

This survey focuses on the objects used *ina madākti* rather than on fortified sites or administrative centres. Including every site likely to have been involved in military control would turn this chapter into a book and require the skills of an archaeologist with knowledge of Russian and preferably Turkish, Arabic, and Farsi. Similarly, it focuses on collecting data over contrasting material remains against art, literary sources, and documentary sources. A recent dissertation by Amy Barron applies such a method to evidence for the Neo-Assyrian empire. Barron notes the difference between Roman warfare and soldiers as depicted on monuments and Roman warfare as revealed by archaeology, and suggests that Assyriologists should also place more emphasis on archaeology and less on art, but curiously does not seem to cite works in Roman Military Equipment Studies directly.[648] However, the archaeology of the Achaemenid empire is scattered in so many different publications that it seems best to focus on providing a guide to using those sources to look at armed force specifically, much as a series of articles by Christopher Tuplin provide a guide to evidence for garrisons, cavalry, and seals.

In their *Handbook of Roman Military Equipment*, Bishop and Coulston warn that any definition of “military equipment” is arbitrary. While some objects have strong military connotations, they can be used for other purposes, and many of the things which an army brings with it are common in the wider society (staple foodstuffs, hand tools, clothing, draft animals and vehicles). As we have seen, *rikis qabli* included weapons which were relatively specific to soldiers, and clothing which was also worn by civilians. It is surprisingly hard to define a rule which distinguishes "forts" or "castles" from sites with impressive stonework or earthworks which were not designed with defence as the main priority.[649] We are fortunate to have visible traces of sieges at several sites, since destruction layers from accidental fires or natural disasters can be confused with destruction layers from sieges. This paper focuses on arms and armour, on traces of battles and sieges, and to a lesser extent on the textiles, leatherwork, ceramics, and other objects used *ina madāktu*. Researchers

647 On language and imperialism, see Ostler 2005

648 Amy Barron, Late Assyrian Arms and Armour: Art versus Artifact (PhD Thesis, University of Toronto, 2010) pp. 12-19. I do not see names such as Jon Coulston, Mike Bishop, or Duncan B. Campbell in her bibliography.

649 The fields of castle studies and of the prehistory of warfare work on these problems, not always in a way which is acceptable from a military-historical point of view, but this is not the place for a detailed discussion.

interested in fortified sites in general can check handbooks of the archaeology of the Achaemenid period.

5.2 Obstacles

This chapter will draw heavily upon work in Roman Army Studies, since this is the most developed and sophisticated area of research into the material remains of ancient warfare. For whatever reason, students of Classical and Hellenistic Greek warfare tend to make less use of material evidence and treat it in a more superficial way. That said, some important differences between the two fields need to be addressed, differences both in the amount of evidence available and in modern attitudes to it.

The nineteenth-century amateurs who began to excavate Roman sites in Europe were blessed that the Roman army surrounded itself with earthworks which remained visible thousands of years later. Roman roads, towns with grids of streets, and forts were obvious sites to excavate. These earthworks were often accompanied by stones, coins, tiles, bronze tablets, and other objects with datable inscriptions in a single script and a well-known language. Many of these sites were 'virgin,' without prior occupation, and many were abandoned in antiquity and not subsequently re-occupied. These texts often refer to military units with specific names which lasted for generations, even centuries and allow the history of those units to be traced. Archaeologists today have come to appreciate that many of these sites were along waterways, where damp mud can preserve fragile objects. Most of all, these sites were in convenient reach of first amateurs, and then trained, university-based scholars, in Europe, and the Roman empire was of central interest to both those scholars and the broader public. Military men played a significant role, whether the 19th century 'catapult war' between French and German teams of philologists and artillery officers, Kromayer and Veith's study of ancient battlefields, or Tony Clunn's work at Kalkrise. These conditions caused the archaeology of the Roman army to be very well developed.

Almost all of these favourable conditions are absent in the lands once ruled by Darius. Far from being a clearly defined institution, "the army" was not clearly separated from the armed population (Bab. *uqu*/OP *kāra-*) in general. Soldiers did not live in a network of uniform, archaeologically visible sites. Few texts mention military units with their own name distinct from the name of their commander, which allows scholars of the Roman army to trace units from province to province and generation to generation. Most settlements and fortifications had a long history before and after Achaemenid rule. Only a minority of soldiers received regular payments in coins, and these coins do not bear detailed chronological information like Roman coins. Outside of the Aegean, cities and individuals rarely practised 'the epigraphic habit.' Men sometimes had themselves depicted as hunters or warriors on their tombs or seals, and the dead were sometimes provided with weapons. Outside of Egypt and the salt mines of Zanjan, the soil conditions are often very hostile: there is a distinct lack of the muddy sites which preserve some of the most spectacular Roman finds.

Outside of Iran, and possibly Israel, the Achaemenid empire is nowhere near so central to the ideologies of modern states as the Roman empire was to Europeans in the 19th century. Foreign archaeologists needed to spend extra money and endure extra hardships to excavate in most of the

empire, and for a long time local archaeologists lacked the resources of their colleagues in western Europe. Relatively few western scholars can read the Turkish, Arabic, Farsi, or Russian, and few scholars in the Near East can afford to have their work translated. Events like the partition of Cyprus, the Iran-Iraq War, the wars in Afghanistan since the 1980s, and the sensitive borders in Kyrgyzstan, Uzbekistan, and Turkmenistan have hindered research and keep local soldiers busy with things other than archaeology. Construction in Turkey and along the coastline of Syria, Lebanon, and Israel both reveals and destroys important evidence. Under the circumstances, it is no surprise that Briant and Boucharlat's survey of the archaeology of the Achaemenid empire is a catalogue of woe, especially as it progresses eastward, and that the most well-known sites are either on the western fringes of the empire or places mentioned in the classical literary sources and excavated by well-funded European or American teams.

Moreover, the archaeology of the Achaemenid period faces special challenges. It is notorious that the beginning of Teispid or Achaemenid rule does not come with clear archaeological markers, and that it is difficult to establish a precise pottery chronology in many areas. In the oasis regions of the north-east of the empire, burials are not archaeologically visible. In contrast, the onset of Macedonian rule in the east, or Roman rule in Europe beyond the Alps, is usually marked by distinctive new styles of pottery, architecture, coins, and so on. Some archaeologists have been uncomfortable studying finds in the context of the Achaemenid empire unless they can be explicitly linked to Achaemenid rule, such as new settlements of Iranians in the west or 'court style' architecture and artwork. Others questioned whether the Achaemenid rule had much of an effect, inspiring some frustrated words in *From Cyrus to Alexander* and new work by scholars like Elspeth Dusinberre who look closely at the evidence which does exist.

In the past 50 years, archaeology has increasingly been organized along national lines, as states provide funds for 'rescue archaeology' or 'heritage management' within their borders, require finds to be published in the national language, or offer grants for projects within their territory. This is something of a problem in Greek or Roman archaeology, where finds published in Greek or Bulgarian are rarely known in western Europe and North America, but it is even more a problem in the former Achaemenid empire, where neighbouring countries often have very tense relationships with one another and where any one class of finds tends to be thinly scattered across a vast space.

Only a handful of publications provide overviews of Achaemenid archaeology related to hunting, warfare, and military service. P.R.S. Moorey used his monograph on the cemetery at Deve Hüyük in Syria as an occasion to give an overview of the archaeology of the Achaemenid empire in general.[650] The graves mostly contained small personal weapons and metalwork such as spears, daggers, and drinking bowls. Christopher Tuplin discussed finds of arms, armour, and horse equipment in his article on garrisons.[651] Duncan Head's book on the army showed interest in military equipment and provided line drawings of many finds. Head was especially interested in bringing these together with artwork. An article in a Turkish journal by C.H. Greenewalt Jr. uses the excavations at Sardis as an excuse to talk about arms and armour in Lydia more generally.[652]

650 Moorey 1980 chapter VI; some details are still only available in Moorey 1975.
651 Tuplin 1987: 203-208
652 Greenwalt Jr. 1997

Several articles in the *Encyclopedia Iranica* and the *Reallexikon der Assyriologie* give overviews of types of artifacts such as helmets, but within Iranian studies or Assyriology rather than with a focus on the Achaemenid period. In 2006 Manouchehr Khourasani, an Iranian expat with a varied education and career, published a massive tome in this tradition.[653] Khourasani's book brings research in half a dozen languages together with objects in Iranian museums which had never before been published in a western country, but covers from the beginning of the Iron Age to the 19th century and is sometimes better at gathering and summarizing research than organizing it according to a consistent intellectual framework. Peter Krentz' studies of Marathon include research on the equipment of Persian infantry in 490 BCE.[654] Most recently, Elspeth Dusinberre devoted a chapter of a book on Achaemenid Anatolia to warfare.[655] Her definition of Anatolia included Deve Hüyük. Dusinberre relied heavily on works by Moorey and Christopher Tuplin, but used them as part of her own distinct project of understanding how life in Anatolia was affected by Teispid and Achaemenid rule. P.R.S. Moorey's *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence* is also useful as an overview of specific technologies, although again with a Mesopotamian, Assyriological focus.

5.3 Notable Sites

5.3.1 Persis and the Zagros

The charismatic sites of Persepolis and Pasargadae are also important for militaria.[656] At Persepolis, the floors of the Treasury were dotted with 4,700 iron and bronze arrowheads.[657] Evidently, Alexander's men overlooked a few weapons in the more remote chambers as they stripped the building: others were scattered in the vestibule and the adjacent staircase, suggesting weapons which fell to the floor in the confusion. Many of these arrows retain traces of their reed shafts. Other weapons include a two-edged sword, several daggers or knives, a bronze axehead, and at least 9 bronze and 4 iron points for spears, javelins, or catapult bolts.[658] Some of these were found in the "Garrison Street" between the Treasury and the fortifications where the terrace meets the mountainside. While the axe is of the Scythian type carried by one of the King's attendants in the reliefs, and the iron spearheads resemble those carried by guards in the reliefs, the sword and daggers belong to a different technology: the sword resembles early European iron swords with raised 'lips' around the grip (related to the famous Naue type II bronze swords) and finds from 8th and 7th century graves in Luristan, while one of the daggers has a narrow tang so resembles daggers from graves in Uruk more than akinakai whose grip, crossguard, and pommel are all one piece of metal.[659] The 15 bronze horse bits resemble finds from Deve Hüyük but also those depicted in the

653 Khourasani 2006

654 Krentz 2010: 188-196; cp. Lee 2008: 109-140 who looks more broadly at clothing, load-bearing equipment, cookwear, and other tools of life in the field.

655 Dusinberre 2013: ch. 3

656 Schmidt, *Persepolis II*, pages 97-101, figure 19, plates 75, 76. Excavations since Hertzfeld and Schmidt have uncovered some small finds such as horse harness and a large trilobate point, see Curtis and Talis 2005: 218, 219 and Tadjvidi 1976 (*non vidi*)

657 Schmidt, *Persepolis II*, page 99 and figure 19

658 Hertzfeld and Schmidt found 8 bronze points, but at least one has been found in subsequent excavations.

659 On the parallels with Luristan swords, see Moorey 1980: 53, 54 who compares it to the daggers worn with the *Faltengewand* at Persepolis and to Late Bronze Age daggers from Syria and Palestine.

so-called Alexander Mosaic from Pompeii. Many rooms associated with the garrison contained distinctive clay 'canteens' with narrow openings and loops to attach a carrying strap.[660] These are extremely important finds, because while today soldiers in the field are expected to carry drinking water on their bodies at all times, evidence for this is extremely scarce before a few hundred years ago. The cheap, everyday vessels used to carry water were not deposited in graves or emphasized in paintings and sculptures, and so far no pottery canteens have been identified from classical Greek sites.[661]

At Pasargadae, the fortress on the Tall-e Takht continued to be occupied from the beginning of the Achaemenid dynasty until around 280 BCE when it was destroyed, apparently by a hostile army.[662] Finds include arrowheads and spearheads (not counted), patches of iron scale armour, and fifteen medium-sized bronze points which Stronach identified as javelin heads. One of these has a trilobate form, while some of the remainder resemble the bronze butts (σαυρωτήρες) mounted on some Greek spears more than the front end of any kind of weapon. A clay six-sided die from the early Hellenistic destruction layer gives an idea of how the garrison might have passed their time.[663]

In 1980, P.R.S. Moorey complained that outside of Persepolis, controlled excavations in Iran had revealed hardly any arms or armour.[664] A quarter of a century later, Rémy Boucharlat also complained that there was no survey of the archaeology of Achaemenid Persis despite the numerous studies of Persepolis, Pasargadae, and Susa. Khourasani's book mentions a few other edged weapons in Iranian museums, several of which were confiscated from looters. However, it does not appear that there are whole store-rooms full of Achaemenid militaria unknown to the west.

Moving along the Zagros, the salt mines at Chehrabad in Zanjan province, Iran are currently under investigation by a combined Iranian-Austrian project. Two earthquakes in the Achaemenid and Sasanid period caused the mines to collapse and preserved the bodies of miners in the rubble. While salt miners from a remote valley are not the soldiers and courtiers portrayed at Persepolis, the tunics, trousers, shoes, belts, knives, and bags of the mummies are as close as we can get to the clothing and accessories of soldiers. Karina Grömer plans to fully publish the clothing in concert with colleagues from Iran.

Very few sites from the Achaemenid Period in the South Caucasus can be connected to the use of force, although some fortified sites were probably connected with the empire. Florian Knauss feels that the local archaeologists are more interested in 'indigenous' finds than evidence of foreign rule, but his own survey focused on 'court style' art and monumental buildings.[665] The Kazbeg treasure, discovered in what is now Georgia in 1877, contained some weapons and horse harness and is now divided among the Historical State Museum, Moscow, the Djanashia State Museum in Tbilisi, and

660 Schmidt, *Persepolis II*, pages 96, plates 71: 8-9, 72: 12-13, 73:2, 74: 45 (representing eight whole or partial canteens). The blue glazed "pilgrim's bottle" from Ur, U. 7659 (Woolley 1962 plate 35) is only 12 cm high and 10 cm wide according to Ur Online, so with a capacity of a few hundred mL, it might be meant to carry oil rather than water.

661 Lee 2007: 125

662 Stronach 1987: 146-155. On militaria in general see Stronach 1978: 180-182, fig. 95, 96, Musacrella 1988: 211-214.

663 Stronach 1987: fig. 92.8 (while it is far from a perfect cube, opposite sides add up to 7!)

664 Moorey 1980: 130

665 Knauss 2006

private collections.[666] A survey of the militaria from this site in a Germanic or Romance language would be of interest.

5.3.2 Babylonia

While the archaeology of Babylonia is associated with monumental architecture and clay tablets, a number of graves from Uruk often contain daggers, arrows, and quivers.[667] Dates are only approximate but some of these graves seem to date to the Neo-Babylonian, Teispid, or Achaemenid periods. Most of these weapons seem to belong to local types seen on Neo-Assyrian reliefs: the daggers have narrow tangs and leaf-shaped blades (unlike *akinakai*) and the quivers are cylindrical and worn on the back. The presence of weapons in graves does not fit modern perceptions of the Babylonians as intellectual, orderly, and oppressed by their kings, but it does fit the violent history of Babylonia in the 7th century BCE, and the texts from the long sixth century which show men shamelessly abusing their positions. The same men could be proud to be bearers of arms, and reluctant to provide service at their own expense under the hot sun in Egypt or Susiane (alternatively, the men who wore daggers may have been of a very different social standing than the temple dependents who were discussed in the previous chapter).

Daggers, spearheads, and arrowheads were also found in some graves of the Persian period at Ur. Out of 286 graves, 12 (4%) contained at least one of these objects.[668] Some Neo-Babylonian graves also contain a knife, dagger, or arrowhead, but spearheads and groups of arrowheads only appear in the Persian period. Six of 98 graves contain such objects, a slightly higher rate of 6%.[669] Many of these graves contained traces of linen and woolen textiles, but the archaeology of the time was not able to record and preserve them. The most impressive, in a Neo-Babylonian (ie. 7th or 6th century BCE) grave with an iron dagger, might have included the elusive {tug2}KUR.RA: "By the shoulder, much textile material, a finely woven linen and more coarsely woven woollen cloth dyed red and with a fringe of loose threads."[670] Woolley's report gives a sense of the difficulties involved: graves were often located under houses, and when later diggers encountered an old grave they often emptied it.[671] Graves of later periods are often exposed by rain and flooding, and their contents are either taken by passersby or scattered by the weather. Archaeologists worry about how to interpret grave-goods, and especially about the old assumption that weapons mark the deceased as male and

666 Briant and Boucharlat 2005: 198

667 van Ess and Pfedde 1992

668 Woolley 1962: 67-87 graves number 16 ("iron spear" and pottery), 31 ("iron weapons" and pottery), 39 (iron spear U.16691), 65 ("bronze arrowheads", 4 beads, pottery), 66 (iron lance-heads U.17020), 76 ("iron dagger fr." and pottery), 92 ("remains of iron" and no other goods except pottery), 129 ("remains of iron," stamp-seal U.16213, pottery), 137 (bronze arrow-head U. 16206), 141 (bronze fibula U.16219, iron knife, stamp seal U.16218, beads U. 16219), 142 (various including pottery, a bone spindle, bronze arrowheads, iron knife, all U.18268 and U.18269), 178 (arrows U.16646). The finds from these excavations were divided between Baghdad, London, and Philadelphia; many of the notes have been digitalized at Ur Online http://www.ur-online.org/ but photos and sketches are scarce.

669 Woolley 1962: 57-66 graves number 28 ("iron arrowhead" U. 675, copper bangles, cylinder seals U.672, some bone fittings), 36 ("iron knife-blade, broken", gold ear-ring U. 18270), 41 (iron dagger 22 cm long and 3 cm wide U.6637, cylinder seal, 7 agate and carnelian beads, leather belt U.6636 and remains of wooden cups and goblets(!)), 49 ("bronze arrowhead," pottery), 50 ("fragments of iron," pottery, cowrie shell, haemetite weight U.13059), 55 ("bronze arrowhead", copper bowl, pottery).

670 Woolley 1962: 62 no. 41

671 Woolley 1962: 52

spinning equipment as female. In this context, Persian-period grave 142 is notable, since it contains a bronze arrowhead, a broken iron knife 12 cm long, several pieces of copper and silver jewelry and a bone spindle. Single arrowheads might have been meant to ward off hostile forces, but it seems likely that daggers or spears were meant to present the deceased as a bearer of arms.

Woolley excavated a group of about seven houses at Ur which were built on bare earth probably around the time of Nebuchadnezzar and contained tablets as late as the 7th year of Philip Arrhidaeus.[672] They also contained at least two tanged iron blades for daggers or spears.[673] This is not the quivers full of arrows from Nuzi, but Nuzi was destroyed in warfare whereas Ur seems to have been gradually abandoned in Hellenistic times and was presumably stripped of valuables as it was abandoned. This suggests that weapons were common in domestic contexts in addition to the temple contexts described in temple archives.

5.3.3 Syria

Upper Mesopotamia seems to have had a small, rural population in Achaemenid times so has left few archaeological traces. However, the grave goods from the cemetery of Deve Hüyük west of the Euphrates have been published in an accessible volume.[674] Moorey suggested that the Achaemenid cemetery (Deve Hüyük II) was used between roughly 480 and 380 BCE, although some of the pottery and parallels with artwork at Persepolis suggest that the first graves date to the end of the 6th century.[675] For the most part, the weapons are of the Scythian type: akinakai, narow-bladed axes, spearheads, arrows and *gorytoi* fittings, and scale armour (now lost or decayed, but early descriptions survive). Moorey tentatively suggested that the community settled there were Hyrcanians based on the pottery and burial practices.[676]

Many other sites west of the Euphrates are still intensely settled, which makes excavations difficult. One of the Iron Age tombs at Ugarit (Ras Shamra) contained two spearheads, an iron knife in a leather scabbard, and an Achaemenid bowl.[677] However, Bertille Lyonet's survey of traces of the Achaemenid period in northern Syria focused on figurines of "Persian riders" and "Astarte," ceramics, and coins.[678] Fuensanta and Charvat focus on the Turkish part of the Euphrates Valley and mention a handful of graves: one at Hacinebi with bronze arrowheads, bronze and silver jewelry, and some scarabs and alabasters from Egypt, and another from Sultantepe dating sometime after the arrival of the Scythians c. 610 BCE and containing an iron belt-buckle, two iron arrowheads, and horse bones.[679] Thus far the cemetery at Deve Hüyük seems to be unique.

672 Woolley 1962: 43-48, plate 15, 71, findspot NH (why do this archive, the ostraca from Idumaea, and the wood and leather documents from Bactria all end with Argead rule?)
673 Woolley 1962: U. 17359 (plate 33), U. 17445
674 Moorey 1980, compare Moorey 1975
675 Moorey 1980: 7-8
676 Moorey 1975: 116
677 Schaeffer 1935: 148-154, fig. 7
678 Lyonet 2005
679 In Briant and Boucharlat 2005: 160, 162

5.3.4 The Levant

If we follow the coast towards Egypt, we find an area which has been thoroughly excavated (particularly the state of Israel) but where publication is somewhat selective. The standard surveys by Ephraim Stern focus on identifying Iranian or Greek imports, while as recently as 2001 Stern mentioned sites which are "largely nameless and therefore not the type that has hitherto attracted the archaeologist interested in biblical sites."[680] (To be fair, sites mentioned in classical or biblical texts have always attracted archaeologists and their patrons, but it seems like archaeological work in other parts of the world is more organized). Stern focused his discussion of weapons on arrowheads, since they are the weapons with the clearest archaeological context, and divided them into two Irano-Scythian types (one with a barb, and another of socketed trilobate construction), two Greek types resembling finds from Olynthos, and a local leaf-shaped tanged iron type.[681] He mentions two bronze horse bits from Gezer[682] and the sea off ʿAtlit, Greek helmets from the sea near Dor, Ashdod and Ashkelon,[683] and a variety of swords, daggers, spearheads and javelinheads from Shiqmona/Tell Shikmona, Ugarit, and other unnamed sites.[684] Burials of this period can be divided into cist graves, shaft graves, and pit graves, the former containing "Achaemenid bowls" and other court-style metalwork and ceramics as well as the occasional knife or arrowhead.[685] These tombs tend to be found inland, contain few "Phoenician" or "Greek" objects, and have parallels with graves from Ugarit, Babylonia, Susa, and Persepolis. Both the presence of weapons in a few graves, and the presence of arrowheads from the Aegean alongside helmets are suggestive. The former suggests that some families wished to remember their dead relatives as bearers of weapons, the later suggests that Greek hoplites were not the only armed adventurers in the east. Hoplites in Archaic art are often accompanied by men with bows, and archers were critical in naval and siege warfare.

Stern's most detailed survey of militaria was published in 1982, and excavation and publication continue. Oren Tal mentions graves containing "weapons" from the Persian period in the land between the Jordan and the sea, and a thorough collection and examination of site reports might reveal a few more daggers, spearheads, and axes.[686] Tal also provides an overview of destruction layers in coastal sites which have been linked to historical events such as Tachos' invasion and Tennes' revolt in the fourth century. Distinguishing destruction by accident and destruction by an enemy can be difficult, and so can be dating a layer sufficiently precisely to link it to events in literary sources, but nevertheless this work is of interest to a variety of researchers.

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680 Stern 2001: 323

681 Stern 1982: 154-157 is better cited than the updated version in Stern 2001: 530-534

682 Horse bit from Tel Gezer: Macalister 1912: vol. 2 pp. 13-14, Fig 214 (a Tel Gezer Project is currently re-evaluting Macalister's work).

683 Chalcidian helmet from Ascalon: Radan 1958. Corinthian helmet from Mersin, Turkey: Radan 1961. Another Chalcidian helmet: Radan 1976 (*non vidi*). Yet another Corinthian helmet of gilt bronze was dredged out of Haifa Bay in 2007 and dated to around 600 BCE: see the picture and commentary facing the title page in Kagan and Viggiano 2013 (it does not appear to have been the subject of an article).

684 Swords: Elgavish 1968: 34, 53, pls. 44:73, 62:150-152 (*non vidi, in lingua hebraica*)

685 Stern 1982: 69-92, Stern 2001: 470-477 (arrowheads seem to have been found at ʿAtlit, Carmel, Beth ha-ʿEmek, Yasʿour)

686 Tal 2005: 88

In Judah many archaeologists have investigated traces of the Babylonian conquest in the 580s. Arrows and slingstones from the Babylonian sieges of Jerusalem or Tel Malḥata might be compared with evidence for Persian sieges discussed below.[687] The forts from Idumaea and the Sinai such as Tel Arad cannot be discussed here, even though their ostraca, purpose, and historical context are the subject of extensive research. Achaemenid relations with the Arabs of Transjordan and the Red Sea seem to have been more peaceful than under Nabonidus or the Successors, and Benjamin Isaac has written extensively about the relationship between pastorialists and the Parthian, Sasanid, and Roman states and the function of rural strongholds in Roman times.[688] A possible absence of violence in this area might be just as important in understanding the Achaemenid empire as the study of siege works and destruction layers.

5.3.5 Egypt

Egypt is also a difficult area, since researchers often focus on very early periods, the impressive monuments of the New Kingdom, or the Greek papyri of Hellenistic and Roman Egypt.[689] Lower Egypt appears to have been a key source of soldiers and sailors in Egypt of the 6th through 4th centuries, but impressive finds tend to come from the dry areas of upper Egypt. Petrie's excavations at the "Palace of Apries" in Memphis revealed bronze scales from armour, a lead sling bullet with a Demotic inscription, and a steel sword 29.1" (74 cm) long with a bone grip and a scabbard decorated with steel bands.[690] While both Stern and Moorey included this in their studies of weapons from the Achaemenid period, it is a typical Roman gladius of the first century BCE.[691] The excavations at Tel Defenneh (probably the Pelisian Daphnai of Herodotus 2.30, which he lists alongside Elephantine as the site of a garrison first under Psammetichus and then under the Persians) revealed an iron akinakes, a fragment of an iron sword or dagger with a straight, narrow tang, and many iron and bronze arrowheads in addition to the famous pottery from the Aegean.[692] It might be worth reexamining this site for traces of the Achaemenid period.

Elephantine and Syene are better known for their texts than for for other finds, since the small island has been continuously inhabited since antiquity and since the local houses were mostly of mud brick. However, the fragments of shoes, pouches, and other leather objects from Achaemenid Elephantine have recently been published by the Ancient Egyptian Footwear Project.[693] Amongst these finds, three types of shoes do not belong to any of the local traditions of shoemaking: they use leather for stitching in addition to the native linen thread, and the cut and construction do not match

687 Stern 2001: 321-326

688 Isaac 1992

689 Wutmann and Marchand's contribution to Briant and Boucharlat 2005 is more a bibliographical essay than a tool for finding specific types of objects. Ruzicka 2012 and conversations with specialists give me the impression that there is not a great deal of evidence for soldiers in the Saite and Persian Egypt.

690 Petrie 1909: 11-13-, 16, pl. xvi, xxvi, Petrie 1910: 40, 41, pl. xxxviii, 2

691 Stern 1982: chapter 5 note 36, Moorey 1980: 52, Tuplin 1987: 206 (it is perhaps worth mentioning that the modern discipline of Roman Military Equipment Studies took shape in the 1980s, so knowledge about Roman weapons was much more difficult to access when these books and articles were written). Matthew Amt compares the scabbard to one found with a sword in the River Lublianica, Slovenia. This type is usually known as the *gladius hispanensis* although that may not have been its ancient name (see Quesada Sanz 1997).

692 Petrie 1888: 47-52, 59, 77, 78, pl. XXXVII, 7, 17

693 Veldmeijer 2016, Kuckertz 2006 (a preliminary study based upon photos and drawings rather than handling the fragments)

finds from other sites in Egypt.[694] The publisher described then as "Persian" but we might expect them to be Judean and Aramean like the garrison. It might be worth comparing them to shoes from other sources, such as Neo-Assyrian reliefs, the monuments at Persepolis, or the salt men from Zanjan. Where the glazed brick reliefs from Susa show brightly coloured footwear, these shoes and sandals seem to have been left in their natural colour. Like most pre-Roman leather, they were not tanned, instead being preserved with fats, oils, smoke, alum, or other substances.[695] This would have affected the experience of marching and fighting and maintaining shoes. It is excellent that these finds have attracted the interest of specialists, because interpreting them requires rare training, and because archaeological leather deteriorates rapidly in storage.

5.3.6 Eastern Iran

The archaeology of the eastern half of the Achaemenid empire is particularly difficult and poorly published. A pottery chronology is difficult to establish and in many areas burials are archaeologically invisible. The surveys of Central Asian archaeology by Henri-Paul Francfort refer to finds of weapons in a general way but does not mention specific sites.[696] It seems that in general these were of the Scythian type: akinakai, axes with narrow spikes instead of broad cutting blades, bows with *gorytoi* and trilobate bronze arrows and scale armour. A volume by Gairatdin Khozaniyazov dicusses many fortifications, some probably dating to the Achaemenid period, in Chorasmia.[697]

An important site is the 'Temple of the Oxus' at Takhti-Sangan in Tajikistan. The current building was built under the Argeads and neglected under the Kushans, so that dedicated objects were buried under ruins or incorporated into new construction. However, some of the objects seem to be older, and the excavator believes that it was the source of the famous "Oxus Treasure" found in the 19th century. While Achaemenid scholars know the gold plaques and statuettes from this hoard, they are said to have been found with Hellenistic coins. The site contains remains of large quantities of arms and armour, including both local types and forms borrowed from the Aegean. B.A. Litvinsky has written a whole volume on these finds in the context of Near Eastern and Central Asian arms and armour in general, with line drawings and an English index and summary.[698]

5.3.7 Cyprus

German excavators at 'Old' Paphos (now the village of Kouklia in Cyprus) discovered the remains of a siege ramp from shortly after 500 BCE.[699] The site has a long history of occupation, but in the second half of the 6th century the defences were strengthened by reinforcing the walls and adding a system of ditches and earthworks. Shortly thereafter a large section of the ditch was filled in with debris from a demolished sanctuary, a siege ramp was built against the wall near the north-east gate, and several tunnels were dug from the inside of the town towards the ramp or the

694 Veldmeijer 2016: 22-28
695 Veldmeijer 2016: 17
696 CAH 4-3c pp. 189-193, Francfort 2005
697 Khozaniyazov 2006
698 Litvinsky 2001
699 Maier 1967, Maier 1974, Erdmann 1977 (*non vidi*). There is a summary in Campbell 2006: 14-20 and some modern drawings in Iliffe and Mitford 1953.

ditch. The defenders built fires inside bronze cauldrons at the ends of the tunnel, apparently hoping to cause the ramp to collapse and carry away the besiegers and any towers or rams which they were bringing towards the wall. The pottery, sculpture, and metalwork found in the ramp and related structures suggest that it was built around 500 BCE, presumably in the revolt described by Herodotus 5.115.[700] The site continued to be occupied after the siege, the walls were repaired and the debris of the siege were covered over or used as foundations for new defences, with the latest stage of construction around the middle of the 4th century BCE. This is confirmed by an inscription recording that Nikokles the last king of Paphos rebuilt the walls sometime in the late 4th century BCE.[701] The siege debris includes 452 iron and bronze projectile points, a bronze Corinthian helmet, a bronze object which is probably a bullet-shaped *pilos* helmet, fragments of an iron helmet, and 422 limestone balls weighing from 2.7 to 22 kg which may have been thrown or rolled from the wall. Only a fraction of the fortifications have been excavated, so there are likely many more traces of the siege.

A number of tombs on Cyprus contain arms and armour. A grave excavated into the rock at Amathus contained patches of iron lamellar armour, swords, daggers, spearheads, and vast numbers of iron arrowheads ... possibly as many as 600.[702] Traces of the laces which once held the armour were visible to the excavators. Pottery finds suggest that the oldest burials date to the Cypro-Archaic I, so pre-Achaemenid.[703] Another, slightly later tomb from Idalion contained more iron and bronze scales armour and a variety of arrowheads and edged weapons. One of them is the kind of two-edged sword with a crossguard (Schmitt Schwert type B) which first appears in the late 6th century BCE and several bronze caps for spear-butts (σαυρωτήρ) which also appears around that date.[704] A tomb of the 6th century BCE on Cyprus contains a conical bronze helm.[705] These tombs from Cyprus are difficult to date because many contained several burials and were used for centuries, even aside from later disturbance by looters. A close study of the arms and armour from these sites might enable specific pieces to be dated more precisely, and their properties to be better understood.

5.3.8 Anatolia

Although no cemeteries comparable to Deve Hüyük have been found in Anatolia proper, the region is still rich in archaeology. Sites in Anatolia tend to be familiar to scholars interested in the Achaemenid empire, and this survey cannot include sites such as the fortress and Persepolis-style reliefs at Meydancıkkale in Rough Cilicia, or the numerous sculptures and funeral monuments from western Anatolia.

700 Maier 1967: 319
701 Maier 1959: 58 (*non vidi*)
702 Gjerstad et al.1935: Vol. 2 p. 13, pls. V, CL
703 Bengt Thordeman, who had been in close contact with the excavators, suggested "early 6th century" for the tomb at Amathus and "late 6th century" for the tomb at Idalion in *Armour from the Battle of Wisby*. I thank Timothy Dawson for reminding scholars that Thordeman addressed ancient armour as well as medieval and modern.
704 Sword: Gjerstad et al. 1935: Vol. 2 pp. 538ff., pl. CLXXI - 10 (object no. 319); for the typology, see Schmitt 2007. Sauroters: plate CLXXIV (11 - 13)
705 Overlaet 1979 with earlier literature

Perhaps the most important site in central Anatolia is Gordion.[706] Between the beginning of the Iron Age and the 3rd century BCE, Gordion was an important walled town and administrative centre. The citadel is about 350 by 500 metres today, and contains spectacular stone fortifications and three destruction layers: a fire around 800 BCE (once dated later and associated with the Kimmerian invasions), a siege and the demolition and rebuilding of the fortifications under the Teispids, and another disaster around 400 BCE. The citadel was deliberately abandoned around the end of the 3rd century BCE and afterwards remained mostly undisturbed. The lower town and fortified strongpoints like Küçük Höyük seem to have been barraged with arrows in the 6th century BCE, and the skeletons of soldiers and traces of a siege mound were found on and against the citadel.[707] Finds from the Persian period include a complete armour of iron scales.[708] A stretch of paved road outside of Gordion suggests how the best sections of the king's road could have been built.

Recent excavations at Seyitömer Höyük near Kütahza, Turkey show that this mound was occupied by a settlement in the 5th and 4th centuries. Early in the 4th century a curved sword was deposited under the foundation of a newly built terrace wall.[709] Foundation deposits are well known from Mesopotamia and Persepolis, but not deposits of weapons.

Sardis and its acropolis and necropolis are a vast site with ongoing excavations. The most famous military find is traces of Cyrus' siege and the destruction of the immense mud-brick walls around the lower town.[710] The excavated section near a gate is 20 m thick at the base and remains 10 m high despite having being demolished in the 6th century then allowed to erode. An area about 6 metres wide next to the gate contained 107 bronze and 29 iron arrowheads. Elsewhere, the destruction layer along the wall included an iron sabre 65 cm long, a short iron sickle and iron parts of a wagon or chariot, and a remarkable iron *Spangenhelm* found next to the skeleton of a young man. This helmet seems to have been lined with goatskin, and was reconstructed by workers at the Royal Armouries.

Sites along the coast are often interpreted by scholars looking east from Athens not west fro Babylon, but most of these sites spent a good part of the period 550-330 BCE under Persian rule. These are relevant to the histories of the wars in the area, such as the raid by the Spartans and their allies on Iasos which captured the rebel Amorges, and the arms and armour, clothing, and other material culture used there were part of the Achaemenid military world just as much as of the Athenian. However, they cannot all be discussed here.

Turkish excavations at Phokaia revealed a large section of its archaic wall.[711] This was set into the bedrock and was made of large stone blocks 3.4 to 3.9 metres wide at the base: the chief excavator suggested that the walls were more than 5 km long. Unlike most early fortifications,

706 There are very many publications on Iron Age Gordion, and a bibliography is maintained by the Gordion Archaeological Project at the University of Pennsylvania has an extensive bibliography http://sites.museum.upenn.edu/gordion/ Young 1956, Young 1963, Voigt and Young 1999, Kealhofer (ed.) 2005 (*non vidi*) are especially important for the Achaemenid period.
707 Young 1963: 349, 350
708 Young 1956: 257, plate 86 figure 22 (I thank Marek Verčik for the reference).
709 Coşkun 2017
710 Greenewalt Jr. and Heywood 1992, Greenewalt Jr. 1997
711 Özyiğit 1994

these seem to have been all of stone rather than a stone *sokle* with a mud-brick superstructure. A gap in the wall 4 metres wide next to a tower seems to have been a gateway which was attacked in the 6th century BCE, presumably by the forces of "Harpagos the Mede" who conquered Ionia after the fall of Sardis (Hdt. 1.161-167).[712] There were traces of burning around the gate, and mud with the traces of shoes and a broken amphora on the clay floor, suggesting that a fire was set against the gate and quenched with water. Bilobate bronze arrowheads and a stone ball weighing 22 kg were also found. The gap in the wall was then filled up with earth, presumably to prevent enemies from breaking through the weakened timbers.

The chief excavator identified this stone as a catapult shot like the ones known from Hellenistic and Roman sites. Franz Georg Maier and Elisabeth Erdmann had made a similar argument about stone balls found near the siege ramp at Old Paphos, most of which weighed between 2 and 12 kg but one about 20.[713] Pierre Briant advocated this theory, and by including it in *From Cyrus to Alexander* he ensured that it would be widely known.[714] Literary sources suggest that catapults capable of throwing 22 kg stones were first built under the Successors, and stones can be used in a siege in so many ways (dropped from cranes or trapdoors, rolled off of walls or down sloped embankments, or hurled by gangs of men) that the presence of a stone ball does not require us to postulate a catapult. We would expect ammunition for defending catapults to be found either piled near to the walls or far away from them, not on the floor of gateways or on the surface of siege ramps, while it would be a remarkably accurate shot which landed inside the gate passage. However, as we shall see in the next chapter, there are reasons to question the narrative that the catapult was first invented for Dionysios of Syracuse. Narratives of the early development of the catapult are almost entirely based upon late, literary sources, and strong archaeological evidence would force us to rethink them.[715]

The traces of a siege at Old Smyrna, usually interpreted as an attack by Alyattes of Lydia (Hdt. 1.16), are not strictly speaking Teispid or Achaemenid.[716] However, evidence of Lydian sieges and arms and armour around 600 BCE are obviously relevant to Cyrus' conquest and the period of Persian rule. A cache of weapons in a room on the "temple pylon" built shortly before the siege contained many iron spears and an iron helmet with bronze fittings similar to the one from Sardis.[717] Unfortunately, almost seventy years after its discovery this cache does not appear to have been published: the helmet seems to have been lost in transit to the Archaeological Museum, Izmir. A tomb from this site contains a single-edged, curved sword 58 cm long; this also appears to be unpublished.

712 Özyiğit 1994: 88-91

713 Maier 1974: 30-31, Erdmann 1977: 80-82

714 Briant 1994, Briant 2002: 906

715 A key problem is that early catapults powered by oversized bows ("bow artillery") probably lacked the heavy bronze and iron fittings of later catapults powered by twisted ropes, and large bronze points or stone balls can be shot or hurled by machines other than catapults. It is the iron and bronze fittings and stone or bronze projectiles, not the parts of wood, sinew, hemp or horn, which survive from Hellenistic and Roman sites. On the other hand, we would not expect that the oldest surviving catapult frame comes from the excavations of a farmhouse! Strong evidence might come in the form of artwork: since we have depictions of siege engines from the third millennium BCE onwards, it seems likely that some were carved or painted between 600 and 200 BCE.

716 Cook 1952: 106 and fig. 12, Nicholls 1958/1959, Akurgal 1983 (*non vidi*), Cook 1985. Brouwers 2013: 52, 87 illustrates what the town might have looked like before and during the siege.

717 Cook 1952: 106, figure 12. Greenewalt Jr and Heywood 1992: 12, 23 n. 19 add some more details.

5.3.9 Aegean

Persian soldiers have left two kinds of traces on the Aegean islands and mainland Greece: some which they themselves left, and others in the forms of objects dedicated to the gods at sanctuaries. Contact between the Greek world and the Achaemenid empire gave rise to wider changes which Margaret Miller has called *perserie*, but since identifying cultural influence is subjective, it seems better to focus on objects which were carried in service to the Achaemenids. Nicholas Sekunda identified an embossed bronze disc 15 cm across from Samos with the bosses on the "violin-shaped" shields from Persepolis.[718] The excavator links the shield boss from Samos with the "Neo-Hittite" cities of Syria and eastern Anatolia rather than with the Persians, but the match between the sculptures at Persepolis and the disc from Samos is very good. Violin-shaped shields, probably made of skins or wicker over a wooden frame, are very common from the Late Bronze Age to the classical period and from the Aegean to the Zagros mountains. A recent article by Inna Medvedskaya shows several shields with bosses in Late Bronze Age art, but the "dipylon" shield in Archaic Greece is another example.[719]

The disc is flat, and the "violin-shaped" shields at Persepolis appear to be worn on the arm like an Argive shield. The function of the disk is therefore unclear (it was not intended to cover a hole for the grip in the face of the shield like a Roman *umbo)* but it certainly shined brightly and added a bit of extra protection where the bearer's arm was close to the shield.

Sites from mainland Greece which could be connected to the events in Herodotus have been obsessively excavated and relatively well published. These include the plain of Marathon, the arrowheads from the mound at Thermopylae, the sanctuary at Kalapodi (probably destroyed in 480 BCE), and the Acropolis at Athens whose wooden walls were not sufficient protection against the Mede.[720] (The exact site of the battle of Plataea is notoriously difficult to identify). Most of these sites have produced arrowheads which have been catalogued and organized into typologies and whose find spots are roughly known.

A beautiful bullet-shaped helmet of gilt bronze with the inscription "Taken from the Medes, the Athenians (dedicate this) to Zeus" (Διὶ Ἀθεναῖοι Μέδον λαβόντες) thrown into a well at Olympia sometime in the second quarter of the 5th century BCE clearly belongs to a Mesopotamian tradition of armouring.[721] This helmet is the only find at Olympia which can definitely be linked to the Persian Wars, and the best-preserved helmet from the ancient Near East.[722] The excavations at Olympia have produced large numbers of trilobate arrowheads similar to those from Achaemenid sites, some copper fittings from a gorytos, and a large bronze trilobate point resembling finds from Persepolis and Pasargadae, but Holger Baitinger confessed that "Persische Waffen und Rüstungsstücke scheinen in anderen griechischen Heiligtümern- abgesehen von den oben gennanten

718 Sekunda 1992: 12, Jantzen 1972: 60, plate 56 no. B 1681

719 Medvedskaya 2015: pl. 1, Sekunda 2008: 71 (whether the dipylon shield really existed is controversial, and any survey of Archaic Greek warfare discusses it)

720 For Marathon, Athens, and Thermopylae, see Erdmann 1973 (Blyth 1977: 206-208 summarizes her work). For Kalapodi, see Felsch (ed.) 2007.

721 National Archaeological Museum, Athens, B 5100 published in Kunze 1961: 129-137, pl. 56 and 57, Mallwitz and Herrmann 1980: p. 96, taf. 58, and Litvinsky 2003 (the first writer to realize that it was gilded) with a summary at Archne http://arachne.uni-koeln.de/item/objekt/202509

722 Baitinger 1999: 135

Pfeilspitzen- weitgehend zu fehlen."[723] A bronze horse-bit resembling finds from Persepolis and Pasargadae was found in the so-called *Perserschrott* at the Acropolis of Athens, and and inventories carved on stone at other sanctuaries mention other Persian or Scythian weapons such as *akinakai*.[724] However, men of many nations dedicated things at Greek shrines, and Scythian bows and arrows were widely used, so identifying objects of Near Eastern types is not the same as identifying booty taken from the Persians.

Unfortunately, the periodic attempts to find traces of the hundreds of Persian ships which Herodotus says were wrecked in storms have so far produced few results. Ancient warships did not carry a heavy load of ballast and amphorae to carry them to the bottom and protect them from decay, so until the finds at the Aegates islands off Sicily it was thought that wrecked warships left few visible traces.[725] The Persian Wars Shipwreck Survey, a joint project of various Greek and Canadian institutions, turned up little, although it should be said that the actual fieldwork was limited to one or two weeks a year and that it was not possible to investigate the straits of Salamis due to their use as a shipping channel and as a dump for Athens' sewage![726]

A recent survey of evidence for ship-sheds revealed several small groups from Achaemenid territory. The clearest are a group of six sheds at Kition in Cyprus and three at Dor in the Levant; two possible slipways at Beirut were destroyed for construction in 2012.[727] Abdera in Thrace seems to have already had ship-sheds when it was occupied by the Persians, and sheds and fortifications on Antikythera may be associated with the war in the Aegean under Darius III (although dates from the Peloponesian War to the beginning of the 3rd century BCE have been suggested.[728] The sheds at Kition would have been suitable for "Athenian-type triremes," most of the others are too poorly preserved to assign to specific types of ship. Their research gives the impression that Pireius, with its hundreds of stone ship-sheds, extensive archaeological explorations, and inscriptions recording the construction, was an outlier, and that most naval bases had less stone buildings and have left fewer traces. Not a single ship-shed from the Roman Republic or Principate has been identified with certainty despite plentiful references to navalia or νεώρια in literature.[729] A variety of carvings, coins, and sculptures show Phoenician warships, and these would certainly deserve close attention in a study of the Persian navy.[730] While Darius' canal from the Nile to the Red Sea is famous, and

723 Baitinger 1999: 135 (his trilobate point also resembles the catapult darts in the next chapter)

724 On the horse-bit, see Baiginger 1999: 137-139. The inscriptions cannot be collected and analyzed here. They should be read in concert with sources like Pausanias which describe objects which are now lost.

725 Tulsa and Royal 2012: 36-39 (although their summary of the arguments of earlier scholars does not match my memory of reading those arguments; in particular, a heavy cargo of ingots, stones, and amphorae obviously carried a ship to the bottom faster, and protected more of the hull from decay, than a modest load of ballast in the bilge).

726 Kennell 2004, Kennell 2005, Rupp 2006, Rupp 2007. The project website is at http://nautarch.tamu.edu/pwss/homepage/ and a summary is available on Portal to the Past http://www.portal.cig-icg.gr/node/419

727 Kition: Blackman and Rankov 2013: 349-361 (six sheds facing north in the former North Harbour, c. 37 m long and 5.20 m wide and suitable for "Athenian-type triremes," built late 5th century, demolished, and rebuilt c. 375 BCE). Dor: Blackman and Rankov 2013: 335-339 (three slipways almost 30 m long and 3.8, 4.1, 4.5 m wide in lower parts, one shed is overbuilt by a complex containing Early Hellenistic sherds and the main complex was possibly connected by a staircase to a building of the Persian period); Beirut: Blackman and Rankov 2013: 555

728 Antikythera aka. Aigila: Blackman and Rankov 2013: 277-283 (date unknown, but connected with the building of impressive fortifications on a poor island, at least one slipway c. 39 m long and c. 4 m wide). Abdera: Blackman and Rankov 2013: 270-276 (archaic, apparently abandoned after a flood around 500 BCE)

729 Blackman and Rankov 2013: 30

730 Casson 1995: 94-96

was supposedly "wide enough for two triremes to be rowed side by side" (Hdt. 2.158.1), the Persian navy in the Red Sea, Persian Gulf, and Indian Ocean is even more a *classis incognita*.

The Aegates islands finds give a rare chance to test the numbers in histories against an external source. Polybius (1.25.7, 1.63.6) thought that the First Punic War was fought with fleets of quinquiremes carrying no less than 300 sailors and 120 soldiers each. To the best of our understanding, none of the 13 rams (*rostra*) from this site could have been mounted on such a large ship.[731] This suggests that even if Polybius' figures for the number of ships in particular battles are correct, he overestimated the number of men. Given that Herodotus is widely suspected of inflating the size of Persian fleets and the numbers of ships lost to storms, the possibility that he turned smaller ships into triremes should be taken seriously.

5.3.10 Objects Of Unknown Origin

Any student of the Achaemenid empire will notice that many famous objects do not come from a known site at all. This is especially obvious in the case of seals, which circulated as curiosities long after they ceased to be used for their original function. A reliquary in Palermo contains a set of 20 seals with parchment labels of the 12th to 15th century, one of which is attached to a cylinder seal of the Akkadian empire,[732] and an American acquaintance who served in Iraq reported that he was offered a collection of seals if he could pay cash. In Tuplin's corpus of seal impressions showing Persian warriors battling human opponents, 15 of 39 infantry scenes and 15 of 24 equestrian scenes have uncertain provenance, and a high proportion of the remainder are seal impressions rather than the seals themselves.[733]

The British Museum and the Louvre, as well as several less famous museums, have collections of militaria which were acquired on the art market in the 19th and 20th century. The iron and bronze objects marketed as coming from "Luristan" are just as problematic: one collection included a sword made after the year 1000 as well as several objects from the first millennium BCE.[734] Collections of "Luristan" objects sometimes contain Achaemenid objects, but without context the date and authenticity will remain unknown. The Treasure of the Oxus and the finds from Deve Hüyük near Carchemesch (Jerablus, currently controlled by forces friendly to Turkey) sit on the edge of this world, since the former was found under unclear circumstances, stolen, recovered and resold, and the later was clandestinely excavated by villagers and T.E. Lawrence. Leonard Woolley published a list of "grave groups" based on conversations with the villagers, but this is not the same as a documented excavation.[735] One of the *akinakai* was reshaped and resharpened after excavation,

731 Tusa and Royal 2012: 39-42. At the time of publication, only seven *rostra* had been found, but the number continues to increase. William M. Murray of the University of South Florida is working on this topic, but does not appear to have published.

732 Collon 1987: 138

733 Tuplin forthcoming seals 4, 5, 9, 11, 12, 14, 15, 17, 21, 24, 26, 28, 31, 33, 35 (infantry) and seals 43, 45, 47, 49-57, 59, 60, 61(in the draft available to me, this catalogue has 39 infantry and 24 equestrian scenes and another 18 uncertain items for a total of 81)

734 Smith 1971; for overviews see Musacrella 1988: 112ff. or Encyclopaedia Iranica s.v. Luristan Bronzes.

735 Moorey 1975: 108, 116, 117 (a letter from T.E. Lawrence where he describes buying objects from villagers, collecting them from their rubbish heaps, and digging up graves at night and "shoveling" the finds into bags)

a very different kind of finds management than modern archaeologists' obsessive preservation or aggressive discarding of finds.[736]

Some objects acquired in this way have been forged or 'improved' to increase their saleability, and it is easier to challenge their authenticity than prove it. Two solid gold *akinakai* said to come "from Hamadan" appeared in the 1950s. One is 41 cm long, has a dented blade and two ibex heads on the handguard, and is in the National Archaeological Museum in Teheran.[737] The other is 43 cm long, has a broken blade and no ibex heads on the handguard, and is said to be in the Metropolitan Museum of Art, Dick Fund, 54.3.4a, b.[738] If authentic, these would let us imagine how the golden *akinakai* in several famous classical texts might have looked. It is certainly possible that two golden *akinakai* were found by the same diggers. However, the Metropolitan Museum of Art does not list this weapon in its online catalogue (sometimes a sign that they are not sure it is authentic), and it is possible that one or both was made by a goldsmith of Hamadan in the 20th century CE not the 5th century BCE. Greek temple inventories mention *akinakai* as gilt or gold-studded rather than solid gold, and if Artapates could kill himself with a "golden *akinakes*" the weapon presumably did not have a solid gold blade. A short study such as this cannot examine every individual case, but the possibility of forgery must be kept in mind.

Unprovenanced artifacts are often the most convenient for scholars based in Europe and North America. They are usually published in a western language, and the institutions which hold them usually have extensive websites and cooperative staffs. At the same time, there are limits to what can be learned without a full excavation report. (Objects excavated by early archaeologists, such as Petrie, pose similar problems). It is certainly to be hoped that more archaeologists from wealthy institutions work with colleagues from the Middle East to publish reports, conserve finds, share equipment and methods, and make objects in their collections available to a wider audience. The joint Austrian-Iranian project on the Cher Abad mummies, and the joint European-Iraqi surveys in Iraqi Kurdistan (eg. the Land of Nineveh Archaeological Project), offer hope in this regard.

5.4 Classes of Evidence

Some studies consider similar objects from a variety of sites, or compare them to artwork and written evidence. This is important since the evidence for any one class of object is normally spread across many sites (and understanding particular categories of finds is a specialized skill).

Hand weapons (swords, axes, daggers, spears) are scattered across museum catalogues and the reports of the excavations at Deve Hüyük, Persepolis, Pasargadae, and the Temple of the Oxus. A recent article by Gökhan Coşkun addresses single-edged swords from non-Greek contexts in Anatolia, but based on only three known examples aside from artwork.[739] Ephraim Stern provided a

736 Ashmolean Museum, Oxford, accession number 1919.61 (Moorey 1980: 54 no. 151, fig. 9, photo and commentary at Sekunda 1992: 29)

737 *Illustrated London News* 21 July 1956 p. 107 ("NOW IN THE TEHERAN MUSEUM AND PROBABLY FROM HAMADAN: A CEREMONIAL GOLD DAGGER, ABOUT 16 1/2 INS. LONG, DECORATED WITH SNARLING LIONS' HEADS AND, ON THE HILT, IBEX HEADS." and a note dating it to the 6th or 5th century BCE), Ghirshman 1964: fig. 328, Head 1992: 28 fig. 15k, Curtis and Talis 2005: 233 no. 430 (no location is given but it seems to be the same object as in the other photos), Khorasani 2006: dustcover and 406

738 Head 1992: 56

739 Gökhan Coşkun 2017

brief list of finds of specific types of weapons and armour in a footnote, and I have incorporated it into the list of finds above.[740] A comprehensive study would need to consider both finds from the North Aegean and the former USSR and finds from within the empire. The graves of the North Aegean contain some of the best preserved arms and armour of the Achaemenid period and resemble those depicted in art from Anatolia, while many of the weapons from the Achaemenid empire resemble those from 'Scythian' kurgans.

The scabbards of *akinakai*, and their ivory, bone, or metal fittings, have been studied by French and Russian scholars.[741] The iconography on these scabbards draws on Central Asian traditions of a great cat pouncing on a ruminant. Scabbards are carved in very great detail at Persepolis, and a complete wooden core survives from Egypt, but remains from the Eurasian steppes could also be brought into the conversation.[742]

No bows or bowcases survive from the Achaemenid empire, so Christophe Zutterman has written a study of Iron Age bows in the Near East focusing on artwork and to a lesser extent on surviving arrowheads.[743] Blyth estimated the properties of the long Persian and short, B-shaped Scythian bows in his 1977 doctoral dissertation, and several later projects have reconstructed angular bows from the tomb of Tutankhamun and Western Scythian bows.[744] They estimated draw weights similar to those used for deer hunting today, around 20 kg, while Karpowicz and Selby estimated a weight around 55 kg for the East Scythian bows with long arrows from Xinjiang.[745] This higher weight is closer to the evidence for the draw weights of English, Turkish, Chinese and Japanese military bows in the 16th century, but ancient bows had important differences from bows in Early Modern Eurasia, and the combat environment was also different: ancient archers faced less armour and did not need to show that they were just as useful as gunners. There is now a small international community of archers practicing with replicas of traditional bows from across Eurasia, organized into the Asian Traditional Archery Research Network. Specialists in Greek warfare have also noticed that there was more to early Greek archery than a few snappy lines in the Iliad and laconic sayings about spindles and fighting in the shade: this ideology developed over time, and did not prevent Greek warriors from using archery when they saw an advantage in doing so.[746] Future work on Achaemenid archery must engage with both traditions of research as well as archaeological evidence from the empire.

In contrast, arrowheads survive in great numbers and have been a focus of research by many archaeologists. Like pottery or coins, they are found at many different sites and scattered across the countryside, and archaeologists have developed typologies.[747] The organic components which make

740 Stern 1982: chapter 5 note 36

741 Bernard 1976, Perevodčikova 1983 (*non vidi nam non legi linguam Russiam*). Cp. Curtis and Talis 2005: 234

742 Scabbard from Egypt: British Museum, AES 5428

743 Zutterman 2003

744 Blyth 1977, Godehardt et al. 2007, McEwan and Mcleod 1985; cp. Miller/McEwen/Bergman 1986 and Bergman/McEwen/Miller 1988 which are broad and ethnological. Serious makers of Western Scythian-style bows such as Csaba Grózer of Grozer Traditional Recurve Bows seem to prefer to build them with modest draw weights of 30-60 lbs (14-28 kg).

745 Karpowicz and Selby 2010

746 Davis 2013: 1-6, 20-24, Cohen 1994 are good on the ideological context.

747 For Neo-Assyrian sites, see Curtis 2013: 39-43, pl. XI-XIV. For Anatolia and Iran see Derin and Muscarella 2001. Dezsö 2017: 97 lists several other studies.

an arrowhead into an arrow survive less often and have been less often studied, although the length, weight, and stiffness of an arrow affect its properties at least as much as its head. The burning of the treasury at Persepolis preserved traces of the reed shafts and wooden foreshafts of arrows, and Blyth argued in his dissertation that these were relatively light arrows which would have been suitable for weak bows.

Equipment for horses, such as bits, harness, and other tack, has been less often studied in detail. However, the horse itself has been the focus of studies by Gabrielli and Willekes.[748] Willekes proposes that ancient horses can be divided into half a dozen broad categories shaped by the local environment more than selective breeding.[749] These types of horses were as different as a smart car, a heavy pickup truck, and limousine, and shaped the local style of warfare: the peoples of the Eurasian steppes, with pasture for countless horses but no ability to provide them with shelter over the winter, used horses in different ways than sedentary peoples further south whose horses were an aristocratic luxury not an essential tool. An expensive horse was usually a good example of the local type, but might be a bad choice for another style of warfare or sicken in another environment. For the Achaemenid empire, the most important types were the Central Asian horse, the Nesean or 'heavy' Near Eastern horse, the Southern Steppe or 'light' Near Eastern horse, and the Mediterranean horse seen in Greece and Italy, and Willekes sketched out their strengths and weaknesses based on skeletal evidence, artwork, literary sources, and modern varieties of horse which may be related. In her view, examining the horses used by cavalry is at least as important as their weapons and tack. (This perspective complements Russ Mitchell's arguments, discussed in chapter 5, that not all "horse archers" or "steppe cultures" fought the same way).

Tamás Dezsö has written a general study of Near Eastern helmets, and a short article in *Encyclopeadia Iranica* covers helmets in preislamic Iran and central Asia.[750] Only a handful survive from the Achaemenid empire specifically, and not all are easy to assign to a particular culture, such as the unique iron *Spangenhelm* from Sardis.

There is no broad study of finds of body armour from the Achaemenid empire. Most of the finds are small groups of iron or bronze scales. Several studies cover armour in the ancient Near East more broadly, of which the entry for *Panzer* in the *Reallexikon der Assyriologie* is probably the most reliable; a book by Chernenko covers finds from the Eurasian steppes.[751] The intact iron armour from Gordion deserves further study, and the intact armour from Golyamata Mogila in Thrace published by Daniela Agre could be compared to monuments from Anatolia as well as to Xenophon *On Horsemanship* 12.[752] Sculptures from Anatolia, grave goods from Thrace, and a few passages in Xenophon show that horsemen in the area were experimenting with a variety of armour in addition to the traditional helmets and body armour or the new bronze greaves. Some riders wore sleeves of iron lames like the Roman *manica*, gorgets covered with scales, or fitted their horses with headpieces, breastplates, or protectors for the rider's thighs, but the evidence is scattered across

748 Gabrielli 2006 brings together a variety of artwork and texts
749 Willekes 2013, revised and printed as Willekes 2016
750 Dezsö 2001, Encyclopaedia Iranica s.v. HELMET i. In Pre-Islamic Iran.
751 Černenko 2006
752 Agre 2011

surveys and a few articles on specific pieces of armour.[753] The cataphracts of Hellenistic times are thought to have come from the steppes north of the Syr Darya, but just why cavalry in these different regions developed in different directions is not yet clear.

Surviving armour tends to be of iron or bronze, but these were not necessarily the most common materials in antiquity. Most cultures with scale armour make the scales out of both iron or bronze and rawhide, sometimes combining both materials in the same armour, and rawhide scales were very popular in the Late Bronze Age but survive only in the special conditions of Tutankhamun's tomb.[754] The smooth armour with shoulder flaps which appears in the Aegean in the 6th century BCE and rapidly spreads from Gaul to Persis is usually thought to have been of linen or leather, since only a few, late iron examples survive. A number of classical texts describe linen body armour from Egypt and the Near East. This does not lessen the value of archaeological evidence, but it does mean that studies must consider texts, art, armour from other cultures, and faint traces of leather or textiles as well as iron and bronze finds.

We have one study of the leatherwork from Elephantine, and a forthcoming study of the salt mummies from Chehrabad.[755] However, the study of clothing is inherently multidisciplinary, because art, archaeology, and documents each provide an incomplete picture. The recent studies of clothing in documents of the 'long sixth century' in Babylonia need to be combined with archaeological evidence and the older traditions of research into clothing in sculpture and the various styles of clothing mentioned by classical authors. If the mystery of ancient linen armour is ever solved, it will probably involve combing archaeological evidence, artwork, texts, and parallels from recent cultures.

Soldiers also rely on a variety of pottery, wickerwork, leather and hemp containers to carry goods. The canteens from Persepolis are important finds, but the bags of the salt miners at Chehrabad are also relevant. It might be fruitful to study Neo-Assyrian images of deportees in parallel to the lists of equipment for soldiers which seem to mention sacks and drinking skins.

Fortified sites from the Achaemenid empire are fairly thoroughly covered in surveys of archaeological evidence.[756] Many studies of fortifications in the 6th/5th/4th centuries focus on "Greek" sites or sites west of the Euphrates, and it might be worthwhile bringing these two bodies of literature together.[757] While a standard 'imperial style' of architecture similar to the paved roads, stone architecture with colonnades, and rectangular legion forts of the Roman empire is notoriously

753 Bernard 1964 covers the 'armoured saddle'; see also Head 1992: 35-38, 56, Tuplin 2010a: 112 n. 35. The other items of armour are discussed in passing in Sekunda 1992 and Head 1992 although I agree with Sekunda 1992: 49 that it is "uncertain" whether puffed sleeves represent banded armour as opposed to fashionable clothing. A fresh collection of evidence, with reproductions of all of the artwork and reference to parallels in later cultures, is a desideratum.

754 Hulit 2002

755 Veldmeijer 2016, and a study by Karina Grömer and some Iranian colleagues. Henkelman 2008: 30, 31 mentions a forthcoming publication of embroidered textiles, some of them cotton and some decorated with gold appliques, from a tomb of roughly 600 BCE at Arǧān in Khuzestan.

756 The chapters on Iran and Central Asia in Briant and Boucharlat have many examples

757 Maier 1959-1961, Winter 1971, Garlan 1974, Lawrence 1979, and McNicoll and Milner 1997 are some influential surveys. Josho Brouwers is working on a book on early Greek fortifications based upon his postdoctoral work in the Aegean.

hard to identify, evidence of influence from one region on another, such as the Greek chisels used on some of the monuments in Fars, would be useful.

Traces of Persian sieges are usually covered in surveys of siege warfare such as Duncan Campbell's.[758] These surveys devote only a few pages to the Achaemenid period, and there is room for more detailed studies. It is also worth asking whether there are traces of trenches and circumvallation in addition to the conspicuous mounds and tunnels. To my knowledge, no Persian military camp has been identified, and studies of battlefields such as Marathon and Thermopylae were relatively primitive in comparison to the meticulous, computer-assisted recordkeeping of some later 'battlefield archaeology.' Recording the findspot of every buckle or projectile within centimetres is an impressive project even if its value has been debated.

5.5. Larger Themes

Surveys such as this can also address larger themes. One example is cultural and technological transfer within the Achaemenid empire. From the first studies of Persepolis it was clear that the sculpture there drew on a variety of Mesopotamian, Iranian, Egyptian, and Aegean traditions, and since then a great deal of ink has been spilled over which ideas or techniques were borrowed from where, and especially about Greek influence on the Persians and Persian influence on the Greeks.

One reason why the focus on “Achaemenid” “Iranian” or “Scythian” objects is unfortunate is that it reflects an outdated understanding of the relationship between material culture and ethnicity. In the past forty years, archaeologists have discovered that it is difficult to use material culture to identify particular ethnic groups unless you already know who lived where and what was important to their identity. People often borrow objects from another culture, changing them to a greater or lesser extent, without feeling that this threatens their status as a member of their own culture. In the case of military equipment, men all over the Achaemenid empire used Scythian bows and arrows, sometimes calling them by a foreign name, without otherwise being "Scythianized" or adopting other aspects of Scythian material culture. The "king's troops" in Egypt might appear in the form of Babylonians using Scythian weapons, whose commander wore a cylinder seal showing him killing a Scythian. The idea that some styles of equipment are uniquely "imperial" while others are only relevant to subjects and outsiders does not match the evidence of artwork, documents, or literature. Archaeologists have carefully constructed typologies of arrowheads and catalogued finds of Scythian trilobates, although more could be done to understand the bows which propelled these arrows and issues such as the length and weight of the shafts.[759] The B-shaped bow from Xinjang was used with long, wooden arrows but art from the west often shows short arrows and the arrows from Persepolis had reed shafts with wooden foreshafts.

Some styles of equipment first attested in mainland Greece (Corinthian helmets, bronze greaves, the shoulder-flap cuirass) were also attractive outside the Aegean. Archaeologists have eagerly noted finds of 'Greek' weapons, but these finds do not seem to have been systematically collected and compared. It might be worth looking more closely at how these technologies spread and were

758 Campbell 2006: 14-29
759 Dezsö 2017 recommends Derin and Muscarella 2001 and Szudy 2015

adapted to meet local needs. The Scythian warriors who wore greaves did not fight like hoplites, and the Babylonian bowmen with Kimmerian bows and arrows did not fight as horse archers. Babylonians selectively adopted "Kimmerian" bows, arrows, and hoods while rejecting their narrow-bladed axes, leggings. Many weapons from 6th century graves in Cyprus resemble finds from the Aegean, but there are also items like the scale armour or bullet-shaped helmets which have other associations.

Victor Davis Hanson approached this anecdotally: in his view, any "Greek" equipment was a mark of "the European embrace of superior technology," and even an Illyrian helmet was evidence for "the ubiquity of Greek arms in the southern Balkans," while the unique iron *Spangenhelm* from Sardis was evidence that foreign helmets were very different from Greek ones.[760] B.A. Litvinsky suggested that Greek swords and cleavers were already made in Bactria before Alexander's conquest.[761] Kurt Raaflaub surveyed the evidence for foreign influence on early hoplite equipment and rejected it.[762] An advantage of focusing on spread and transformation over origins is that sources are usually better in the Achaemenid period than in the 8th and 7th centuries when the elements of the hoplite panoply were invented. "Greek" weapons can also be read in different ways: were they worn by Greek soldiers? Trophies? Imported? Made and worn locally to imitate "Ionian" equipment?

A recurring pattern in the history of technology is that technological adoption is selective, and foreign technologies are adapted to serve their new context. Even when people are enchanted by a foreign technology, in practice they will use it differently than it was used in its original context. The Japanese of the Age of Battles eagerly purchased European helmets and breastplates, but reshaped them and fitted it with the skirts of laced lames which they found attractive; Mikhail Kalashnikov never envisioned his weapons being used to poach elephants, and insurgents often adapt artillery shells or fertilizer into roadside bombs. Another is that technologies are only superior in the right context. If the army of Sparta or Athens had marched into the Black Sea steppes to challenge the Scythians, their fighting style would not have seemed so impressive, and Thucydides describes how trireme design was intertwined with the relative skill of the two fleets and the local terrain: an admiral with more skillful crews might prefer light, mobile triremes which could circle around their opponents to shatter their oars or pierce their sides, but an admiral with less skillful crews, or forced to fight in a narrow space such as the Great Harbour of Syrcause, might prefer heavier ships which could survive a head-on collision. Drawing on a systematic survey of finds, and analyzing it through the lens of the history of technology, might be more helpful than an anecdotal approach and the lenses of "Hellenization" or "hoplite superiority." Simply knowing that styles of equipment spread outwards from the Aegean is not nearly as interesting as which styles of equipment, when and where they spread, how common they were, and how their use in their new cultures compared to their use in the old one.

Physical remains can also be examined in ways which are impossible for artwork or references in literature. An obvious example is the properties of edged weapons. Artwork or literature show that

760 Hanson 2000:
761 Litvinsky 2001: 521
762 Raaflaub 2013

a people used swords: archaeology shows how they were built, what size and weight they were, and how they want to move.

A handful of studies examine the composition of Near Eastern weapons and armour from the 7th century BCE to the Achaemenid period. These include a Neo-Assyrian iron scale from body armour, an iron *akinakes* bought on the art market, and an iron spearhead from Deve Hüyük.[763] So far, they resemble other weapons from western Eurasia in the first millennium BCE.[764] Smelters in this period could produce relatively pure iron, or iron hardened by the presence of up to 0.8% carbon or 0.5% phosphorous.[765] Producing steel in a primitive furnace is not especially difficult. However, blacksmiths generally made blades from a single piece of iron or from several smaller ones 'piled' side by side and forged into one, rather than using hard metal for the cutting edge and tough metal for the body of the weapon, and did not quench and temper large weapons such as swords and daggers. Instead, they often hammered the edges of swords after cooling to harden them, a process known as cold working. This technique was an established technique in bronze-working, and did not depend as much on precise control of temperatures and composition as quenching and tempering.

The most sophisticated of these weapons is a socketed spearhead 22 cm long from Deve Hüyük.[766] It was worked from a billet of about 50 layers of iron with variable carbon content (average 0.18%, maximum 0.6%) and a small amount of nickel (0.32%). The socket was folded around a stake and brazed closed with impure copper. The layers of iron might have created a beautiful pattern on the surface, and it is possible that the surface of the weapon was further enriched with carbon during working, but it does not appear that the hardest steel was concentrated in the cutting edges, or that the spearhead was quenched and tempered. This spearhead was a beautiful and effective weapon, but still a product of an early stage in the history of the iron industry. The akinakes had a higher carbon content (average 0.6%) and only traces of other elements, so is closer to that preferred by knife smiths today.[767] However, composition was highly uneven with no logical pattern, and again there is no sign of quenching and tempering.

Studies of large numbers of early iron objects usually show that the quality varied considerably, with simple constructions and soft materials existing alongside sophisticated construction and high-quality materials. Roman swords of the first century CE, for example, include examples made from lightly carburized iron and examples with an iron body and steel edges which have been successfully quenched and tempered.[768] Therefore, studies of larger numbers of objects from the ancient Near East would be desirable. The industries which produced hundreds of tons of iron for Assyrian kings were probably very different than those which produced the weapons deposited in rivers, lakes, and bogs in northern Europe. It would also help to analyze more of the hundreds of weapons surviving from Greek graves and sanctuaries, although this requires cutting the metal.

763 Moorey 1999: 278-291
764 The most convenient overview of the metallurgy of early ferrous weapons is Buchwald 2005, cp. Lang 1988 on gladii of the first century CE and Pleiner 1993 (*non vidi*) on La Tenè swords.
765 Moorey 1999: 281 citing studies of iron from Urartu
766 Coghlan 1956: 137-139, fig. 44 (the spearhead in question is the same as Moorey 1980: no. 170)
767 Smith 1971
768 Lang 1988

However, the three early iron swords from Macedonia which have been studied were of similar quality to the spear from Deve Hüyük and the akinakes from 'Luristan.'[769]

Similarly, Pierre Briant was quite indignant with Clive Foss' suggestion that the Ten Thousand taught the Persians to sling lead bullets because the oldest dated sources are a passage in the *Anabasis* (Xen. An. 3.3.17, where Rhodian slingers use them to out-range the Persians who hurled stones the size of their first) and a bullet in a private collection with the name Tissaphernes on it which was found at Gördes in ancient Lykia.[770] He cited a passage in the *Anabasis* where the Cyreans found "sinew" and "lead" for their slingers (Xen. An. 3.4.17, cp. 3.4.31) and suggested that these had been collected for Persian soldiers just like stockpiles of barley for horses. Sling bullets are difficult to date and easy to fake: even if they have inscriptions on them, those are often poorly written, so difficult to date based on the script or dialect. The fact that slingers in Mesopotamia preferred to hurl heavy stones does not necessarily mean that slingers from western Anatolia never used small lead bullets, and few military historians believe that small differences in weapons give armies a significant advantage. However, if earlier lead bullets are ever found, it would resolve the question. Foss mentioned bullets from Knossos (Late Bronze Age?) and Olympia (date unknown: most weapons there were dedicated before 500 BCE, but the latest report prefers to associate them with the Elean attack on Olympia in 364 BCE)[771] while Pierre Briant mentioned unpublished examples, some of them with Greek inscriptions, from Dascylion. Flinders Petrie found a lead bullet with a demotic inscription of Khabbash at the 'Palace of Apries' at Memphis, although this king is now dated to the end of the reign of Artaxerxes III rather than the time of Xerxes.[772]

It is also striking that we have iron helmets from siege contexts at Sardis, Old Smyrna, and probably Paphos. While iron helmets were made in the Neo-Assyrian empire, they are scarce from the Greek world before the Hellenistic period. Hammering a light but deep bowl from iron is a difficult technical challenge, and requires good materials. These materials were probably scarce in the first millennium BCE, so large pieces of armour such as breastplates or helmet bowls were usually made of bronze (possibly by casting them into roughly the shape needed then hammering to finish forming).[773] The situation was reversed in edged weapons: it is much easier to forge a socketed axehead or spearhead from iron than cast it from bronze, so iron axes and spears quickly replaced bronze ones. *Spangenhelme* reduce these technical challenges, since each piece is smaller and requires less complex shaping, and it seems plausible that Anatolia, with its connections to early centres of ironworking, had its own traditions of iron armour alongside to the lightweight bronze armour known from the Aegean. Technical details like this have very little to do with the

769 Photos 1989 (a metallurgical analysis of three swords, a small knife, and an arrowhead from Vergina dating to the 9th and 8th centuries BCE). This appears to be the only published study of the metallurgy of early Greek iron weapons.

770 Foss 1975, Briant 2002: 1037-1038

771 Baitinger 2001: 31, 32. There are five of these almond-shaped lead bullets, weighing 30-42 g each, one from the Leonidaion and the other from unknown findspots. Two are marked with a bundle of lighting bolts on one side and the latters FA (= ἀλείων "of the Eleans"?) on the other.

772 On the date of Khabbash (also spelled Chababash or Khababash) see Ruzicka 2012: 199-201. Objects with his name tend to come from lower Egypt, but he is not mentioned by any of the surviving Greek writers or chronicles. The so-called satrap stele makes him contemporary with a Xerxes. Agnieszka Wojciechowska is working on a paper on the complicated chronology from Artaxerxes III's reconquest of Egypt to Ptolemy I's seizure of power.

773 Manti 2012: 154-158

outcomes of wars and battles, but they are important to the people who make and use arms and armour.

5.6 Conclusion

The *ṣābū šarri* have not left as much material evidence as their Roman counterparts. However, a great deal remains to be learned about those remains which they have left. This chapter is only a brief survey, and a fuller search through the archaeological literature, let alone unpublished finds, would no doubt reveal many other examples. Both Stern and the contributors to Briant and Boucharlat mention many finds of weapons without providing enough details to locate them, and Tuplin's article on garrisons mentions some other promising sites.[774] While surveys often warn about lack of finds and the need to publish excavations before the excavators and their students die, there is a great deal of work to be done studying the finds which are already known and integrating them into wider studies.

Archaeology created the central problem of Achaemenid Studies: how can the picture in the classical literary sources and the Bible be reconciled with that in cuneiform texts and grave goods? Without archaeological fieldwork, these other bodies of evidence would remain unknown. However, broad works in the field tend to be written by scholars focused on texts or art as sources. The barriers to archaeological work are certainly formidable, including civil war, shortages of funds, and difficulty dating finds, and the high standards of documentation in modern excavations encourage archaeologists to focus on small areas over clearing whole sites. However, a glance at the study of war in two other ancient cultures suggests what an archaeological perspective on armed force might add.

If one pages through half a dozen books on the Roman warfare of the Principate and Greek warfare of the archaic, one is stuck by the two fields' choices of evidence. The study of early Greek warfare is dominated by scholars with a classical-philological orientation based at a handful of British and American universities. Art, material remains, and even inscriptions tend to be given a subordinate role and accessed through surveys written by specialists such as Eo Jarva, despite the fact that many theories rely on claims about the specific properties and capabilities of early Greek arms and armour, and the fact that between the *Iliad* and Herodotus very few surviving Greek texts describe warfare or combat in detail. Traditions within Greek history and archaeology such as the reconstruction of siege engines in Hellenistic manuals, the study of the Athenian navy through inscriptions and the ruins at Piraeus, or the obsessive study of bronze swords are not given a central place. The "heretical" research published from 1989 to 2004 was very effective in showing how many elements of the so-called "orthodoxy" could not be documented before the 5th century BCE, and how much evidence from earlier periods did not fit that model. However, as the debate concentrated on topics like what exactly happened when two lines of hoplites came together, or which parts which parts of the *Iliad* resemble combat in the 8th or 7th century BCE and which are 'archaizing' or 'heroic,' a consensus proved harder to reach. Early Greek literature has a lot to say about warfare, but it is not the best source for answering these specific questions.

774 Stern 1982, Briant and Boucharlat 2005, Tuplin 1987: 204-208

In the study of the Roman army, researchers from a much wider range of fields play a prominent role. Field archaeologists, epigraphers, and experts in specific technologies work alongside specialists in Tacitus or Ammianus Marcellinus. Researchers try to draw upon each other's evidence without necessarily deferring to it: the debates about the organization of a legion draw on literary texts, inscriptions, papyri, and the remains of camps without agreeing that one kind of evidence has priority. A variety of handbooks, conferences, and journals keep members aware of the state of the debate and work on similar problems in different disciplines. The result is not always harmony and consensus, but specialists are fairly effective at keeping the debate focused on sources rather than modern abstractions. Roman Army Studies is also strikingly multinational, despite the occasional review complaining that a new book fails to use important sources in languages other than English. Researchers from many countries play a prominent role, and finds and inscriptions from all parts of the empire are integrated into debates.

Work by many disciplines in parallel, without deferring to one, has been a successful approach in Achaemenid Studies since the 1980s. Archaeologists are accustomed to working around chronological uncertainties and a sketchy historical narrative. Archaeologists tend to focus on regions over ethnic groups. That seems appropriate for the Achaemenid empire, where rule took different forms in different places and Pierre Briant's *ethno-classe dominante* was not the same as ethnic Persians in general.[775] Their focus on large data sets and presenting diversity over space and time is a useful complement to the focus on a handful of famous texts in some fields of ancient history and classics. They frequently work with inscriptions and short documents. The cuneiform and Aramaic sources from the Achaemenid period resemble the Roman texts from Vindolanda or Egypt much more than they resemble Roman literature. While a large body of literature describes Persian warfare, these texts are sources from without and pose even more difficult challenges of interpretation than they pose for warfare between Greeks.

Whether we see the remains of the Achaemenid period as significant or "meagre," and however we interpret that, there are significant amounts of militaria waiting to be studied, and many problems which could be addressed from an archaeological perspective as well as a classical or Assyriological perspective. We have one temple with dedicated weapons, several rich cemeteries from Syria and Cyprus, traces of several sieges, and even a few finds from wet contexts (if not from the rivers and bogs which are so fruitful in European archaeology). I am intrigued by Josho Brouwers' perspective on early Greek warfare, and by Elspeth Dusinberry's archaeological study of Achaemenid Anatolia.[776] Certainly, given the few scholars who engage in this topic in an intense way, it would be folly to turn away any interested researcher.

775 Briant 1988a: 137 defines it as follows "Par ethno-classe dominant, j'entends l'aristocratie persie unie autour du Grand Roi par des valeurs communes cimentées par l'histoire et une éducation loyalist, par des rapports fondés sur l'échange services/dons/services; interêts communs aussi car cette petite couche dominante (qui domine également la socíeté *perse*) se partage les hauts postes de direction à la cour, à l'armée et dans les satrapies."

776 Brouwers 2013, Dusinberre 2013

Chapter 6: Greek Literature, and the Army in Action

6.1 Introduction

Achaemenid Studies today has an uncomfortable relationship with Greek and Latin literature. On one hand, many contributions to the Achaemenid History Workshops were inspired by discomfort with the narratives in the classical sources and how those sources were used by researchers. Many scholars today answer "no" to Heleen Sancisci-Weerdenburg's question "was there ever a Median empire?" and the historicity of Darius' campaign against the European Scythians has also been questioned. On the other hand, Greek and Latin literature remains central to the study of the empire. Stephen Ruzicka attempted to write a political history of the empire by focusing on the struggle over Egypt, but while he did his best to bring in Egyptian evidence, Thucydides and Diodorus remained key sources.[777] Just as Greek and Jewish writers help us to understand the Roman empire, the very status of Greeks as outsiders caused them to describe things which native sources took for granted. Students of Parthian history are hardly richer because relatively few Greek and Latin sources survive. Instead, they are forced to work very slowly and carefully to reconstruct even a basic chronology and sequence of kings.

In the case of military affairs, Greek and Latin literature provide most of the evidence which could be used to reconstruct particular wars, campaigns, or battles. Specialists in Achaemenid Studies eagerly make use of Egyptian and cuneiform sources to study the campaigns of Cyrus, the conflicts between Egyptian magnates and Persian kings, and the wars which lead to the division of the empire amongst Macedonian warlords, but few of these sources can be linked to those events. Greek and Latin sources also provide broad pictures of military organization, the equipment of soldiers, and other aspects of military affairs. Many researchers have used these to organize information provided by other kinds of evidence. Having some kind of model to work from is valuable, and so is having so many vivid descriptions of battles which still inspire modern readers.

This chapter can clearly not be comprehensive, or attempt to describe the major Greek and Latin sources and the debates about their value in a comprehensive way. Instead, it will begin with some general methodological problems in using Greek and Latin literature to write about battles, then proceed to a series of case studies: the reception of the scythed chariot after the fall of the Achaemenid empire, battle mechanics in the period described by Herodotus, the organization of the army, the size of armies and prominence of infantry in them, and the idea of Persians adopting Greek weapons and fighting styles. These case studies and methodological considerations will provide a framework around which later, lengthier studies might be built.

6.2 Methodological Problems

This chapter will focus on land battles, since the Greek and Latin sources are the only kind from which a "battle piece" can be constructed. Military history which focuses too much on institutions and peacetime is sometimes criticized for neglecting what armies are for (although not all armed

777 Ruzicka 2012

forces are organized to be effective at fighting battles). At the same time, writing "a battle piece" or the study of combat mechanics faces some particular methodological difficulties, as does using classical literature to understand the Achaemenid empire.

6.2.1 The Problem of Writing a 'Battle Piece'

Methodologically-minded historians have long written about the problem of writing a 'battle piece.' It is traditional to cite the paper by N. Whatley, who used common sense and 'natural experiments' to deflate some ingenious theories about Herodotus.[778] However, Reinhold Bichler has recently examined the battles in the Alexander Historians, Cunaxa, and Pharasalus.[779] Bichler emphasized the literary and political goals of our sources, and the problems of using comparison of sources or eyewitnesses to find the truth. When multiple stories about the same battle are preserved, they often react to the same early account rather than providing truly independent views. This problem has also been raised by two sourcebooks on the famous medieval battles of Crecy and Agincourt, which by gathering and translating all the available sources make the gap between the medieval and the modern accounts very clear.[780] The *Gesta Henrici Quinti*, a key source for modern narratives, was widely read in the 40 years after the battle of Agincourt, but not widely cited, and then forgotten until 1827,[781] and the influential French accounts by Monstrelet, Waurin, and Le Févre seem to borrow from one another or from a common source (although in this case, the version which may be oldest was also the version most widely read).[782]

Some studies try to avoid the problems of understanding specific battles by focusing on how battles worked, and the kind of thing which happened in them. Victor Davis Hanson framed *The Western Way of War* as an response to Keegan's *Face of Battle*: where Keegan used detailed sources from recent times to construct three case studies of Agincourt, Waterloo, and the Somme, Hanson used the less plentiful sources from the ancient world to describe the overall experience of hoplites in the 5th and 4th century BCE. A number of studies of Roman combat in the time of Polybius, Caesar, or Tacitus take a similar approach, also pointing to John Keegan's work as an inspiration.[783] However, this kind of research still works with the same uncertain sources, and its focus on general rules or patterns over the details of specific events rests uneasily with some historians.

Moreover, memory of battles tends to focus on a handful of famous ones. While this is sometimes a matter of chance, often these battles are remembered because they were unusual: the armies were especially large, one side was beaten especially badly, a famous commander was involved, the outcome was totally unexpected. This raises the danger of what Keith Hopkins called the Everest Fallacy: the use of the exceptional to represent a broad category (Mt. Everest is not a typical mountain, Cicero is not a typical New Man, J.K. Rowling is not a typical novelist). This is certainly the case in Achaemenid studies, where both the classical tradition and modern scholarship focus on a handful of "great battles" where an army from west of the Aegean defeated the force of a

778 Whatley 1964 (first delivered as a lecture in 1920, and still recommended in Sabin 2009: 6ff., Brouwers 2013: 168)
779 Bichler 2009
780 Curry 2000, Livingston and DeVries 2015
781 Curry 2000: 22, 23
782 Curry 2000: 135-140
783 eg. Anders 2011 (summarized in Anders 2015), Sabin 2000, Zhmodikov 2000; cp. Quesada-Sanz 2006 which argues for a common kind of infantry fighting in Iberia, Gaul, and Italy.

Persian king or satrap. Most battles were smaller and had less startling results, but these ordinary battles did not inspire great works of literature.

Normally, it would be ideal to counter this by systematically collecting a large body of examples. Philip Sabin applied this approach to show that there are multiple examples where one Hellenistic or Roman army was defeated by another less than half its size, so if we give any credence to numbers in these sources, we cannot simply assume that the side with the largest army had an overwhelming advantage.[784] Fred Eugene Ray Jr. has collected information about all recorded land battles in classical Greece, although this information includes both ancient sources and deductions based upon the thinnest of circumstantial evidence.[785] However, it is more difficult to apply this method to the Achaemenid army. We have no Caesar or Appian or Polybius who describes many obscure fights alongside the famous ones. Christopher Tuplin is working on a catalogue of military events in the sources, and when it is published it should be a very valuable tool. It would also be possible to, for example, examine battles in Ionia from the beginning of the Ionian War to the King's Peace, and see whether one of the combatants had a better record of success against the Athenians than the others. However, until such a catalogue is written, we should be careful about assuming that general trends can be read from a list of "decisive battles," and at least try to consider less-famous events alongside Thermopylae, Cunaxa, and Issos.

6.2.2 Greek Warfare as a Moving Target

Another problem is the flood of research into Greek warfare. Earlier research often sought to define a single type of warfare as "typically Greek" from the archaic until the age of Philip and Alexander. This idea was often linked to that of a "Greek miracle" whereby the Archaic Greeks made a series of startling innovations never yet seen in the world which became the priceless heritage of the people writing about Greek miracles. Terms like "hoplite revolution" and "rise of the polis" were thrown around. However, the flood of research since 1989, and the growing influence of ideas from archaeology and other areas of history, has tended to undermine this idea. Rather than a single style of warfare appearing early and existing for centuries across the Greek world, it seems better to understand Greek warfare as something which changed over space and time. Cretans, Thessalians and Laconians all approached warfare in different ways, despite sharing some common material culture (the Argive shield, crested bronze helmets) and customs (living in city-states, performing haruspicy before battle). Just as importantly, there was Greek warfare as actually practised, and Greek warfare as the Greeks told themselves it had been practised in the good old days. One of the fundamental criticisms of Victor Davis Hanson's work is that he relies too much on idealizations and generalizations by later writers, and too little on descriptions by contemporary and near-contemporary sources of how particular actions were carried out.[786]

784 Sabin 2009: 11-15 (although as he hints in this discussion of Marathon, using this to decide the size of particular numbers is circular, since if you assume that one Greek or Roman is worth three Persians or Gauls, you will discover that the Persians or Gauls must have outnumbered their opponents to stand a chance). See Bichler forthcoming for signs that Herodotus also felt that a victory against odds of three to one was plausible, but a victory against greater odds was not.

785 Ray 2011, Ray 2012 (to be fair, Ray is a self-taught historian, so it is understandable that his methods are not as careful as those of trained historians writing for academic presses)

786 This is elegantly demonstrated by Krentz 2002 and van Wees 2004, for further reading see Brouwers 2013: 164.

This more nuanced approach has become the dominant one in Greek military history, although the static Hansonian approach still has its defenders.[787] However, it makes life for students of neighbouring cultures more difficult. Just as Achaemenid armies changed over time, so did Greek ones. It cannot be taken for granted that military practices were basically identical in the fourth century BCE and the sixth, or even that there was no change between Marathon and Plataia.[788] Twenty years ago, Pierre Briant already hinted that armies in Ionia were in some way more vulnerable to Persian tactics than armies in mainland Greece, and while he does not cite evidence, this is certainly possible.[789] The period from the 520s to the 470s in mainland Greece saw the first appearance of trumpets in battle scenes, a tendency for art to show warriors with a single long thrusting spear rather than a pair which could be thrust or thrown, the first widespread appearance of heavy bronze spikes on the butts of spears in Greek sanctuaries, the replacement of the old iron *Gruffzungenschwerter* with new families of cross-hilted swords, and a change in the role of archers: archers in art of the 7th and 6th centuries tend to crouch behind the shield of a hoplite, like the archers in Homer and stone-throwers in Tyrtaeus, but after 500 BCE they are more likely to stand upright and be separated from the hoplites.[790] The *promachoi* of the sixth century, dressed in terrifying bronze from head to foot to help a generous friend settle a feud, were probably very different than the linen-armoured front-rankers of a mercenary company in the fourth.

In itself this undermines the idea that there was a single persistent reason for Greek victories over foreign armies. Such a reason would have had to persist through all the cultural and military changes between the 490s and the 330s. However, it also means that Achaemenid historians cannot simply treat Greek armies as static and unchanging and use them as a yardstick to measure Achaemenid ones. This further increases the challenge of integrating the scraps of information on different aspects of warfare, since there is no reason to think that either 'Greek' or 'Persian' armies were unchanging. We would be equally unjustified in assuming that soldiers in the Aegean and Babylonia faced similar pressures and influences and so changed their practices in similar ways.

6.2.3 Synchronic and Diachronic Models

Another dilemma is whether to approach Achaemenid armies from a synchronic or diachonic perspective. Most of the information on Persian armies in Greek and Latin literature comes from three bodies of evidence. First is the *Histories* of Herodotus, which describe events from the Trojan War to 478 BCE (with a few digressions on later events). Next is a group of sources from around 400 BCE, especially the works of Xenophon. Last is the Alexander historians, who concentrate on events from 334 BCE onwards and wrote under Roman rule. These sources were written in distinctly different contexts, and focus on different times and parts of the empire. They therefore

787 eg. Schwartz 2009 and some of the contributions in Kagan and Viggiano 2013

788 Hyland 2011: 272-274. In discussions, Christian Cameron has suggested that the "long run" at Marathon could reflect such a change in tactics, where the Athenians realized that if they stopped their charge a few dozen yards from the enemy and spent some time throwing spears and making threatening gestures before closing in, the Persian archers would slaughter them.

789 Briant, Cyrus to Alexander, 539-540. I thank Tuplin 2010: 102 for the reference.

790 Brouwers 2013: 109, 110 (trumpets and swords), Brouwers 2010: 58, 62 (the sauroter first appears at Olympia in the late 6th century BCE, and the classical dedications at Kalapodi contain ten spearheads for every sauroter), van Wees 2004: 174-183 (archers and pairs of spears). The dates of the Iliad and Tyrtaeus are very controversial, but most scholars prefer sometime in the 8th or 7th century.

confront the historian with a problem. Where they differ, should they be read diachronically as describing three stages of a single phenomenon? A researcher who adopted this strategy might conclude that cavalry became more numerous and prominent as time went on. Or should they be read synchronically, as describing one phenomenon from three different perspectives? A researcher who used this heuristic might conclude that Herodotus was not very interested in cavalry, while the equestrian Xenophon and the Alexander historians with their mounted hero emphasized this aspect. Christopher Tuplin stressed this problem in his article on Achaemenid cavalry, and in his conclusion he leaned towards a synchronic approach:

> Of course, the empire lasted too long for complete immutability to be a viable option, and the iconographic evidence proves that at some stage there came cavalrymen who did not look entirely like those described by Herodotus. But my suspicion is that the status of cavalry within the military establishment was not so very different in the era of Darius III from what it had been in that of his great ancestor and namesake or even that of the Founder.[791]

One problem is that stories about changes in Persian warfare are often bound up with the idea of Achaemenid decadence, where the empire reached its peak under Cyrus or Darius I and then declined, surviving through bribery, mercenaries, and inertia. As we saw in chapter 5, this narrative has coloured readings of the documents from Babylonia, but it has also been used to explain the greater prominence of Persian cavalry, and lesser prominence of Persian infantry, in writers after Herodotus.[792]

Since the 1980s, the trend in Achaemenid Studies has been towards a synchronic approach focused on themes rather than narratives. This was not confined to the Achaemenid History Workshops, since J.M, Cook and the *Cambridge History of Iran* also chose a thematic approach. Head and Sekunda both made use of an "early/late" dichotomy in their surveys, while both Shahbazi and Damayev and Lukonin chose a synchronic approach with occasional hints that things changed.

As was discussed in chapter 2, the centuries immediately before the Achaemenid empire saw significant military change. The same was true in the centuries which followed, as Alexander and his successors responded to new opponents, recruited new troops, and experimented with new weapons. In this context, it is implausible that there was little or no military change over the 200 year history of the Persian empire. Other areas of culture saw rapid developments, as the appearance of the Persian empire and the Delian League brought people from distant areas into contact. However, defining the nature of that change is no easy task, and it is important to ask whether differences between the picture in different sources tells us more about writers or about their world. Tuplin is absolutely correct that any argument for change must be based on careful collection and reading of sources and not simply anecdotes or general impressions.

This problem is also interrelated with the previous one. A key methodological change in the study of ancient Greek warfare over the past thirty years is a focus on when particular practices are

791 Tuplin 2010: 182
792 eg. Nefiodkin 2006, see also the passage of Badian 2000 quoted in chapter 5

first attested, and on the possibility that they emerged one by one in historical times ("gradualism") rather than all together sometime in the archaic.[793] Even writers who still believe in a "hoplite revolution" are expected to make their case using evidence from the 7th and 6th centuries, or provide good reasons why they are leaning on Aristotle or Plutarch. But applying the same methods to the classical sources for Achaemenid warfare, and assuming that things which are in Xenophon but not Herodotus were invented in the meantime, does not seem so convincing.[794]

6.2.4 How Greek is the Greek Tradition?

One fundamental question about the Greek tradition is how "Greek" it is. One series of debates focused on whether certain sources were honest and truthful or liars and deceivers.[795] If one sees Herodotus as a widely-travelled man who faithfully reported and attributed things he had heard, then his histories presumably contain a great deal of information drawn from different cultures; if one sees him as a swindler who invented things himself, then the histories might be very 'Ionian.' Another focuses on whether strange stories in the Greek sources reflect Near Eastern traditions or Greek fantasies.[796] Some see the *Cyropaedia* as a deeply Iranian work, other see its picture of the Persian empire as mere 'décor' or focus on its Greek audience. In a warning against reading Greek literature as a self-contained phenomenon which can only be used to understand other Greek texts, Pierre Briant suggested that "in reading the Greek authors, we must distinguish the Greek interpretative coating from the Achaemenid nugget of information."[797] But of course, the same information can be authentic and incorrect. The stories about "bad emperors" in Suetonius and Tacitus are authentic products of Roman court culture, but that does not make it simple to decide which are true, which are more-or-less correct but unfair, and which are simple slander.

6.2.5 Conflation of Reliability and Literary Skill

Another problem is less often addressed directly.[798] It is commonly regretted that ancient historians often failed to follow the best practices identified by the modern discipline of history, such as relying on primary sources, examining archives, addressing a variety of perspectives, and clearly indicating whenever they go beyond their sources.[799] It seems that historians in the ancient world were not trained in these skills. However, they were trained in telling persuasive stories. It is disturbing that when ancient sources conflict, the balance of opinion usually sides with the most detailed, best-written account. Thus Herodotus dominates our memory of the Persian War, Thucydides outweighs his contemporaries and the *Library* of Diodorus, and Xenophon has often been preferred to Diodorus, Ctesias, and the *Hellenica Oxyrhynchia*. While in each individual case historians have thoughtful arguments to support their opinions, it seems unlikely that in every case the best and wordiest writer was also the best researcher. In the study of the Hundred Years' War,

793 For a history of research in English see Kagan and Viggiano 2013: 1-56.
794 See the discussion of the date at which the scythed chariot was invented below.
795 This debate arguably goes back to German criticism in the 19th century, but the modern debate is usually thought to go back to Detlev Fehling (1989) ; Armayor 1985 and the counterblast in Pritchett 1993 are also influential.
796 Rollinger and Lang 2005, Rollinger 2017
797 Briant 2002: 256
798 An exception is the preface to Green 2006 which passionately argues for the independence and value of Diodorus. However, Green may be writing with a hint of Herodotaean irony.
799 Admittedly, not all highly trained, peer-reviewed, professionalized historians live up to these standards either.

historians are increasingly worried that they have relied too much on Jean Froissart's vivid but imaginative account over writers closer to the events. If only one account of the Hundred Years' War survived in manuscript, it would probably be his, but he is not the source who modern professional historians would chose.

Moreover, within a given source, some particularly memorable passages become fixed *topoi* with influence out of proportion to their length or credibility. A famous example is Xenophon's account of the battle of Cunaxa. Before the great loss of books in late antiquity, Plutarch could still write:

> Now, since many writers have reported to us this battle, and since Xenophon brings it all before our eyes, and by the vigour of his description makes his reader always a participant in the emotions and perils of the struggle, as though it belonged, not to the past, but to the present, it would be folly to describe it again, except so far as he has passed over things worthy of mention.[800]

Yet it is also widely acknowledged that Xenophon's account differed from other contemporaries and eyewitnesses, that he vividly describes things which nobody close to him could have seen or heard, and that his version of the battle is difficult to understand in practical terms. J.M. Bigwood tried to argue that only Xenophon should be used to understand the battle, but still called Xenophon's description of the battle "most unsatisfactory."[801] More recently, Sherylee Bassett suggested that Xenophon's account was shaped by his desire to defend Cyrus, while Ctesias managed to resist pressure from both Artaxerxean and Cyrean propaganda.[802] Whatever one things about Herodotus' statements that he had seen or heard things in person, or the relative value of Diodorus and Xenophon, most surviving Greek and Latin texts were preserved because they could be reworked to meet the needs of a series of different audiences.

6.2.6 Worked Example of Methodology: The Scythed Chariot

A specific case study may make these abstract methodological issues clearer. Such a case should involve an aspect of warfare in the Achaemenid empire which is very prominent in classical texts, but difficult to find in other bodies of evidence.

The scythed chariot of modern scholarship is essentially a creature of Greek and Latin literature. Excavations at the appropriately-named site of Biga in Hellespontine Phrygia are said to have uncovered the remains of a scythed chariot, but after the initial report no further news has been published.[803] I am not familiar with any depictions of a scythed chariot from a place and time where

800 Plut. Art. 8.1 tr. Loeb
801 Gray 1983
802 Bassett 1999
803 Briant 1997 À propos des éléphants: n. 44, Briant BHA I.17, Briant 2002 Cyrus to Alexander: 1037. In an exchange of emails with Selim Adali and Reyhan Körpe on 24 November 2016, I was informed that a chariot with "not so large sickle-like pieces on the axle ends" had been found in the tumulus of Kizöldün near the village of Gümüşçay in 1994. These sickle-like pieces did not seem to have been sharp, and Korpe was unable to obtain permission to publish them. Their current location and condition is unknown. For further information about this site, see Sevinç 1996. The chariots from Achaemenid period graves at Balıkesir and Bin Tepe have now been published in Ersoy 1998. A *biga* in Latin is a two-horse chariot of course.

they were used.[804] The Vulgate translates the famous "chariots of iron" as *falcati currus*, but this shows Jerome's familiarity with classical literature rather than anything in the original text, while a passage from Sanskrit literature set in the fifth century BCE is sometimes said to refer to the scythed chariot, but in fact refers to a chariot which somehow kills vast numbers of men by running around without horses or driver, and in any case the date of Indian texts and their relationship to other literary traditions is a complicated issue.[805] Thus everything which is known about these weapons today derives ultimately from passages in Greek and Latin literature.

Scythed chariots first appear in Ctesias' lost *Persica* in his stories about King Ninus of Babylon. In his *Historical Library* (2.5.4), Diodorus cites Ctesias for the statement that Ninus gathered an army of 170 myriads of footsoldiers, 21 myriads of cavalry, and little less than 10,600 scythed chariots (ἅρματα δρεπανηφόρα) to invade Bactria. They next appear in the works of Xenophon: in his description of the armies which Cyrus and Artaxerxes brought to Cunaxa (Xen. An. 1.7.10-12, 1.8.10), his story of the battle (1.8.20), in his description of a skirmish during the winter which Agesilaus spent camped outside Dascylium (Xen. Hell. 4.1.17-19), and in the *Cyropaedia* (6.1.27-30, 7.1.28-32). Xenophon claims that Cyrus the Great invented them, whereas Ctesias places them in the time of the legendary king Ninus. Lastly, scythed chariots appear in stories about the battle of Gaugamela. They appear in lists of Darius' forces (eg. Arr. An. 3.8.6), then in two anecdotes about the battle. The first, preferred by Arrian, describes how one force of chariots attacked the troops around Alexander who deployed light-armed infantry to shoot them down, grab their reins, and pull their drivers out of them (Arr. An. 3.13.5-6). This account suited his focus on Alexander and hatred for Darius, whom he presents as a feebleminded incompetent (and gave Arrian an excuse to rework stories from his mentor Xenophon). The second, which caught the attention of the 'vulgate' authors, describes how the chariots faced gaps in the Macedonian left and poured through, tearing some men to pieces with their blades before being scattered and overcome. This story suited the 'vulgate' authors' interest in vivid images, their less exclusive focus on Alexander, and their more sympathetic portrait of Darius and his army. A group of researchers in Calgary has reminded researchers that these traditions seem to refer to different events, and suggested that details like the phalanx deliberately opening gaps for the chariots, or forming a square with sarisae pointing in all directions to frighten the chariots, appeared as the story was retold by writers unfamiliar with the Macedonian phalanx.[806]

In Hellenistic and Roman literature, the scythed chariot became a symbol of the exotic weapons of peoples on the edge of the world, and of fiendish but fumbling eastern armies. It featured prominently in stories about the Battle of Magnesia and Mithridates of Pontus (Plut. Sulla 15, 18; Vegetius 3.24) and even found a place in the commentary on Caesar's Alexandrian War (*Bellum Alexandrinum* 75). As retold by writers of the 1st century CE and later, these stories repeat many of the tropes from Xenophon and the 'vulgate' tradition on Alexander: the chariots are said to number tens or hundreds, to come as part of a very large army from the edge of the world, to seem fearsome

804 Nor was Latife Summerer (2007b: 16). She wonders whether the difficulty of showing scythes projecting towards the viewer was part of the problem, but ancient art often shows two or more views of the same object in one picture eg. the war waggons on the Standard of Ur or Egyptian paintings which show head and brust from the side but chest from the front.

805 Nefiodkin 2004: 369-371 lists and rebuts attempts to find scythed chariots in texts other than classical ones.

806 Heckel, Willekes, and Wrightson 2010

at first glance, to sometimes inflict gruesome wounds (described in gory detail) and other times to be defeated by clever opponents. Roman writers loved to show off their skill at *ekphrasis* by describing the wounds inflicted by the scythes (Lucretius, *De Rerum Natura*, 3.642-668; cp. 5.1300-1301 [where the scythed chariot is an example of technological progress in war] and the passages by Diodorus and Curtius above). Once again, a few long and elaborately embroidered set pieces, meant to demonstrate the ineffectiveness of particular opponents, can be contrasted with shorter and less famous passages where chariots are more effective (Appian, *Pontic Wars*, 12.18) or where they have some initial success but are unable to win the battle by themselves (Hirtius, *Bellum Alexandrinum*, 75). Lucullus paraded scythed chariots in one of his triumphs (Plut. *Lucullus* 37.3). From the time of Claudius' invasion of Britain, learned Romans told each other about the scythed British chariots called *covinni*.[807] These stories kept the memory of scythed chariots alive, although I am not certain that I believe them. In the second century CE, Lucian of Samosata told a story about Antiochus' battle with the Galatians where he causes their eighty scythed and 160 light chariots to crash backwards into their own ranks by suddenly revealing his elephants (Lucian, *Zeuxis*, 8-11). Lucan revelled in allusions to earlier writers, whether the lines from the *Iliad* which he quotes, or the statement that "before coming into bowshot, turning they (ie. the Galatians) fled in complete disorder" (πρὶν ἢ τὸ τόξευμα ἐξικνεῖσθαι, ἐκκλίναντες σὺν οὐδενὶ κόσμῳ ἔφευγον, *Zeuxis* 10 tr. Manning) which paraphrases Xenophon's description of Artaxerxes' army running away at Cunaxa (Xen. An. 1.8.19). Their place in Vegetius (*Epitoma* 3.24) and in *de Rebus Bellicis* (12-14) made them part of medieval artists' world, and since the Middle Ages they have been beloved by painters. Albrecht Altdorfer's famous painting of the Battle of Issos (1529: now in the Alte Pinakothek, Munich) shows Darius fleeing aboard a scythed chariot, and in the 20th century they appeared on screen in William Wyler's *Ben-Hur* and Ridley Scott's *Gladiator*. It is difficult for writers trained as classicists to completely set these later stories and pictures aside.

A long tradition of research in Britain takes a comparative approach often inspired by wargaming. Philip Sabin speaks of "the infamous scythed chariot, which was used sporadically by Persian, Seleucid and Pontic armies, with hardly any success ... the fighting value must surely be only 1, and even this overstates the positive contribution of these devices."[808] He dutifully included a unit of them in his Orders of Battle for Cunaxa, Gaugamela, and Magnesia rather than dismissing them as too few to bother representing. After arguing that the scythed chariots were not as unsuccessful at Gaugamela as commonly thought, three Calgary scholars call "the war chariot ... a splendid anachronism in ancient warfare."[809] Less scholarly writers have been even more dismissive. The basic idea here is that we can gather examples of scythed chariots in use and discover what, if anything, they were good for.

Another tradition sees the scythed chariot as unworthy of much attention. Eduard Meyer simply remarked that "to strengthen the attack, scythed chariots were placed before the battle line in order

807 Pomponius Mela, *De Chorographia*, 3.43; several other writers of the period mention *covinni* without stating that they are scythed. I thank Nathan Ross for gathering passages. For a full list of passages see Campbell 2010: 30, 31

808 Sabin 2007: 26 (cp. page 52 where he warns about "the literary *topos* of pachyderms as a double-edged sword", and the rules on p. 243)

809 Heckel et al. 2010: 109

to disturb the enemy formations and mow them down."[810] Shahbazi limited his statements to a single sentence: "There were also units of camel-borne troops, and some riding chariots and scythed-chariots, but these were very seldom effective against massed infantry."[811] Nicholas Sekunda described the scythed chariot as "an excellent 'weapon of terror'- not least to the driver" and focused his discussion on the question when and where they were invented.[812] It is certainly the case that scythed chariots have a larger place in modern memory of the Persian army than in the sources. As J.M. Cook put it "they were never numerous" and only appear in stories about three battles.[813] Neither Aeschylus nor Herodotus mentions scythed chariots, and their references to other kinds have interested few readers.

However, to say that scythed chariots were "very seldom effective" presumes that we have something like a large random sample of times in which scythed chariots were used, which allows us to make a neutral professional judgement about the effectiveness of this system. And in fact, we have nothing of the kind, but anecdotes about three battles in the Achaemenid period, and about later battles when a hitherto-successful army went down to defeat at the hands of the Romans. These battles were selected for a lengthy description because one side, the side with scythed chariots, suffered a horrible defeat. As we saw, Xenophon, Appian, and Caesar mention times when scythed chariots were successful, but these have not attracted the same attention as their stories about startling defeats. Lucian's story is a perfect example of this trope: an army of Greeks or Romans is confronted by enemies from the edge of the world who have not only superior numbers but fearsome scythed chariots, but through bravery and a clever trick turns them back to rampage through their own army.

Moreover, the idea that scythed chariots were useless can be criticized both from within classical literature and without. It is certainly the case that in his famous account of Cunaxa, Xenophon says that Artaxerxes' chariots were harmless (Xen. An. 1.8.20):

> The chariots rushed about, some going through the enemy's own ranks, though some, abandoned by their drivers, did go through the Greeks. When they saw them coming the Greeks opened out, though one man stood rooted to the spot, as though he was at a race course, and got run down. However, even he, they said, came to no harm, nor were there any other casualties amongst the Greeks in this battle, except for one man on the left wing who was said to have been shot with an arrow.[814]

Later the Greeks fuelled their cook-fires with abandoned waggons (including the chariots? Xen. An. 2.1.6). However, Xenophon's account of Cunaxa is far from a simple statement of facts. His subsequent experiences, first the confusing outcome which left both sides in disarray and his hero Cyrus dead, then the arrest of the Greek generals and the promotion of Tissaphernes in place of

810 Meyer Geschichte des Altertums 4.1.1 Das Heerwesen p. 72 "Zur Verstärkung des Angriffs stellt man Sichelwagen vor die Schlachtreihe, um die feindlichen Scharen in Verwirrung zu bringen und niederzumähen."
811 Shahbazi 1986
812 Sekunda 1992: 25
813 Cook 1983: 102, 103. See also Rop 2013: 170 who notes that scythed chariots do not appear in stories of the wars in Egypt in the fifth and fourth centuries. However, argument from absence of evidence is difficult, because sources on those other wars provide almost no details about the Persian armies involved except that they were very large.
814 Xen. An. 1.8.20 tr. Rex Warner

Cyrus, then his adventures in Anatolia with King Agesilaus of Sparta, and finally his retirement to the Peloponnese and exposure to Panhellenism, shaped his perspective. He explicitly cites one alternate version, that of Ctesias (Xen. An. 1.8.26), and it is likely that his version of the battle is a response to other written and unwritten versions by eyewitnesses.[815] After comparing different versions of the death of Cyrus, Sherylee Bassett suggested that Xenophon wrote to refute both of the other traditions which survive, and that Ctesias' version is more successful at challenging both sides' propaganda.[816] In Xenophon's version of the battle, once the fighting began none of Artaxerxes' troops, whether they were archers, hoplites, or cavalry, had the slightest effect on the Greek army. Even within the context of his "battle piece," the scythed chariots are no more or less effective than any other part of Artaxerxes' army. Outside of the *Anabasis*, Xenophon describes the skirmish outside Daskylion where two scythed chariots broke up a group of 700 soldiers who had been foraging for supplies, so that the cavalry who came behind them killed about a hundred of the foragers (Xen. Hell. 4.1.17-19). While this story is less memorable, and commentators have been quick to explain that these troops must not have been real hoplites,[817] it shows that scythed chariots could be effective.

The treatment of scythed chariots in the *Cyropaedia* is even more striking. Xenophon has them invented by Cyrus himself (Xen. Cyr. 6.1.27-30). Xenophon defines them as a new way of using the chariot in war, different from that practised in Cyrene and in the Trojan War, which he says is the same way chariots used to be used in Syria and Media. In Xenophon's view, each of these old chariots required two good men and four good horses, but just spent their time in mounted shooting (ἐν ἀκροβολιστῶν) and did not contribute anything very important to winning. The scythed chariot does not require a second rider, and can, presumably, contribute something more important.

In the decisive battle against the Lydians and their allies, the scythed chariots fulfill the task which has been assigned to them. First they frighten away the enemy's conventional chariots, then a few who are closest to Abradatas their leader charge into the middle of the Egyptian phalanx, killing many of their opponents until they are thrown from their vehicles and killed (Xen. Cyr. 7.1.28-32). The parts of the Egyptian phalanx which were struck by the chariots are badly weakened in the infantry fight which follows. Xenophon stresses that most of the chariots turn aside when they see that the Egyptians are standing in a deep and thick formation, and in fact he has Cyrus warn the commander of the chariots that he should try to drive through the enemy (διὰ τῶν πολεμίων ἐλαύνειν) rather than become stopped within them (Xen. Cyr. 7.1.21). He does not say that Abradatas was wise to charge the Egyptian phalanx. But he certainly does not show the chariots disappointing Cyrus, even against a phalanx of brave men one hundred men deep armed with long spears and tall shields.

The author of the infamous last chapter of the *Cyropaedia* describes the scythed chariots of his own day as just another decline from the good practices of Cyrus:

815 Manning 2013: 5-8
816 Bassett 1999: 483
817 Head 1992: 42 attributes this idea to J.F.C. Fuller

> Neither do they employ the scythed chariot any longer for the purpose for which Cyrus had it made. For he advanced the charioteers to honour and made them objects of admiration and so had men who were ready to hurl themselves against even a heavy-armed line. The officers of the present day, however, do not so much as know the men in the chariots, and they think that untrained drivers will be just as serviceable to them as trained charioteers. Such untrained men do indeed charge, but before they penetrate the enemy's lines some of them are unintentionally thrown out, some of them jump out on purpose, and so the teams without drivers often create more havoc on their own side than on the enemy's. (Xen. Cyr. 8.8.24-25 ex Loeb)

Whoever wrote this chapter, the sentiment is Xenophontic. Good men, with good training, who know and trust their leaders and expect generous awards for success, make good soldiers, but bad men in bad circumstances do not.

The presence of scythed chariots in the *Cyropaedia* is especially interesting since this is, on one hand, a didactic work for a Greek audience and, on the other hand, the most detailed description of scythed chariots.[818] If Xenophon had felt that scythed chariots were useless or irrelevant, he could have left them out or attributed them to the Medes, Babylonians, or the kings after Cyrus who are criticized in the famous last chapter. He could have let Cyrus reform the army by abolishing the scythed chariot instead of inventing it. It would appear that Xenophon was intrigued by scythed chariots, and had firm ideas about how they ought to be recruited and employed. While he was interested in the details of military equipment and organization, he seems to have believed that good leaders, good recruits, and good training were far more important in determining the success or failure of an army. The lesson in an explicitly pedagogical work like *Cyropaedia* matches the lessons which can be drawn from his historical works, where scythed chariots succeed in some circumstance and fail in others

Although Xenophon seems to have liked scythed chariots in principle, discussion still tends to start with his colourful story about Cunaxa. It became a topos that scythed chariots were terrifying but easily defeated. The sources after Xenophon have no interest in providing a balanced technical opinion of this weapons system. Instead, they provide colourful anecdotes. As we have seen, we have one anecdote about clever tactics defeating the scythed chariots at Gaugamela, and one anecdote about them killing some Macedonians but eventually being defeated. Modern researchers often focus on the former or conflate these two fights. Yet it is certainly possible to draw on the classical tradition and present the scythed chariots at Gaugamela not as a joke but as a terrifying weapon which inflicted some damage but was in the end unable to stop the Macedonian advance.

Looking at the literary sources from outside, the gloss that scythed chariots were foolish weapons which reflected the low quality of oriental infantry or the refusal of easterners to abandon an obsolete weapon can also be challenged. It is certainly the case that soldiers are often conservative, because they know that some of them will die in turning a new idea from theory into practice. However, the scythed chariot was invented sometime around the fifth or sixth century BCE and continued in use until the first, being adopted by one dynasty after another. Is it fair to call a weapon which was new in classical times obsolete, or to assume that the warrior kings who

818 On Xen. Cyr. as didactic see Anderson 1970 Military Theory and Practice, Christensen 2006

continued to call upon scythed chariots knew less about warfare than modern researchers who have never seen an arrow shot in anger? It is disconcerting to see the same weapon described as suitable only against weak infantry, and as the only Persian weapon which could defeat a Greek phalanx.[819] While these two theories are proposed by two different groups of researchers, they cannot both be right. Similarly, when conventional chariots were still used in the fifth century BCE in Babylonia, Cyprus, and Cyrene, and scythed chariots continued in use until the second, to call the chariot "anachronistic" begs a number of questions. If we wish to learn what weapon systems were appropriate in the fourth century BCE, should we not look to the weapon systems which were actually used, rather than to modern theories? The term "obsolete" begs just as many questions about whether an idea drawn from the rapid technological progress of the past 200 years should be applied to antiquity. Technological change in ancient warfare seems to have been driven at least as much by fashion and by changing contexts as by improvements in technology. A *lorica segmentata* was not necessarily better armour than a bronze breastplate, but it could be made quickly and cheaply with the technology of the first century CE and fit the military culture of Italy, the Alps, and Gaul where warriors born further east were keen to look like Alexander the Great or Homeric heroes.

The idea of scythed chariots as "obsolete" or "anachronistic" has echoes in the rhetoric of the timeless, backwards Orient. It is true that Xenophon, and other Greek observers, remembered that their ancestors had once fought from chariots and since given up that custom to fight on horseback. But Xenophon was well aware that chariots were still a part of warfare. In the *Cyropaedia* (6.1.27) he cites Kyrene, while modern scholars can mention later practices in Britain and the Alpine region, not to mention the chariots in documents from the reign of Darius I. It is worth asking why chariots fell out of use in some areas but continued in use in others.

Memory of scythed chariots has some things in common with memory of cavalry in the early 20th century. In Anglophone popular culture, cavalry in the 20th century are presented as useless and doomed, proof of the folly of the First World War and the hopelessness of the unprepared victims of the Axis. Didn't British cavalry charge into machine-gun fire, or Polish cavalry rush the panzers with lances? Meanwhile, specialists usually take a more complicated view. They emphasize that at the beginning of the century, few professional soldiers envisioned great cavalry charges or melees with the sabre on horseback.[820] They instead saw cavalry as mounted riflemen who might sometimes dash forwards to over-run infantry before they could bring their cumbersome machine guns and artillery into play. While they understood that horses were very vulnerable to modern weapons, they were convinced that losing some cavalry was better than giving the enemy time to recover and bring their heavy weapons back into action. The development of armoured cars and tanks created new possibilities, but these early vehicles had mechanical limitations and could only be produced and supplied in small quantities. The most common British tanks of the First World War could only move at a walking pace and filled their interiors with hot carbon monoxide, while

819 The first view is very common amongst enthusiasts, but I am having trouble finding a printed version. For the second, see Nefiodkin 2004

820 For an overview see Badsey 2008: chapter 1. The US Model 1913 Cavalry Sabre, designed by the future General George S. Patton, was explicitly designed as a sort of "steel lance" rather than as a weapon for fencing with other cavalry. In the second half of the 19th century, cavalry began leaving their swords and lances behind in some situations, which caused problems in the famous assault on Gaza in 1917 (Badsey 2008: 286-288).

their French counterpart, the Renault FT 17/18, was just big enough to carry a driver, a gunner, and a motor.[821] It was common for half the tanks which started a day's fighting to be out of action by the end. Armies which invested heavily in armoured vehicles in the 1920s found themselves with obsolete weapons and no money to replace them in the 1930s.[822] Shortages of oil made it difficult for most countries to fuel as many motor vehicles as they wished. The Axis continued to rely on horses for transport until their defeat, and the US Army (which had intended to rely on motorized transport) was forced to reintroduce mules for the narrow mountain paths in Italy and the Pacific. In the eyes of specialists, the continued use of cavalry was not simply an example of resistance to change, but also a response to the lack of a viable alternative. Yet the image of cavalry charging into machine-gun fire, and conservative generals unwilling to adjust to the age of the automobile, persists outside of specialist circles because of its poetic power. Similarly, the image of the scythed chariot as a weapon which only foolish orientals would use persists, despite Head's cogent criticisms in 1992.[823]

In my view, we do not have sources which let us form a neutral, professional judgement of the scythed chariot as a weapon. The sources are too few, and they were selected to show the army with scythed chariots failing, or give the writer an excuse to describe gory wounds. They are not a random sample, and they are not independent from one another. On the other hand, we can see what professional soldiers who fought for and against these weapons thought of them. Xenophon seems to have thought that the scythed chariot could be effective under the right circumstances, and the Hellenistic kings who continued to support chariots were in a better position to judge their effectiveness than modern historians. Theories about the origins of the scythed chariot, or their intended opponents, also rest on very thin evidence. Their absence from Neo-Assyrian sources does suggest that they were invented in the sixth or fifth century BCE, and since they are not attested in Greek sources before Ctesias, a date in the middle of the fifth century BCE is certainly possible.[824] Alternatively, they might have already existed in 480 BCE, but not yet reached the Aegean. Scythed chariots are associated with armies raised in Babylonia, where 'chariot estates' existed under the Achaemenids (see chapter 5), so it is possible that they were invented there rather than in Anatolia. The introduction of the scythed chariot does show that military technology continued to develop during the Achaemenid period, the technology of the chariot included. The war chariot was

821 Harris 1995: 68 (ideas and tanks)

822 Harris 1995: chapters 6, 7 discuss this period

823 Head 1992: 44-48

824 Rop 2013: 169-171 argues that Xerxes would not have brought scythed chariots because the terrain in Greece did not suit them, so our scrupulously factual sources Herodotus and Aeschylus do not mention them. However, Herodotus and Aeschylus claim that many contingents were present who had equally inappropriate equipment. If Herodotus could use his description of Xerxes' army as an excuse to describe the ethnic arms of the Persians' subjects (despite the absence of almost all of these contingents from his description of the events that followed), and Diodorus 11.7.3 could arm the Persians with ἀσπίσι καὶ πέλταις μικραῖς instead of the large *gerra* of Herodotus, would Aeschylus and Herodotus have really refused to find some excuse to mention the scythed chariot if they knew of this weapon? While he is correct that scythed chariots are a final step in a general tendency for Near Eastern chariots to get heavier and less manoeuvrable in the first millennium BCE, this does not tell us when this step occurred, and what evidence we have for chariots in the period between the Neo-Assyrian reliefs and Cunaxa does not show scythes. The one depiction of a chariot in combat from the Achaemenid empire, painted in a tomb chamber at Tatarli c. 500 or 480 BCE, shows a vehicle with no scythes which is manned by an archer and a driver, as does a famous hunting scene on a cylinder seal (British Museum, ANE 89132 = Curtis and Tallis 2005: 221 no. 398).

not a fixed and unchanging weapon, but one which developed over time from the second millennium BCE, through the Neo-Assyrian period, and into the Achaemenid and Hellenistic eras. While scythed chariots have often been glossed as evidence that Achaemenid armies were 'backwards' or unable to meet Greek infantry with their own infantry, it is equally possible to interpret them as evidence that the Near Eastern military tradition could still change from within, and did not rely on borrowing foreign technologies such as Scythian bows or Greek drill.

6.3 Methodological Problems in Using the Classical Sources

Having looked at the scythed chariot and its reception in Roman literature and modern research, it seems appropriate to return some general problems which confront the historian who attempts to use Greek and Latin literature to understand how the Persians and their subjects waged war. Historians writing about military matters often fall back on some questionable methods.

6.3.1 Uncritical Use of Classical Sources as a Framework

The first is the use of Greek and Latin literature as a kind of mine which produces facts instead of gold or silver. Pieces of information are gathered from different texts and arranged to support each other in a 'flat' way, with an emphasis on building up a picture from sources rather than exploring their contradictions and nuances or asking whether they are correct. Other kinds of evidence are used to support or challenge a model which is drawn from the Greek and Latin literary sources ("Alexander: wise king or pretentious bandit?" "the empire of Darius III: strong or decadent?" "the Macedonians: *Hellenes* or *barbaroi*?") As a result, even the most rebellious research can become a distorted mirror of the theories it rejects. This pattern can be seen in the "hoplite controversy," as researchers challenge almost every one of Victor Davis Hanson's conclusions, but rarely question whether they are studying a uniquely Greek phenomenon using Greek texts and art.[825] Stories of Marathon or Xerxes' invasion of Greece often recapitulate Herodotus' narrative while reducing the numbers, rationalizing the miracles, and proposing different motives for some of the actors. However, any member of a debate club learns how powerful it is to be the one who defines the question for debate, and any stage magician or politician learns how to draw people's attention here while they act there. Academics are well aware that people construct an other to define themselves against.

This kind of research can certainly lead to progress. Already in 1983, J.M. Cook summarized the scattered evidence for decimal organization in the Achaemenid army, placing Xenophon and Herodotus last in his list of sources.[826] But the basic idea of decimal organization, which inspired researchers to gather other evidence together, still came from Xenophon and Herodotus. The only reason why commanders of a hundred workers at Persepolis, the gloss *azarapateis* = *eisangelis* (< OP +*hazārapatiš* "commander of a thousand") in Hesychius, or groups of ten horsemen in Idumaea Naveh 1981: no. 7) are understood as evidence for military organization is that they fit into the framework provided by the classical authorities. Moreover, Persian terms for "group of ten thousand" and "commander of ten thousand" do not appear in any ancient text. Geo Widengren,

825 Manning forthcoming
826 Cook 1983: 101

who seems to be the first author to list all of these 'old Persian terms' in one place, says he reconstructed *+baivarabam* and *+baivarapatiš* to complete the series,[827] although F. Marquart also suggested in 1896 that if the Persians had a title like μυρίαρχος, it would have been something like *+baivarapatiš* or *+amartapatiš*.[828] These warnings in the original publications are difficult to find in the short summaries by Cook, Shahbazi, and Sekunda.

Often, however, a Greek source is given priority over other kinds of evidence. For example, Herodotus several times contrasts the short spears of the Persians with the long spears of the Greeks (5.49.3, 7.61ff, 7.211, cp. 5.97.1). The first of these passages is in the voice of Aristagoras of Miletus, a speaker whom the reader is encouraged to doubt, but others are in Herodotus' own voice. Many researchers simply accept this, often adding details such as that the Persian spears were “six feet long” “two metres long” or “little taller than their bearers.”[829] In 1894, Abraham Valentine Williams Jackson compared the pictures of Persian spears in royal inscriptions and hinted that in the reliefs, they did not seem so short to him.[830] More specifically, the guards at the right side of the audience scene from the North Staircase of the Apadana, and on some of the glazed brick reliefs from Susa, have weapons about 25% longer than they are tall, whereas the longest kind of spear in Greek art averages about 30% or 40% longer than the bearer.[831] The longer kind of spears at Susa are about 2.1 metres long, compared to the 1.8-2.4 metres ("6 to 8 feet") commonly estimated for hoplite spears, and to the length of a spear from Macedonia which will be discussed below.[832]

827 Widengren 1956: 162 n. 6 "Nous avons construit ce terme hypotheétique d'après l'analogie des autres appellations des charges militaires."

828 As he says in a footnote (Marquart 1896: 233 n. 48) "Die μυρίαρχοι in Xenophons *Kyrupaidie* und der μυριόνταρχος Aischyl. Pers. 314 (vgl. 994, wo der Laurentianus hat, was Dindorf in μυριταγὸν ändert) können dafür nichts beweisen." I thank Shahbazi 1986 for the reference.

829 Eg. How 1923: 123 "On their side the Greeks must surely have realised the decisive advantages they possessed for fighting hand-to-hand in their **longer spears** and more complete panoply. These are the simple military lessons drawn from Thermopylae and Plataea by Herodotus (vii. 211; ix. 62-3)." (cp. How and Wells ad 7.61.2!) Meyer 1965: Bd. 4 S. 70 “Bei den Persern waren Fußvolk und Reiterei mit großen Bogen und Rohrpfeilen, **Lanzen von etwa sechs Fuß Länge** und kleinen, im Gürtel getragenen Dolchmessern bewaffnet”, Head 1992: 27 “The length of spears depicted in Persian art varies, chiefly because of the space available in individual sculptures; but most are **little longer than a man’s height, perhaps two metres.**” Sekunda 1992: 17 “Normally the *dathapatiš* carried **a short fighting-spear six feet long** ...” Krentz 2010: 159 [At Marathon] “the Athenians’ thrusting spears gave them an advantage in hand-to-hand fighting,” Matthew 2012: 88 “In Persian artistic representations, the length of the spear is portrayed at a height not much taller than the bearer.” (but compare p. 24 where he reveals that spears in Greek art range from 0.9 to 1.3 times as tall as their bearers depending on the method of grip), Fink, Battle of Marathon in Scholarship, pp. 26, 36

830 Jackson 1894: 100 “The spear or lance (αἰχμή) is the next weapon in the list of Herodotus. It is to be seen in all of the Persian monuments and is constantly referred to in all Iranian writings. Whether Herodotus rightly terms the Persian spears 'short' (βραχέας) is a question whose answer is a relative one, depending of course on the Greek point of view.”

831 The reliefs of guards at Susa are 17 bricks high and carry spears 19 or 21 bricks high (and a ratio of 1.12 and 1.24). I measure the spears on the audience scene as 1.24 times as long as the men holding them. Matthew 2012: 24 says that long spears held underarm in Greek art average 1.279 times as long as their bearers. One of his favourite examples of a long spear weighted towards the rear, Vatican Museum, inventory number 16571) has a spear 4:3 as long as its bearer is tall (Bardunias and Ray 2016: 14 also cite this painting as showing their favourite type of long hoplite spear).

832 Length: Hyland 2011: 273, van Wees 2004: 48, Krentz 2010: 195. Longer figures sometimes appear, as in De Groote 2018: 35 ("2.3 to 2.8 metres", in a popular article by someone who wrote their PhD on hoplite equipment), Matthew 2012: 10,11 ("2.5 metres/one and a half times the height of its bearer"). Matthew relies heavily upon a statement about the length of spears by Kromayer and Veith published in 1928 and tries to fit the ancient evidence to it. This is a topic where there are many confident statements, but few studies which systematically collect artwork, list it and their criteria for measuring it, and then give a conclusion

Since Jackson's days, scholars have occasionally gathered the passages in Herodotus and acknowledged that the reliefs disagree.[833] One common response is to minimize the problem, using phrases which minimize the length of the spears in the reliefs and not spelling out that spears in Persian art have a similar range of sizes to spears in Greek art.[834] Another is to cast doubt on Achaemenid sculpture as a source, but not point out that the same applies to Attic vase-painting.[835] There are all kinds of reasons why artists might have depicted spears as longer or shorter than they were in reality. Spears in the reliefs at Persepolis often fill the entire height of the scene (isocephaly) while Greek vase painters worked on complex three-dimensional surfaces. However, in all of the ancient Aegean, only a single spear with its wooden shaft has survived and been published, and no text describing the length of a hoplite's spear in absolute terms has been identified.[836] The only way to know the length of Greek or Persian spears in absolute units, such as feet or metres, is through art, whatever gap lies between actual spears and their representation. If one rejects the art, then one cannot describe spears as "six to eight feet long" or "about as tall as their bearers." If one accepts it, then it is hard to say that Greek spears were much longer than Persian spears.

A less common strategy is to suggest that the difference might not have been literal but a matter of reach. If Greek spears were balanced further away from the point than Persian spears, then a Greek spear a foot longer might have had considerably more reach than a Persian one.[837] In medieval German fencing jargon, *das kurtze Schwert* can refer to holding a sword with one hand on the blade so that it is useful at close range for locking joints and thrusting at weak spots in armour.[838] However, the evidence for the balance of ancient spears is also limited, beyond Polybius' famous description of how the Macedonian sarissa is held (Polybius 18.29.2-30.4) and the occasional vase paintings which show spears with a padded grip at (presumably) the centre of balance.[839] Warriors on foot in art from the empire usually thrust their spears rather than throw them, while many hoplites in the 7th or 6th century carried a pair of spears, presumably with the intent of throwing one or both.[840] The spears deposited in Greek sanctuaries and painted on Greek pottery are so diverse that believers in a single type of long, heavy hoplite spear have to reject most

833 Hyland 2011: 273, Lincoln 2012: 350-353, Konijnendijk 2012: 5. Bittner 1985: 154 suggests that spears on the reliefs at Susa and Persepolis vary from 2 to 3 metres long, but when he returns to Herodotus he does not spell out the contradiction (Bittner 1985: 269-273).

834 eg. How and Wells ad 7.61 "The spears represented on the monuments at Susa and Persepolis seem to be seven feet long, and the bows rather less than four feet; but the expressions 'long' and 'short' are relative to the corresponding Greek weapons" (but cp. How 1923: 120 "The Greek army admits of a simple description; it was throughout a hoplite-phalanx ... trusting for offensive purposes most to the thrusting spear (seven to eight feet long)." Head 1992: 27, Green 1996: 36 "[at Marathon]... Greek weapons and body-armour were ... very much superior to those of the Persians. It was long spear against javelin, ..."

835 eg. Head 1992: 27

836 Markle 1977: 325, Matthew 2012: 11

837 This is the theory of Christopher Matthews 2012: 87-91. In his attached diagram, Matthews shows a Persian warrior stabbing downwards with their spears like the villain in a slasher film, rather than thrusting horizontally like darts player which further limits their reach. Bardunias and Ray 2016: 16 point out that a spear 2.4 m long with a tapered shaft and a spear 3.6 m long with a straight shaft have similar reach.

838 See the treatises attributed to Andreas Leigniczer and Martin Huntfeltz in the so-called Codex von Danzig (Hagedorn 2008)

839 Matthews 2012: 20-23. The vase by the Achilles painter, discussed above, is commonly cited as showing such a grip.

840 On thrusting spears, see Hyland 2011: 273. On hoplites with two spears, van Wees 2004: 50-52, Brouwers 2013: 92ff.

of this evidence as "artistic convention" or "not hoplite weapons."[841] While the idea that Persian spears could strike a short distance without being physically short is ingenious, this idea is derived from Herodotus rather than confirming Herodotus. Without Herodotus' testimony, it seems unlikely that so many writers would insist that Persian spears were in some way "short."

The repeated descriptions of Persian spears as "six feet long" or "little taller than their bearers," by researchers who have seen photos of the reliefs from Susa and Persepolis, suggest that the literary tradition shapes how scholars view other kinds of evidence. Classicists often wish for a way to test Herodotus' words, but in this case they have not been eager to do so (or at least, not to state that spears in Greek art and spears in Persian art have a similar range of lengths). Confirmation bias is a well-established psychological phenomenon.

6.3.2 Rationalizing Sources

Another danger is trying to save what the literary sources say happened while offering a different explanation why.

Scholars who need to tell the story of the battle of Cunaxa have often been puzzled by Xenophon's statement that the troops facing Cyrus' mercenary hoplites ran away without even shooting an arrow (Xen. An. 1.8.19). A few of them have rationalized this by explaining that they had been ordered to run away so that Cyrus' Greeks would spend the battle chasing after them instead of defeating the rest of Artaxerxes' army, a trick known as a feigned flight.[842] Supposedly, Tissaphernes was aware of "hoplite superiority"[843] and "Tissaphernes' tactics neutralized his king's most dangerous opponents."[844] But why would Artaxerxes have accepted that the mercenaries were so dangerous that his army had no chance against them? His grandfather had driven the Athenians out of Cyprus and enslaved them in Egypt, his father's men and his little brother had recovered the cities upon the sea, and if some at court warned that the Ionians were mighty warriors, others must have replied that Persians were mightier still. Neither Artaxerxes nor Tissaphernes had read the *Anabasis* and learned that (at least as Xenophon told the story) Persian armies were powerless against the Ten Thousand. This reading shows signs of hindsight bias, and certainly projects the authors' own level of knowledge upon the past.[845]

Rationalizing sources is a very old heuristic, practised by the ancient Greeks (eg. the story of Sophanes and the anchor, Hdt. 9.74, or Euhemeros' theories about the gods), but raises the question of what the story in the sources is based upon. Thomas Harrison reminded Achaemenid historians

841 Fred Eugene Ray estimates that after collecting 340 images of hoplites, Matthew 2012 rejected 71% of them for showing the 'wrong' type of spear or the 'wrong' way of striking: see the letter posted at https://hollow-lakedaimon.blogspot.com/2014/10/christopher-mathews-flawed-analysis-of.html Matthew also pushes the extant spear from Vergina, and many of the spearheads and spear-butts from Olympia, into his 'not hoplite' category. Is it not just as possible that many hoplites used weapons other than the long, specialized thrusting spears which he prefers?

842 This theory appears in Ehrhardt 1994 and was retold (or reinvented?) in Waterfield 2006: 18. The author of the Brywn Mawr Classical Review http://bmcr.brynmawr.edu/2007/2007-07-41.html felt that "Waterfield's account makes better tactical sense than Xenophon's narrative" but Ehrhardt's version inspired a rebuttal in the form of Shannahan 2014.

843 Ehrhardt 1994: 4

844 Waterfield 2006: 18

845 I owe the second phrase to the historian of science thonyc https://thonyc.wordpress.com/

that stories about Archaic Greece can as easily be ‘rationalized myths’ as ‘mythicized history,’ so further rationalizing does not necessarily bring the historian closer to the truth.[846] In the case of Cunaxa, Diodorus tells a story where the Persians put up a better fight. It is therefore worth considering the possibility that Xenophon is simply wrong, and that in the re-telling a battle where the Persians on one side fought poorly has become a battle where they did not fight at all.

6.3.3 Source versus Gloss: Xenoi at The Granicus

Another problem is a tendency to confuse the sources and the narratives inspired by those sources. Many generalizations about war and soldiers in the Achaemenid empire are backed by citations, but these do not always say everything that those citing them would wish, or could be read in other ways. One good example is the composition of the Persian army which took up positions on one side of the river Granicus in 334 BCE. The surviving accounts stress the cavalry battle, where Alexander and the Persian governors confronted each other in hand to hand combat, and the plight of the Greek soldiers in the Persian army, whose surrender Alexander refused to accept. A very old gloss to this battle, already present in Hans Delbrück, tells readers that Arrian says that the Persian army contained 20,000 cavalry and 20,000 Greek mercenary infantry.[847] It was repeated by A.M. Devine in his attempt to “demythologize” the battle,[848] by Ernst Badian in the *Cambridge History of Iran*,[849] by Head in his survey of Achaemenid warfare,[850] and in due course summarized by Philip Sabin.[851] Heckel and Yardley’s recent translation of Arrian helpfully glosses the term “foreign mercenaries” with a footnote “That is, foreign to the Persians. They were Greeks.”[852] The Landmark Arrian does the same, suggesting that the editors think Arrian's words ξένοι πεζοὶ μισθοφόροι are perfectly clear.[853]

The same gloss then applies internal criticism to Arrian: how can there have been so many Greeks if the Macedonians had far more infantry (Arrian, *Anabasis* 1.12.9)?[854] If Alexander did not allow these troops to surrender until all but 2,000 had been killed (Arrian, *Anabasis* 1.16.2), how did he only lose several dozen of his own infantry?[855] Solutions have ranged from proposing that most of the mercenaries were too prudent to stay and be butchered,[856] to suggesting that “little less than 20,000” may be exaggerated and that only some of the infantry were Greeks.[857] A review of the sources suggests that this is the correct approach.

846 Harrison 2011: 35
847 Delbrück 1900: 1. Teil 3. Buck 2. Kapitel S. 180 “Arrian sagt hingegen ausdrücklich, daß die Macedonier den Persern an Fußvolk weit überlegen gewesen seien, nennt überhaupt keine Gesamtzahl der Perser, sondern erwähnt nur, daß sie 20000 griechische Söldner und 20000 Reiter gehabt hätten”
848 Devine 1986: 270 "a little less than 20,000 infantry, the latter all being Greek mercenaries"
849 CHI ii.426 "the 20,000 Greek mercenaries on the Persian side [at the Granicus] can be shown to be a gross falsification (there cannot have been more than a few thousand, plus light-armed and ill-trained native levies)."
850 Head 1992: 66
851 Sabin 2007: 130, 131
852 Heckel and Yardley 2004: 96
853 Strassler and Romm eds. 2010: 29
854 Parke 1933: 179, CHI ii.426
855 Devine 1986: 272
856 Parke 1933: 180, 181
857 Devine 1986: 270 (followed by Sabin 2007: 130, 131)

Arrian (Arr. An. 1.14.4) says that there were little short of two myriads of ξένοι δὲ πεζοὶ μισθοφόροι (foreign footsoldiers who received a wage) as contrasted with Περσῶν ἱππεῖς (horsemen of the Persians). He also describes the troops who tried to surrender after the battle as *xenoi misthophoroi* (1.16.2). The battle scene is bracketed by two passages which do use ethnic terms. In the description of the famous 'council of war,' which draws on the trope of the wise Greek (Memnon of Rhodes) being ignored by a haughty Persian (Arsites), he defines the assembled forces as *hippos barbarike kai hellenes misthophoroi* (Arr. An. 1.12.8). In his description of the aftermath of the battle (Arr. An. 1.16.6) a contrast between Greeks and Persians also appears. However, the other sources for this battle use different language. Plutarch says that when the infantry on both sides came together the satraps' men "turned and fled, except for the mercenary Greeks" (Plut. Al. 16.6). Diodorus 17.19.5 speaks of the footsoldiers of the Persians (οἱ δὲ πεζοὶ τῶν Περσῶν) and later calls them "the barbarians" (17.21.5). Arrian and Diodorus give incompatible accounts of the battle, with Plutarch choosing elements from both traditions.[858] Diodorus surely does not intend readers to think that all of his 100,000 "barbarians" were Greeks. Plutarch distinguishes between the majority of the Persian infantry who quickly fled and the minority of Greeks who fought bravely. Thus only in Arrian is the *whole* mercenary force strongly marked as Greek. Plutarch and Diodorus say that there were other infantry.

In light of all the sources, it seems likely that Arrian's *xenoi misthophoroi* were not all Greeks. Arrian only assigns them an ethnic title before and after the battle, in passages where he is keen to create a dichotomy between haughty Persian cavalry and loyal Greek infantry. Just as soldiers described by Xenophon as *to hellenikon* (the Greek army, Xen. An. 1.4.13) could include contingents of Thracians (Xen. An. 1.5.13, 2.2.7) and challenge each other's Hellenicity in the heat of an argument (Xen. An. 3.1.30-31), *xenoi misthophoroi* could loosely be called "Greeks" even if the reality was more complex. In the same way, cavalry recruited from Pierre Briant's *ethno-classe dominante* could both be described as "horsemen of the Persians" (Arr. An. 1.14.4) and with a series of ethnic or geographical titles (Diodorus 17.19.3-5). By relying on Arrian alone and insisting on giving the Persian infantry a precise ethnic label, scholars have created an unnecessary problem for themselves.[859]

The whole topic of ethnic or geographical titles for troops in Greek and Latin literature, and in translations and retellings of that literature, would be worthy of a detailed study, given the implicit assumptions which are often involved. Such titles can refer to political allegiance, fighting style, place of residence, an ethnicity adopted for the purposes of military service, or the actual origins and identities of troops. Research into late antiquity stresses that ethnic titles in literary sources are often tendentious: a high-status individual from the frontier could present himself at court as Roman, while his enemies insisted that he was a savage and uncultured barbarian. Since Greek mercenaries in Persian service are a *topos* in both ancient and modern writing, it might also be worth asking whether all the troops identified as Greeks in modern research shared that identity. Is this the only case where modern researchers have written barbarian infantry out of the story?

858 Thus Plutarch has the cavalry fight take place in the river (like Arrian and unlike Diodorus) but includes a short infantry battle which ended with most of the satrapal troops fleeing (like Diodorus but unlike Arrian).

859 I can only recall one comment in print which is skeptical of the equation *xenoi* = Greeks: Briant 2002: 784, 792-5, 797.

6.4 How did the Persians Fight? Eduard Meyer's Answer

Battle mechanics are another area where early interpretations have shaped the reading of the sources. In his great *Geschichte des Altertums*, Eduard Meyer described the Persian way of fighting as follows:

> **Dem Pfeilhagel**, mit dem sie die Gegner überschütten, **dem Ansturm und der energischen Verfolgung der Reiterei verdanken die Perser ihre Siege** über die Lanzenreiter und das Fußvolk der Lyder wie über die babylonischen Heere, die zum Teil nur mit Lanzen und Nahwaffen bewaffnet waren und daher auch eherne Helme trugen. Der Kampf zwischen Persern und Griechen ist ein Kampf zwischen Bogen und Lanze. ... Die Perser haben für den Krieg große Völkermassen zusammengehäuft; aber sie im Kampf zu verwerten haben sie wenig verstanden. Die Trennung der Reiter, Bogenschützen und Lanzenkämpfer in besondere Abteilungen wird bereits auf Kyaxares zurückgeführt (Herod. I 103); zu einer weiteren organischen Gliederung aber ist man nicht gelangt. Die Kontingente der einzelnen Völkerschaften und die persischen Korps wurden in der Schlacht in großen Vierecken aufgestellt; im Zentrum nimmt der König oder der Feldherr seinen Platz. Die Mehrzahl der Truppen kann daher nie zum Kampfe gelangen und nur durch ihre Masse wirken. **In großen Ebenen sucht man die Feinde zu überflügeln und in Flanke und Rücken zu packen**, in engerem Terrain wird die gewaltige Zahl eher hinderlich und hemmt die freie Entfaltung und Bewegung der Kerntruppen. **Die Entscheidung wird durch die persische und sakische Reiterei und die Bogenschützen des Fußvolks gebracht**. Zur Verstärkung des Angriffs stellt man Sichelwagen vor die Schlachtreihe, um die feindlichen Scharen in Verwirrung zu bringen und niederzumähen. – Eine besondere Truppengattung sind die namentlich aus Arabern gebildeten Kamelreiter, die Kyros im Kampf gegen Krösos mit Erfolg gegen die lydische Reiterei verwendet hat.[860]

A classical reader can find sources for most of these remarks in writers from Aeschylus to the Alexander historians. Herodotus and Xenophon seem to be the most important sources. Meyer wrote at a time when scientific research into ancient history was young, and was writing a synthesis not a monograph. However, it is remarkable how many writers since then have told a similar story. In 1985, A.R. Burn lamented that no detailed story of the battle of Pelision in 525 survives, but was sure that "the Persian combination of archers and cavalry won a complete victory."[861] M.A. Dandamayev and Lukonin did not cite Meyer, but they explained that "The combined operations of the cavalry and bowmen assured the Persians victory in many wars, and until the beginning of the Graeco-Persian wars there was no army that could withstand the Persian army. The bowmen would throw the ranks of the opponent into disarray, and after this the cavalry would annihilate them."[862] Pierre Briant seems convinced in *Cyrus to Alexander* that "the Persians were accustomed to gaining victories because of their cavalry, which had nearly always provided them superiority in their fights against the Greeks."[863] Peter Krentz was eager to revise traditional accounts of the Athenians at Marathon, and to show his readers Lydian tomb-paintings as well as Athenian vases, but he assured them that "the Persians may have had some hoplites ... but they relied primarily on archers and

860 Meyer 1965: Bd. 4, S. 71, 72

861 Burn 1985 CHI

862 Dandamayev and Lukonin 1989: 224

863 Briant 2002: 540. Cp. 155 on the Ionian revolt "The superiority of the Persian cavalry was total. Only Agesilaus, a century later, was able to challenge it, however ephemerally, by raising a cavalry in the Greek cities ..."

cavalry" and that their cavalry were best at attacking the enemy in the flanks and barraging them with missiles.[864] Yet as he also states, "Herodotus mentions neither archers nor horses in his battle narrative"![865]

Fifty years later, J.M. Cook and Shahpur Shahbazi presented another version. Like Eduard Meyer's interpretation, it has been widely repeated (or perhaps reinvented). Cook's version is shorter and relies on Herodotus:

> The Persian infantry's normal procedure seems to have been to advance and set up their wicker shields as a hedge from behind which they fired their arrows into the enemy. When these were exhausted they engaged the foe in hand-to-hand fighting. Herodotus describes two battles which went to the second stage and were long drawn out- that of Cyrus with the Massagetai on the Jaxartes and Cambyses' against the Egyptians at Pelousion. But usually the Persian infantry seems to have expected to make short work of an enemy who had already been harassed and softened up by cavalry and missiles.

Shahbazi added some more details inspired by Xenophon and the Alexander historians.

> When the battle was joined the archers discharged their arrows, and the slingers (there were units of them: Xenophon, *Anabasis* 3.3.6, 4.16; Q. Curtius 4.14; Strabo 15.3.18) threw their stone missiles. The aim was to throw the enemy lines into confusion. The effective range of the Persian archer was about 120 yards. Then the heavier infantry with spear and sword moved in, supported by cavalry attacking the flanks. These tactics worked well against Asiatic armies, but failed against heavy-armed Greek infantry (hoplites) and Macedonian phalanxes: the arrows were simply stopped by the body armor and the huge shield of the hoplites, and once the hand to hand combat began, no amount of personal bravery could compensate for the Persians' lack of armour and their inferior offensive weapons.[866]

This version places less emphasis on cavalry and flanking manoeuvres, or superior numbers, and adds a final assault by the infantry. However, it also begs some questions. Why did archery succeed against eastern troops, with their conical helmets, scale armour, and large wicker shields, but fail against hoplites with similar armour and smaller shields? (Some vase paintings show hoplites with 'curtains' hanging from the bottom edge of their shields, and these have been explained as responses to the inability to lower the hoplite shield to protect the legs against arrows).[867] In what way did the "heavier infantry" of the Persians have a "lack of armour and ... inferior offensive weapons"? As has been seen, Herodotus' claim that the Persian spears at Plataea were too short is not supported by contemporary art, and while Arrian says that the Macedonian cavalry had an advantage because they had long *xysta* while the Persians used short *palta* (An. 1.15.5), Xenophon [Eq. 12.12, Hell. 3.4.14] and Polybius [6.25.5-11] make it clear that there were advantages to using shorter, more versatile spears.

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864 Krentz 2010: 28 (flanking), 159 (quote)

865 Krentz 2010: 152

866 Shahbazi 1986. Wiesehofer 1994: 138, 139 seems to paraphrase Shahbazi: "Üblicherweise begann man den Kampf, indem man Bogenschützen und (Stein- und Blei-)Schleuderer ihre tödliche Fracht entladen ließ, um anschließend den verwirrten Gegner durch Einsatz der Schwerbewaffneten und der Reiterei von den Flanken her niederzuwerfen."

867 Anderson 1970: 17, 35-36, Jarva 1986

Sekunda chose not to repeat this idea in his survey, and Head proposed an alternative.[868] However, Head did not discuss the Meyer thesis and why he rejected it, and as was noted in chapter 1, his book reached few academic libraries. Thus versions of the Meyer thesis remained common after 1992. Richard Stoneman combined the Meyer thesis with the Napoleonic (but not ancient or medieval) commonplace that cavalry will not charge into a dense mass of men with spears or bayonets.[869] Dennis L. Fink's overview of English-language research presents both the Meyer and the Shahbazi theses without noticing the differences. His vision of the Persian style of combat at Marathon contains the idea that they were prepared to fight on "the broad plains of Asia," statements that the Persians relied on encircling the enemy and barraging them with arrows, and a final assault by infantry.[870] It is understandable that he should do so, since in English-language research, these theses are usually presented as unquestioned facts.

Later scholars have rarely explained where they got their ideas about encircling or barraging with arrows then charging with infantry. But in a colonial age, W.W. How, the famous commentator on Herodotus, was kind enough to explain what he was thinking:

> The wars I mean are those fought between two widely separated races accustomed to a different physical environment. Then it may naturally happen that each race or nation has developed an armament and a style of fighting suitable to the nature of the country in which it dwells, and is practically unable to alter its national arms and tactics. ... The best examples which history offers of this are the great struggles in ancient or medieval times between East and West. Here as a rule the opposing armies differ entirely in character. The Western nation is apt to rely on solid masses of heavy-armed warriors, the Eastern on cavalry and archers skirmishing in open order. This contrast is nowhere better seen than in the Persian War, but something like the same difference meets us again in later history, in the wars of Rome with Parthia, or in the Crusades, though in them, while the Orientals still trust to light horse and archers, the men of the West rely no longer solely or mainly on infantry, but on heavy-armed horsemen, supported by infantry armed with missiles.[871]

How's article has been regularly cited ever since it was published,[872] and his phrase "men of the West" shows up in a similar passage of Hanson's Western Way of War. Is it possible that some other writers who repeat this idea do so because it fits their vague ideas about how "oriental" or "Iranian" armies fight? As it happens, contemporary scholarship on the Crusades emphasizes that many cavalry in the Holy Land were just as heavily armed and armoured as their Latin counterparts, although others who fought in the Turkish style were more nimble.[873]

As was noted above, each element of Meyer's thesis can be supported by citing passages in the classical authorities. Yet different authorities support different parts. Herodotus and Aeschylus

868 Head 1992: 60-62

869 Stoneman 2015: 134, 135 "horses, which the Persians relied heavily on after the initial bombardment, will not charge at a solid object such as the phalanx represented, and so a cavalry charge would be fragmented." John Keegan seems to have popularized this idea in *The Face of Battle*, but I cannot find a single soldier before the end of the 18th century who says something similar.

870 Fink, D. 2014: 143 (page 29 contains another summary, closer to Shahbazi's ideas)

871 How 1923: 117, 118

872 Eg. Fink, D. 2014: 29 n. 128

873 My library and notes on this subject are still in Canada, but the works of David Niccole are a good place to start.

contrast the Persian bow and the Greek spear. Yet elsewhere Herodotus is clear that Persians used both weapons, and Persian archery is much less prominent in the Alexander historians. The Alexander historians imply that the infantry in the Persian line were mostly armed with the spear, and proceeded by groups of loosely-spaced bowmen and slingers like in Greek and Macedonian armies. They describe Darius sending troops into the hills to encircle Alexander at Issos, and preparing a battlefield at Gaugamela to allow his cavalry to encircle the Macedonians. But Herodotus' Persians engage in few encircling manoeuvres on land, although researchers often speculate that Greek actions were driven by a fear of such manoeuvres. The Persians do march around the Greek positions at Thermopylae, but this is a strategic manoeuvre and a commonplace of mountain warfare.[874] Plataea is presented as a "frontal assault" where different contingents clash head on and one is victorious.

Cavalry are very prominent in Xenophon and the Alexander historians, and Herodotus stresses the Greek lack of cavalry at Marathon and Plataea. Yet in Herodotus, cavalry appear mainly before and after the battle. Modern historians often speculate that they would have attacked the Greeks in the flank and rear if clever Greek generals had not outwitted them by building obstacles or choosing the right position, but these attacks are mostly hypothetical.

Before Plataea, Herodotus certainly has the Persian cavalry harass the Greeks, and Xenophon remembers Tissaphernes using the same tactics to chase the Ten Thousand into the mountains. But when Herodotus' Persians wish to decide things, they send dense masses of infantry forwards. In the Alexander historians, the Persians actively refuse to rely on scorching the earth or a series of small attacks. Alexander's army is not presented as constantly followed by a nimble enemy which strikes and runs away, like the First Crusade in its march across Anatolia or Richard's army advancing towards Arsuf, but as confronting a series of strongholds and armies lined up in defensive positions. The historians are insistent that the satraps chose to defend the banks of the Granicus instead of retreating and scorching the earth, and that Masistius and his cavalry failed to slow Alexander's advance towards Babylonia. Thus there is very little evidence in any source that the Persians relied on skirmishing and ambushes. Meyer's thesis combines generalizations which fit the Alexander historians but not Herodotus with generalizations which fit Xenophon and Herodotus but not the Alexander historians. The same could be said of Shahbazi's version. (As Duncan Head pointed out,[875] units of Persian slingers first appear in Xenophon, and while it seems plausible that this cheap, portable, effective weapon was always used, their absence from early art and literature should be explained).

874 When the armies of powerful kingdoms invade mountainous regions, they generally find themselves in difficulties, as the natives occupy high cliffs and narrow passes where the invaders cannot use their heavy equipment and greater skill at fighting as a group. Usually, after some days or years, the invaders find ways to get around these high positions and either trap the defenders or send them running away. This pattern is extremely widespread. In ancient history it can be seen in the wars of Alexander the Great and the eastern campaigns of the Seleukids; in the 19th century, it occurred as Russian armies marched into the South Caucasus and British armies invaded Afghanistan.

875 Head 1992: 40-43

6.4.1 Did Persian Warfare Depend on Superior Numbers?

Some writers see the Persian way of war as based on superior numbers, or alternatively accuse them of not knowing how to use them.[876] The problem of Persian numbers from Xerxes to Darius III, and whether it can be confirmed outside of Greek and Roman literature, will be discussed below. But are we supposed to imagine that the Persians relied on superior numbers when Cyrus fought Astyages? Perhaps when they invaded the rich farmlands of Lydia and Babylonia from their mountainous homeland? No doubt they also managed to bring so many soldiers across the Sinai Desert that they outnumbered the Egyptian army and its Karian and Greek recruits. Even if one agrees with Herodotus that Xerxes' army was immensely large, that does not mean that in every campaign the Persians had superior numbers, or that numbers were in some way essential to their way of war.

In Greek and Roman literature, it was stereotypical that barbarian armies were large, whether they were Asiatics like the Persians and Carthaginians, or Europeans like the Thrakians and Celts. Thucydides (2.98.3) writes that Sitalkes' army was said to be 150,000 strong as it marched into Macedonia; Herodotus (7.165) says that the Sicilians report that Terillos lead an army of 300,000 assorted westerners into Sicily; Caesar claims to have found lists in Greek letters showing that the Helvetii migrated with 92,000 men of military age among a population of 368,000 men, women, and children (*de Bello Gallico* 1.29). If one believed this, one might presume that the Persians' opponents also raised vast armies, and so that sometimes the Persians had the advantage in numbers and other times not. Ctesias attributes an army of 1,700,000 infantry to king Ninus in the age before Nineveh or Babylon had been founded (Diodorus 2.5.4 = Ctesias F.1b.5.4 Lenfant), and even if one reads this as an earnest claim rather than a way to deflate Herodotus' status as the historian of the biggest war ever, it suggests that in Greek literature, vast armies are stereotypically eastern, not just Persian.

As was discussed in chapter 2, the inscriptions of the Teispids and Achaemenids do not particularly emphasize the size of their armies. In the ideology of Darius and Xerxes, their armies win because Ahuramazda brings them aid, not because they have greater numbers. Spearbearers are certainly omnipresent on the glazed brick reliefs from Susa and the Apadana at Persepolis.[877] Yet in scenes of hunting and combat, it is the Persians who tend to be outnumbered. Often a single Persian leads a group of bound prisoners,[878] a single charioteer confronts a pair of lions, or an infantryman kills one opponent while another submits and several more lie underfoot.[879] In Tuplin's catalogue of combat scenes on seals, four show standing 'Persians' outnumbered by standing enemies, and only two the reverse, but one of these (no. 35) is only available through a verbal description which implies that there at least are as many 'enemies' as 'Persians', and the other (no. 37) seems to be an execution scene, where two Persians kill a cringing naked enemy with a crested helmet.[880] At

876 Eg. Meyer 1965: 71, 72 (quoted above). I have encountered very similar ideas in discussions with people interested in ancient warfare who don't read 19th century German tomes.

877 I thank Christopher Tuplin for this insight, since comments on Achaemenid monumental art often contrast it with Neo-Assyrian and New Kingdom Egyptian.

878 See Tuplin forthcoming nr. 16 (Hermitage 19499) and *64-71 ("prisoner scenes without combat")

879 Eg. British Museum, ANE 124015 = Curtis and Tallis 2005: 228 no. 413 (Tuplin forthcoming no. 13b)

880 Tuplin forthcoming. In case numbering changes before publication, no. 35 is in a private collection described by a certain Merrillees, while no. 37 comes from Seyitömer Höyük and was published in "Kaptan 2010: 365-367, pl. 3-5."

Tatarli the Persian army seems slightly outnumbered: Persian superiority is communicated by their chariot, the crowned hero stabbing a Scythian leader in the centre of the scene, and the fact that the dead are all Scythian. The Persians who commissioned seals and painted tombs could have presented their armies as overwhelmingly large, but they did not do so.

While the professional planners of modern militaries sometimes rely on superior numbers or admit that their soldiers will be at a disadvantage in combat, most warriors prefer to see themselves as heroes who can defeat more numerous opponents or overcome some disadvantage with cleverness. The idea that Persian armies were especially large rests on the classical tradition alone, and as we have seen it is not clear that the classical tradition saw Persian armies as larger than other eastern armies until the reign of Darius. It hardly seems plausible that having conquered the world, the Persians would have concluded that their armies were not very effective, and needed to rely less on brave warriors and more on sheer numbers!

While modern scholars have been eager to tell readers how the Persians fought in the time of Darius and Xerxes, many of their statements are difficult to reconcile with even a generous reading of the sources. Even if one prefers a more ‘trusting’ than ‘postmodernist’ reading of Herodotus, much of what is written is difficult to reconcile with his work as a whole. Statements about the Persians fighting in loose formation, being mobile and unprepared for a standing fight, trying to outflank and encircle their enemies, and expecting their archers and cavalry to win the battle are very difficult to support. It seems much more likely that these statements draw on the authors’ general ideas about oriental armies and how they traditionally fight. Encirclement, for example, was a stereotypical goal of Turkish armies, but also famously used by the Zulu.

6.5 An Alternative Model of Combat Mechanics

While the Meyer and Shahbazi hypotheses both have serious problems, and How’s assumption that the Achaemenids fought more like later Mongols than earlier Assyrians can be questioned. However, Herodotus (and contemporary sources such as the Tatarli paintings and the sculptures at Persepolis and Susa) certainly seem like they give enough information to sketch how the Persians fought. What might an alternative model, which was closer to Herodotus and assumed that the Persians were similar to armies of their own time, look like?

6.5.1 The Problem of Labelling Persian Infantry

Human beings often deal with the complexity of armies and combat by dividing troops into a few simple categories according to function. These categories are often based on equipment and transport, such as "mechanized infantry" or "horse archers." However, the Persian infantry described by Herodotus (7.61) are difficult to place in the “heavy/light” dichotomy which European languages have inherited from Latin. They are armed with both bows and spears, wear body armour but no helmets, and carry wicker shields which can be formed into a barrier which is difficult to push down (Hdt. 9.61, 62, 9.102). They do not fight in loose formations, running around here and there to get a better vantage point or evade incoming projectiles. Nor do they lack protection from arrows. They are hard to equate with any Greek or Roman troops in the way that

Xenophon could speak of Egyptians with their tall shields and large spears as "hoplites" while also commenting on how their spears and shields had different advantages and disadvantages than Greek ones.

Translators and glossators often struggle with Herodotus' explanation of how the Persians fought the Lacedaemonians at Plataea:

> In courage (λῆμα) and strength the Persians and the Greeks were evenly matched, but the Persians were unarmed (ἄνοπλοι); besides, they did not have the skill and expertise of their opponents. They would rush forward ahead of the main body of troops, one by one, or in groups of ten or so, and attack the Spartiates, only to be cut down." (Hdt, 9.62.3 after Robin Waterfield)

Didn't he earlier write that all the Persians wore scales of bronze or iron to protect their bodies (7.61), which in one case proved invulnerable to Greek spears (the armour of Masistius, Hdt. 9.22), and that the Persian infantry at the battle were either Immortals or cuirass-bearers (θωρηκοφόροι Hdt. 8.113.2)? Thus it is common to criticize Persian offensive weapons, or explain that their shields and armour were adequate against "the arrows and javelins of their native warfare" but not against manly Greek spears.[881] We will return to the problem of the Persian spear, but there is no basis for describing the other Persian weapons as inferior. The *akinakes* was shorter than many Greek swords, but hoplites with short swords have been praised for choosing a weapon which could be used at very close quarters when the spear was no longer useful.[882] The easterners in Greek art often wield curved swords or axes with curved blades, while in eastern art warriors often wield a fearsome axe with a narrow piercing blade. Such a weapon was a threat to any armour which existed in the ancient world.

Diodorus famously says that a hoplite is so called because of his *aspis* and a peltast because of his *pelte* (15.44.3). While Diodorus, and the scholars who cite this passage as evidence that the hoplite shield was called *hoplon*, have been widely scorned,[883] it seems to imply that someone with an *aspis* is an armed man (*hoplites*) so someone without an aspis is unarmed (*anoplos*), however long their spear and thick their armour. (Similarly, *gerrophoroi* and *thyreophoroi* are defined by the type of shield they carry, not by weapons or armour).

Rather than giving Persian infantry a label drawn from other cultures, such as "light infantry" or "archers" (and implicitly granting them all the properties of those other soldiers in another place and time) it is better to focus on what Herodotus says about these specific troops and their equipment. In his study of the battle of Adrianople in 1205, Russ Mitchell pointed out that "nomad tactics" and "horse archers" in 1205 included some nations who fought almost exclusively with the bow and had neither shield nor armour, and others who wore leather armour and were much more

881 Shahbazi 1986, Green 1996: 36, Billows 2010: 24, 25 *apud* Hyland 2011: 272

882 eg. Brouwers 2013: 110 who suggests that the replacement of longer Naue II swords with shorter *xiphe* after 540 BCE reflects a change to a more tightly-packed style of fighting. Many hoplites in Xenophon wield the *encheiridion* "dagger." Paul Bardunias (Bardunias and Ray 2016: 137) suggests that these short thrusting weapons would be the best choice if hoplites came shield to shield and chest to chest with comrades behind them preventing them from withdrawing

883 Lazenby and Whitehead 1996

willing to fight hand-to-hand.[884] Tactics which worked well against one kind of horsemen could be fatal against the other. In his view, it is much more useful to try to look at the details of these different traditions than to try to understand the properties of abstract, timeless, placeless “light cavalry” and “heavy cavalry.” This is especially important since specialists in the 6th, 5th, and 4th centuries BCE rarely seem to read detailed accounts of any kind of “light infantry” or “archers” in combat. Modern research on this period is much more interested in describing how Greek hoplites fought each other.

Xenophon places *gerrophoroi*, wicker-shield-bearers, at Cunaxa (Xen. An. 1.8.9) and in the garrisons of the Achaemenid empire (Xen. Ec. 4.5), while Plato (*Laches* 191c) places them in combat with the Laconians at Plataia. Xenophon does not use this term for "those who have *mega gerra*" in the *Cyropaedia* (Xen. Cyr. 8.5.11, cp. the *mega gerra* of the mountain-dwelling Chaldaioi- not the lowland people called by the same name- in Xen. An. 4.3.4). Hesychius includes the gloss σπαραβάραι · οἱ γερ(ρ)οφόροι. This has generally been accepted as an Old Persian word *+sparabara-* (related to New Persian *separ* "shield"?)[885] We do not know how this term was used, and whether it referred to whole units of infantry, or just the men (front-rankers? separate units?) who carried shields. The Old Persian word *+arštibara-* "spear-bearer" (= Gr. δορύφορος?) appears as a loanword in Elamite and Akkadian, while bowmen are common in Akkadian and were probably called *+θanuvabara-* "bow-bearers" and all three terms fit Herodotus' Persian infantry.[886] However, it is convenient to call Herodotean Persian infantry *sparabarai*, since many other kinds of infantry carried spears or bows.

6.5.2 The Equipment of Persian Infantry in Herodotus

Almost every aspect of Herodotus’ description of the Persian, Median, and Kissian troops is difficult to understand, and the structure of the Catalogue suggests that it is far more than a simple collection of information. As one reads the catalogue and places the different nations on a map, a clear pattern emerges: nations from the west fight with the spear and occasionally also the bow, exotic nations from the east like the Arabs, Saka, and Indians use the bow but not the spear, and nations in an arc from Kissia (lowland Elam) and Persis through Media and Hyrcania through Bactria and its neighbours use both. Other kinds of evidence show that western nations like the Syrians and Ionians fought with the bow, and eastern nations depicted themselves wielding spears and deposited spears in their graves, but this system fit Aeschylus’ contrast of the European spear against the Asian bow. The repeated remarks that eastern bows are big, and eastern spears are small, may also owe as much to Greek preconceptions as neutral observation (although certainly, some of the types of bow which were not native to the Aegean were larger than the local kinds). The Catalogue is not just jumble of every available piece of information about an ethnic group (the origins of the Asian Thracians, the oracle of Ares in the country of the ?Pisidae?), but also the product of theories about the world and literary goals which involved selecting and reshaping material.

884 Mitchell 2008
885 Hintz 1975: 226 (Tavernier 2007 excludes this word because it is only attested in Greek)
886 +Arštibara: Hintz 1975: 207, CAD A2: 472 s.v. aštabarru. +θanuvabara: Sekunda, "Military Terminology," 72.

The clothing seems to correspond to the outfits with tight sleeves and close-fitting leggings in Achaemenid art. The *akinakes* is widely understood as the kind of two-edged dagger strapped to the thigh of “Median dress” in the palace friezes and found at a number of archaeological sites (see chapter 6). One or more words has dropped out from his description of their scale armour, and the armour of trousered warriors in fifth-century art is not always “covered with scales like a fish.” Sometimes it is smooth, and other times it is covered with small lozenges with a dot in the centre. On the other hand, scale armour had been common in the Near East since the Late Bronze Age, and under the Assyrians it had been used by most infantry, at least in the *kiṣir šarruti* or "Royal Corps". In his description of the division of the army after the battle of Salamis (8.113.2), Herodotus divides the ethnic Persians into the Immortals, the cuirass-bearers (τοὺς θωρηκοφόρους), the Thousand horsemen, and others who were sent home. This implies that not all Persians wore body armour. Clearly, Herodotus’ description of each nation having a single style of armament with only small variations is a simplification, and we should allow that within a given nation some warriors wore no armour and others wore a variety of styles, just as in Greek armies.

The “short *aichmai*” of Persian soldiers seem to have been a cliche, since Herodotus has Aristagoras of Miletus mention them in his speech to the Spartans (5.49.3 αἰχμὴ βραχέα). Herodotus also describes the spears of the Bactrians and their neighbours (7.64) and the Colchians and their neighbours (7.79) as *brachea*. It shows up again in Herodotus’ description of the Immortals at Thermopylae: "as they came together (συνέμισγον) with the Hellenes, they did not fare better than the Median army but just the same, since fighting in a narrow ground and using shorter spears (δόρατα) than the Hellenes used, even though they had superior numbers they could not use them" (Hdt. 7.211.2 tr. Manning). As we have seen, contemporary art does not support the claim that Persian spears were much shorter than Greek ones. In both Greek and Persian art, spears vary from about as long as the wielder is tall, to about 1/3 longer. Since the wooden parts of spears decay, and no ancient texts describe the length of one-handed spears in feet or cubits, art is the only way of estimating the length of these weapons. There are certainly many reasons why an artist might portray a weapon as longer or shorter than it actually was (limited space, desire to match the length of other elements [often called *isokephalie*], desire to keep different figures from overlapping) but it is not sensible to accept pictures of long Greek spears and reject pictures of long Persian spears simply because of Herodotus.

IMAGE REMOVED DUE TO LICENSING RESTRICTIONS

Illustration 1: CVA 9018487, Copenhagen, Ny Carlsberg Glyptothek, 2247 (Apuleian, 4th century BCE). A battle between a hoplite and an Amazon on horseback.

Moreover, the statement about the immortals at Thermopylae is placed in a context which suggests that Herodotus is not simply engaged in technical analysis. Early in the histories, Herodotus has Atossa urge Darius to invade Greece "so that the Persians know for certain that they are ruled by a man" (Herodotus 3.134.2). At Thermopylae, Herodotus first describes how the Medes and Kissians attacked, with orders to take some prisoners. Although they suffered horrible losses, they still fought all day without retreat. "They made it plain to everyone, however, and above all to the king himself, that although he had plenty of troops, he did not have many men."[887] He then describes how the Immortals attacked, equally confident that they would win, and equally unsuccessfully. Where Herodotus attributes the defeat of the Medes and Kissians to their lack of manhood, he attributes the defeat of the Immortals to their small weapons. Modern narrators of the Persian Wars often get very excited as they describe who could shove their long, firm, hard weapons into whom.[888] This passage is not the only one where Herodotus made use of the discourse about soft, effeminate easterners and hard, manly westerners which had developed after the Persian Wars.

887 Hdt. 7.210 tr. Robin Waterfield

888 eg. Bardunias and Ray 2016: 34 on the third day at Thermopylae "the Asians were indeed more vulnerable to a complete penetration than in any prior engagement," Billows 2010: 24, 25 *apud* Hyland 2011: 272 "Swathed from head to toe in cloth, but wearing little or no armor and carrying only a light wicker-work shield which, though a useful protection from the arrows and javelins of their native warfare, offered little resistance to the **firm thrusts of the heavy Greek spears**." Steven Pressfield even has Laconian boys prepare for combat with a "tree-fucking" drill in his novel *Gates of Fire*.

A fourth-century vase painting from Apuleia shows a confrontation between a crouching hoplite and an Amazon on horseback.[889] The artist was careful to show the naked Greek's lance as longer and his fist clenched around the shaft, which appears in front of his groin and ends in the Amazon's face. While some hoplites no doubt assumed a similar position against approaching cavalry, the painter has composed this scene to emphasize the phallic aspects.

Spotting sexual subtext sometimes says more about the viewer than the artist. I was not convinced by Bruce Lincoln's version of these ideas.[890] However, the combination of the context in which Herodotus described short spears and the vase paintings suggests that this might have been part of ancient as well as modern rhetoric.

Herodotus, of course, is careful to provide counter-examples. One of the most famous is his description of the fighting at Plataea: the Persians were not lacking in will and might (λήματι μέν νυν καὶ ῥώμῃ: Hdt. 9.62.3) but in equipment and training. He does not say anything about their manhood (*andria*). Herodotus seems to have enjoyed using stereotypes and dichotomies to amuse superficial readers, while quietly undermining them in ways which the careful reader would notice. But in his world, accusing the Persians of having short spears was the kind of thing which Greeks enjoyed saying, whether or not it was true.

While Herodotus' claim that the Persians suffered at Thermopylae because of their short spears feels very vivid, the 'voice of experience' from a common soldier which many readers want to hear, that does not mean that it is correct. Herodotus' Aristagoras claims that Persians are weak because they carry short spears, but also because they wear felt tiaras (5.49.3), and Herodotus dutifully reported that the skulls of the Persian dead at the battle of Pelousion were thin and brittle because of this enervating headgear (3.12). While Herodotus was a keen listener and observer, he worked from his own unique set of suppositions to interpret what he saw and heard. Oral historians today address the psychological research which shows that memory is malleable: people's memories are influenced by the questions they are asked and other versions of the same events which they have heard.[891] This was certainly the case with Marathon and Plataea, which were quickly mythologized and instrumentalized for political struggles inside of Greece. By the time Herodotus was speaking to veterans, they may well have convinced themselves that Persian spears were short, whether they learned that on the Theban plains or at a *symposion*. Because the art fails to support his claim, and it is embedded in a rhetoric of abuse, modern readers should be skeptical.

While the length of Persian spears is uncertain, the form of the *gerron* or "wicker thing" is even harder to establish. Herodotus does not describe the shape of these shields, and no wicker shield from an Achaemenid context survives. Scholars have turned to three broad types of shield seen in

889 There is a similar image in a red figure volute krater from Apuleia (CVA number 9018487, Copenhagen, Ny Carlsberg Glyptothek, 2247, fourth century BCE http://www.beazley.ox.ac.uk/record/D052BD77-78E3-4298-B500-F3B12023DC04). In this one we see the hoplite from behind, but the artist has made sure that the hoplite's spear does not extend behind his body and ends in his opponent's face.

890 Lincoln 2012: 350-353 (Lincoln's retelling of Herodotus lacks the multifacetedness of the original, and he is very confident that he can identify what is truly Herodotean and not derived from his sources)

891 This has been very intensively studies in the case of Anglophone memories of the First World War, where things written by soldiers at the time and in the ten years after the war have a very different tone than those written or recorded later. See eg. Richard Holmes, "War of Words: The British Army and the Western Front," CRF Prize Lecture, 26 & 28 May 2003, Aberdeen and Edinburgh

art. The first is the crescent-shaped *peltē* visible in art from the Black Sea and the Aegean. Although Peter Connolly imagined the Persians kneeling behind their *peltai* as the mighty Spartans stood over them in his painting of Thermopylae, few other scholars think this matches Herodotus' description of a standing barrier of shields which was difficult to break.[892] Moreover, this type of shield does not appear in sources closer to Persis. A handful of vase paintings and reliefs from Persepolis show a tall, flat, rectangular shield (in one case supported by a stick). Much smaller shields with a similar form were excavated in the Pazyryk kurgans (some of them sticks inserted through a sheet of rawhide, some of solid wood carved to look like a composite shield), and medium-sized versions were found in the destruction layer at Dura Europos (3rd century CE). However, these are hardly the most common shields in Achaemenid art, and are not easy to reconcile with Herodotus' words that "quivers were hanging beneath them." Such a long, wide shield would be inconvenient to wear at the back, and would certainly cover a quiver worn at the waist. Lastly, the reliefs at Persepolis show soldiers in the flowing robe armed with a smooth "violin-shaped" shield which protects the wearer from shoulder to groin. What appears to be the bronze boss of such a shield was found at the Heraion of Samos, where it had perhaps been dedicated to the goddess.[893] These shields are very prominent at Persepolis, but are also hard to reconcile with Herodotus' descriptions of combat, and are rarely if ever shown in the hands of easterners in Greek art. Instead, similar shields are wielded by Greeks and labeled as "Boeotian" by modern researchers. Whether these shields were real or purely an artistic convention is debated, since no material remains survive and they do not meet many modern ideas of the type of shield needed for "hoplite warfare."[894] A historian inclined towards harmonization could argue that Herodotus was referring to the tall rectangular shields.[895] However, the artistic and archaeological evidence does suggest that more than one style of shield was used by soldiers from Susiane and Persis, and that Herodotus' vivid stories present one part of a complex reality. It is just as possible that the Catalogue of Nations draws on sources similar to the reliefs at Persepolis, with "violin-shaped" shields which could be worn on the back, while the battle scenes come from a source who was more familiar with the large, rectangular shields.

This brief discussion cannot replace a detailed analysis of Persian armament in Herodotus and other sources. Such a thing would clearly be desirable, given the volume of writing on the Persian Wars, and the importance of contrast with the Persians in modern theories about Greek warfare, but the sheer mass of modern opinions demands a very patient reader. Cuneiform sources and Achaemenid art could certainly be given a much more prominent place than Herodotus and Attic red-figure vase-painting. Assyriologists often remark that Herodotus' description of the Median, Persian, and Kissian soldiers roughly agrees with the cuneiform sources: for example, Francis Joannès described Gadal-Iâma as "armé à la perse" and suggested that Herodotus could be used in

892 This is printed in various places eg. Connolly 1981

893 Sekunda 1992: 12 (see chapter 6)

894 For an introduction to the debate by someone with a firm opinion see VanWees, *Greek Warfare*, pp. 50-52. Almost any of the shelves of books on "hoplite warfare" contains a few remarks.

895 This is the view of Head 1992: 22-24 and Bittner 1985: 158-160 who, however, confuses 1) Xenophon's description of the long, wooden Egyptian shields with the Persian *gerra*, and 2) assumes that the *mega gerra* in one passage in the *Cyropaedia* were the same as used by the ordinary Persians "armed like the Persians in pictures" in the *Cyropaedia*.

absence of other sources for the equipment of soldiers.[896] Since infantry armed with both spear and bows have now been identified in Neo-Assyrian (Dornauer, Tell Halaf no. 48) and Neo-Babylonian texts, and archaeological evidence continues to expand, it would certainly be worthwhile to define the picture in different kinds of sources, and use them as more than illustrations of Herodotus. John MacGinnis observed that since Assyrian and Neo-Babylonian texts describe infantry with spear, bow, and short sword, "it might be more logical to say that the Persians were 'armèe á la assyrien',"[897] and Kirstin Kleber recently published a study of the equipment of Neo-Babylonian soldiers which was centred on the cuneiform texts and only cited Greek literature in passing.[898] As this sketch has hopefully showed, Herodotus' description is not simple to interpret.

6.5.3 Equipment and Fighting Style

While the equipment of Persian soldiers is an important question, it did not determine their way of fighting. A given technology can be used in different ways depending on the needs and taste of the combatants. Equipment and fighting style form a dynamic system: changes to one affect the other, but a variety of equipment can serve a given use, and any one piece of equipment can be used in several ways. The same rifles, rocked-propelled grenades, and vehicles have been used differently by the armies of the Warsaw Pact, militias in West Africa, and the factions fighting to control Afghanistan, and fencers trained in France, Spain, and northern Italy disagreed about many details of how to use the long rapiers of the late 16th and early 17th century. New weapons can provoke changes in fighting style, but fashions in fighting can also cause old weapons to be modified.

To understand how Persians in the time of Darius and Xerxes fought, researchers have traditionally relied upon Herodotus' stories about the Persian wars and Greek vase paintings. These are not, however, the only sources. The battle scene painted on the north wall of a tomb in Karaburun tumulus II in Lykia sometime in the fifth century BCE will be very important when published, although almost fifty years after excavation only a preliminary report is available and the paintings have been stolen.[899] One of the most exciting recent finds is the painted inner walls of a tomb chamber from Tatarli in Anatolia which were stolen and recovered in Munich. One panel of this tomb depicted a battle between Persians and Scythians in pointed caps, involving infantry, archers, and even a chariot. While radiocarbon dating and dendrochronology are inconclusive, the scene has parallels in seals applied to documents around 500 BCE, and to other genres of art in the middle of the 5th century BCE.[900] The combat painted upon the wall of the tomb has strong parallels with battle descriptions in Herodotus, especially his description of the battle against the Massagetai where Cyrus was killed (1.214). This painting is clearly an important source for how wealthy landowners in the reign of Darius or Xerxes imagined battle. However, the absence of spears and shields is a significant difference from Herodotus' descriptions of 480 and 479.

896 Joannès 1982: 16; cp. MacGinnis 2012: 49, 50
897 MacGinnis 2010: 502 n. 7
898 Kleber 2014
899 Mellink 1971: 263-, 1972: 263ff, 1973, 1974; Krentz 2010: 199 says that Stella Miller-Collett intends to publish the tomb, but according to Tuna Şare in Bryn Mawr Classical Review 2012.02.24 the tomb was robbed in that same year and the fate of the paintings is unknown to me. See also Jacobs 1987a: 29-33 (*non vidi*).
900 Summerer 2007: 6-8, 25-26

6.5.4 An Analogy for Herodotean Combat

In the modern study of ancient combat mechanics, recourse has been made again and again to metaphor and comparison. From Ardent du Piq's comparison of modern and ancient infantry, and Whatley's "natural experiments" on his cadets, to the popular comparison between hoplites and rugby players and Van Wees' parallels between the bulk of combat scenes in the *Iliad* and indigenous warfare in New Guinea, scholars again and again look for something familiar to help their audience understand antiquity. While none of these metaphors can be exact, the ancient sources leave too much of what happened in battle implicit to stand on their own. As in economic history, something must be added to the ancient sources to turn a jumble of anecdotes into general statements.

One possible model for the combat in Herodotus and on the Tatarli wood would be European warfare in the area of the flintlock musket and bayonet. Infantry in this period (sometimes called *fusiliers* after their flintlock muskets or fusils) were expected to march in ranks and files until they were close to the enemy, deliver one or more deadly volleys of fire, and then fix their bayonets and charge. While doing these things they were expected to ignore a barrage of bullets and cannonballs so that their own weapons could be deployed most effectively. Tactics were driven by the paradox that muskets were extremely deadly, but rarely forced determined troops to abandon their positions, while charges with the bayonet killed less soldiers but could send a whole army racing to the rear. The ideology of the day came to stress self-restraint and order over aggression and individual heroism. Because firing on the march was less accurate than firing from a steady position, and muskets were most effective at ranges of less than a hundred yards, a force which stood still and allowed the enemy to fire first could deliver a more accurate volley in return and then charge the disturbed enemy before they could reload. If this did not happen, battles often developed into lengthy bloodbaths where a large fraction of the infantry on both sides were killed. If the fighting did come to close quarters, orderly formations usually dissolved. The shallow formations which infantry adopted to maximize firepower tended to break up in the final run forward, and infantry had a clumsy weapon and limited training in its use. Without shields, helmets, or body armour, a single missed blow could be fatal. Accounts of hand-to-hand combat over entrenchments and fortified houses tend to describe disconnected scenes of individuals or small groups stabbing and clubbing. Soldiers from cultures which stressed deep formations and sticking close together in combat might well have called them "ignorant (ἀνεπιστήμονες) and not equal to their opponents in wisdom (σοφία)" (Hdt. 9.62.3) even if they had been frightened to watch them march into combat like a moving wall (Xen. An. 1.8.9, 11).

Like fusiliers, *sparabarai* marched into battle in long lines and stopped when they were in position to shoot most effectively. It is commonly guessed that they often fought in files up to ten deep and about as wide as the rectangular shields of the men in front. As we have seen, the idea that Persian armies were organized into files called 'tens' consisting of ten men is not certain, and neither is the idea that Persian infantry relied on the large rectangular shields. While Xenophon and the Alexander historians occasionally claim that Persian armies had a very deep formation, that is probably a rationalization of their extravagant claims about the size of Persian armies. It is also commonly guessed that only the men in front carried shields, the men behind them just carrying

spear and bow. While this is possible, the only evidence is Greek paintings which show eastern archers without spears, and Persians used some kinds of shields which could be worn on the back until needed.

Philip Sabin observed that the Persians preferred a "symmetrical" deployment to massing their strongest forces at a single point, and that this resembles Roman and Carthaginian armies more than Greek or Macedonian ones.[901] The famous statement by Xenophon (or an interpolator?) that Persian commanders position themselves in the middle of the line, rather than at one end, seems to correspond to descriptions of Persian armies after Herodotus. In this case, the commander was stationed in the main battle line, just as in Greek and Macedonian practice. However, Herodotus describes Mardonius riding here and there during the battle of Plataea to encourage his men (9.63) and Xerxes watching the battles of Thermopylae and Salamis from the rear. A famous fragment of a letter, which was probably sent to Esarhaddon, (SAA XVI.77 verso lines 3-8) warns him not to go into battle himself but watch from a distance and assures him that the kings who went before him did the same.[902] This more mobile, intellectual style of command was fashionable with later Roman and Carthaginian commanders, and it has recently been argued that the commanders of the Macedonian phalanx also rode on horseback and stood behind the lines so that they could continue to give orders.[903] Each of these approaches (fighting in the front lines, moving about just behind the front lines, watching from the rear and sending messengers) had advantages and disadvantages, and no doubt Persian generals debated their strengths and weaknesses just like generals in other cultures.

The *sparabarai* then proceeded to barrage their enemies with arrows. Against similarly-armed opponents, as seem to have been common in Mesopotamia and the Zagros, they had little defence except for their wall of shields and body armour. While we do not know the density of their formation, the shield-bearers in front presumably stood shield-to-shield, and the archers immediately behind them may have kept close to the shelter of the shields. In such a dense formation, individuals could not step to the side as they saw arrows coming in, or raise a small shield to block them. Against other bowmen, their best chance was to shoot so effectively that the enemy could no longer reply. This did not necessarily involve killing and wounding all of the enemy: frightened opponents might miss their targets, crowd together so that they could no longer use their weapons, spill their arrows on the ground, seek shelter and refuse to expose themselves to shoot back, or back away from the terrifying arrows. Historians of warfare between the 16th and the 19th century have described many ways in which frightened soldiers failed to use their fusils effectively, and John Keegan observed that the battle of Waterloo involved "friendly fire" with swords or lances as well as muskets and cannon.[904]

Eventually one side would rush forward. This might be when one side saw the enemy giving way, but it could also be because they could no longer endure to stand under a hail of arrows, or simply because one side had run out of ammunition (Herodotus 1.214). Human behaviour in battle is unpredictable, and similar actions can arise from different causes. If some troops carried smaller

901 Sabin 2009: 57, 58
902 Fuchs 2011: 382, 383
903 Wrightson 2010
904 Keegan 1976: 195, 196

shields, whether the "figure-8" shields from Persepolis or the moon-shaped *peltai* of Greek vase paintings, they probably used them now even if they had put them aside while they fought with the bow.

Modern writers often imagine the Persians waiting behind their wall of shields, as Herodotus describes at Plataia and Mycale. Herodotus' Persians also wait for the Greeks at Marathon, although he does not mention such a wall. A number of seals and seal impressions represent standing archers shooting onrushing lions or barbarians or stabbing their long spears into enemies who brandish short weapons.[905] These suggest that their owners enjoyed imagining themselves defeating a rough charge with a precise shot or thrust. Babylonian readers might have imagined themselves as Marduk shooting Tiamat as she tried to swallow him (*Enuma Eliš*, III.95-104). However, in Herodotus' version of the battle of Thermopylae it is the Persians who charge the Lacedaemonians, and in his description of the battle against the Massagetae (1.214), both sides run together as soon as they have run out of arrows. At Plataea the Persian infantry rush forward and open the battle, even if they stop their advance when they are at a good distance to shoot. It is not clear who initiated the challenge on the Tatarli painting, but it is clear that warriors on both sides still have arrows while their champions are locked in a death grip. Close combat with the spear, dagger, and bare hands is common in Achaemenid seals too. While some theorists encouraged fusiliers to wait for the enemy and fire at n more than 50 yards, in practice they sometimes launched bold attacks and outflanking manoeuvres (eg. Leuthen in 1757, Salamanca in 1812), and sometimes opened fire at ranges over a hundred yards where their weapons were not very effective. We should not assume that *sparabarai* were any less versatile, or that Persian infantry were immobile after the fighting began.

The attackers probably loosened their formation as they rushed forward into spear range, as was normal in Greek armies (Thucydides 5.70, Xen. An. 1.8.18, 20, cp. Plat. *Laches* 191c where the Persians at Plataia keep formation during the initial fighting but lose it as the Lakonians begin to run away). If the Persians were attacking, they must have broken up their wall of shields to carry them forward. If the fighting continued beyond a few strokes, however, the attackers may have begun to gather together into a denser mass for safety. The chaotic melees beloved by film directors are less popular with real infantrymen, because it is too easy for a fighter to be 'blindsided' while he focuses on a single opponent. A fighter with friends on either side is much more likely to survive.

At Plataea, there was evidently room between the allied and imperial lines for a story to emerge about an Athenian who used an anchor (Hdt. 9.74.1) and for the Persians to attack the Spartans one or ten at a time (Hdt. 9.62.3). Research on Roman warfare suggests that battles often proceeded in 'pulses' of intense action at close quarters after which the two sides separated and hurled missiles and insults at each other until one gathered up its courage to close in.[906] Each pulse of fighting ended when one side was too exhausted or frightened to continue, but not enough to run away. The practice of putting up a monument decorated with armour and shields to mark the enemy's turn

905 OIP 69 plates 9, 10 = PT4 830, 4 655, 6 62, PT4 675, PT4 385, PT4 784, PT4 262, Curtis/Tallis 2005: 94. The hero who shoots the charging enemy is a very old motif: consider the Egyptian story of Sinuhe, or the duel between Marduk and Tiamat in *Emuna eliš*, both probably dating to the second millennium BCE, not to mention the death of Hector in the *Iliad*.

906 Sabin 2000, Zhmodikov 2000, Quesada Sanz 2006

(*trophe*) to flight, is absent from accounts of early Greek warfare from Homer to Herodotus, and Hans van Wees suggests that early hoplite combat could also have involved many 'pulses' instead of a single collision.[907] The same mechanic may sometimes have occurred in Persian armies. If so, these empty spaces between the lines might be the place for the single combats which pleased the buyers of seals and tomb paintings.[908]

The Persian choice to use short *akinakai*, rather than longer swords, supports the idea that combat often came to very close quarters. Weapons the size of the *akinakes* are an excellent choice for use as the warrior holds his opponent with the left hand and strikes with the right. Greek warriors made a similar choice: the sixth and fifth centuries saw shorter swords and daggers with a crossguard (Schmitt type B) replace the longer, heavier flange-hilted swords (Schmitt type A) in southern Greece.[909] The nations in the North Aegean who continued to use longer swords did not have a great deal of success against Spartan, Persian, or Athenian armies. There is thus no justification for describing Persian swords as inferior weapons, as some modern stories about the Persian Wars imply. Some Greek swords were longer and heavier than the *akinakes*, but that just encouraged the Persians to "take one step closer" (Plutarch, *Moralia* 191G, 241F). On the other hand, in close combat soldiers without a shield were at a serious disadvantage against soldiers with one. As is suggested above, Herodotus seems to have called Persians *anoplous* because they did not have shields.

Herodotus' image of the Persians at Plataia grabbing and breaking the Spartan spears also calls to mind warriors skilled in wrestling. Grabbing enemy bodies and weapons is a common tactic for warriors without a shield. The cuneiform language of victory was very concrete, with smashed skulls, trampled bodies, and enemies who kissed their superior's feet. No doubt, Persian warriors could have spoken as lyrically about what weapons do to bodies as Xenophon and the Greek epic poets, and over a bowl of wine some of them would have pontificated about how wrestling is the foundation of all fighting.

Of course, not all combat involved every stage of advance, archery, charge, and melee. In any kind of warfare, sometimes one army flees at the approach of the enemy. Greek writers from Xenophon onwards often describe Persian armies doing so, and the court scribes of Neo-Assyrian kings repeatedly insisted that particular enemies had gathered their armies then run away as the terror of the king approached. Every battle is unique, within restraints driven by human physiology and psychology and the tools and terrain available. However, looking for patterns, commonalities, and analogies is a basic and necessary aspect of cognition.

Naturally any analogy, whether comparing Greek hoplites to rugby players or Persian *sparabarai* to 18th century fusiliers, is at least partly misleading. Historians are trained to seek out the particular and unique in any situation, not to erase it with abstractions. However, such a metaphor can at least suggest interesting questions, and provide a better way to fill the gaps in our

907 Van Wees 2004: 136-138

908 In correspondence, Christian Cameron wonders exactly how this could have worked in an army where every man had a bow (extremely effective at 'shouting and throwing' distance) and whether the special thing about the run at Marathon might have been running all the way into spear-thrust range and not stopping to throw a few spears and work up courage for the next step.

909 For the typology see Schmitt 2007

sources than pure reason. Given that implicit and untested analogies with later Turks, Mongols, or Zulus seem to lie behind many modern visions of the Persian army, one can at least try to make one's thinking explicit and test it against the evidence. In the case of the Ionian wars of Darius and Xerxes, this comparison raises the question which side at Marathon we should identify with an expensive professional army, sent to the ends of the earth to carve out an empire and trusting in its firepower and drill, and which with the rough dwellers in the mountains who overwhelmed it with courage, aggression, and a single simple trick.[910]

6.5.5 Combat Mechanics in Later Sources

As has been discussed above, writers after Herodotus present Persian armies fighting in different ways. Sometimes Persian armies placed groups of men armed with missile weapons in front of their main line in a loose formation. This is most visible at the battle of Issos. Xenophon also introduces forces of slingers and archers on foot who run away when attacked by hoplites instead of standing behind a wall of shields. Although we might expect that some of the nations in Herodotus' catalogue of nations fought in this way, he does not describe it. It is important to distinguish this way of fighting, where individuals and small groups could move freely to dodge incoming projectiles, pursue weak enemies, or seek shelter behind the main line, from a more static one where troops with bows, slings, or javelins make up part of the battle line, stand closer together, and have less freedom of movement.

Analyzing the role of 'screens of skirmishers' in Persian armies is difficult because of the conventions of Greek historiography. Greek writers tended to neglect these troops and focus on the deeds of the hoplites and cavalry, who were drawn from the richer part of society. Earlier scholars often saw a period in the sixth and fifth centuries when light-armed troops were not allowed to have an important role in warfare, followed by a revival of their use beginning with the Peloponnesian War. More recent work sees light-armed troops as always present and important, but the attitude of the sources towards them as changing.[911] In the Homeric epics and eighth-century painting, archers are mixed in with spearmen, and are feared but not necessarily despised. The same warriors can use spears in some situations and bows in another, and archers often wear body armour and helmets. By the sixth century, archers are often depicted wearing exotic clothing, and fifth-century texts describe them as fighting apart from the heavy-armed men and not being part of the 'proper' strength of a Greek army. In the early sixth century BCE, the hero Herakles was given a club alongside his usual attributes of the bow and lionskin, and by the fifth century the artist of the Twelve Labours at Olympia seems to have depicted the club instead of the bow in as many scenes as possible.[912] Evidently, the rich Greeks who commissioned monumental art were not entirely comfortable with a hero who was best known as an archer, and stories about Herakles changed to accommodate this.

Although he is generally eager to record the deeds of people other than rich men, Herodotus does not have much to say about light-armed infantry, and famously insists that the Athenians and

910 Cp. Hanson 2000: 9-12
911 Van Wees 2004: 61-65, Brouwers 2013: 61, 62, 78, and especially Davis 2013
912 Cohen 1994

Plataeans fought at Marathon without any archers (6.112), and that the official allied contingents at Plataea were all hoplites or their servants (9.29.1). This may be related to the ideologies about the Greek spear and Persian bow which developed after the invasion, and to internal Greek struggles to control the memory of the war and attribute the glory. Athenians and Spartans argued about which city had contributed more, oligarchs and democrats debated whether the fleet or the army had saved Greece, and everyone insisted that their fellow countrymen had been selfless patriots while their enemies had collaborated with the Persians. This raises the question whether skirmishers were less prominent under Darius and Xerxes than Artaxerxes II and Darius III, or simply more interesting to Xenophon and the Alexander historians than to the *pater historiae*. Certainly, Xenophon and the mercenaries found themselves in a different situation as they retreated towards Armenia than the Spartans and their allies found themselves in 479 BCE, while the Persian armies involved were also different. The different tactics might reflect different circumstances. At the same time, the last 30 years of research into Greek warfare has demonstrated the dangers of projecting details from Xenophon or Plutarch into the misty past.

Scythed chariots appear in Xenophon, Ctesias, and the accounts of the battle of Gaugamela. They seem to have had a role similar to skirmishers and horse archers, being positioned ahead of the main army to disturb the enemy just before the lines came together. If enemy soldiers were frightened and their formations broken at the start of combat, they might panic when the lines came together. The skirmish outside of Daskylion could represent many other small fights which our sources do not describe. However, chariots were best suited to smooth and open ground, whereas skirmishers could be useful in the hills and woods.[913] Scythed chariots were also specialized and expensive weapons, whereas men who could hurl stones or javelins were very common.

Xenophon and monuments from western Anatolia give us some idea of how cavalry fought later in the empire. His picture of cavalry armed with two short spears, much like their Athenian counterparts, and hurling and thrusting their weapons at close quarters is very different from the picture in Herodotus and the Tatarli paintings, but has parallels in later art from Anatolia. A passage in the tacticians even confirms that Persian cavalry preferred rectangular formations (Asclep. 7.4, Aelian 18.5, Arrian, *Ars Tactica* 16.10; cp. Xen. An. 1.8.9). A variety of pieces of art and archaeological finds give some picture of the horse archers in the Alexander historians, and it is even possible to imagine how the cataphracts in Curtius Rufus' account of Issos might have appeared. This is much harder to do in the case of Achaemenid infantry, in part because they did not commission depictions of themselves in marble or gold, and in part because the classical sources after Xenophon refuse to provide a framework. Perhaps the continued identification and publication of cuneiform texts will provide texts on the equipment of infantry after the reign of Darius II.

Sources after the Persian wars show cavalry and horses protected with more armour. Where Herodotus' Persian cavalry wear body armour and helmets, these horsemen wear armour on their arms and legs, and their horses sometimes also wear armour, including saddles or saddle blankets with an upright flap to protect the rider's thighs. These sound very much like the *hippeis*

913 I agree with Rop 2013 about the importance of terrain in the deployment of scythed chariots, although I differ in other points.

kataphraktoi (“covered cavalry”, cataphracts) in Hellenistic times, who also rode horses whose bodies were protected by a ‘blanket’ of scale armour. However, this similarity creates a problem for interpretation, because Curtius Rufus sometimes drew on sources from his own time (usually understood as the first century CE) to make his story more vivid. His battle scenes contain stock phrases from the language of the Roman army, and he updates the geography to use terms and definitions closer to those of his own time. This raises the question whether his description of the Bactrians owes more to descriptions of Parthian armies than to anything in his sources. On the other hand, the artifacts and art from central Asia document the development of increasingly heavy armour for cavalry in the last few centuries BCE.[914] Such cavalry were prominent in the armies of the kingdoms which emerged after the breakup of the empire, with the notable exception of Ptolemaic Egypt. It would be valuable to examine the state of this evidence, and see what light this sheds on the Bactrian cataphracts in Rufus.

The *sparabarai* or *gerrophoroi* are difficult to find in writers after Herodotus and artwork after the middle of the fifth century BCE. Troops called *gerrophoroi* appear in Xenophon, but it is not completely clear that they fight the same way as the infantry in Herodotus. Athenian art after the middle of the fifth century BCE tends to show men in trousers armed with small crescent-shaped shields, as were popular in Thrace and on the north shore of the Black Sea. Nicholas Sekunda suggested that in the late 5th and early 4th century these soldiers gradually replaced the *gerrophoroi*, and reconstructed the Old Persian name *+takabara-*.[915] In his survey of Achaemenid armies he returned to this idea and added some more details: first, around 460 BCE, archers with small shields appeared so that archers could defend themselves against Greek hoplites who had broken through the wall of *gerra*. Second, at the end of the fifth century, spearmen with small shields recruited from warlike tribes began to replace the sparabarai in the line of battle. This diachronic model of change based on the events described in Greek historians is one possibility. However, it is not the only one, and as was discussed in chapter 1, we should be careful not to use events in the Greek sources to explain developments simply because those sources are the most available to us.

In Herodotus’ catalogue of nations, most Anatolian nations fight with javelins and small shields. The same way of war was common north and west of the Aegean, despite the glorification of the hoplite in southern Greece. It did not require expensive equipment, it was suitable for both large-scale and small-scale combat, and it was sensitive to human limits. This raises the question whether the increased visibility of warriors with small shields in Greek paintings reflects a change in warfare or a change in the tastes of buyers of painted pots. While the time available for this dissertation precludes a full study of artwork, there are dramatic differences between the depictions of easterners in Athenian art, and their depiction in cultures east and north of the Aegean. Art historians debate whether the audience was intended to read particular figures as Amazons, Scythians, Persians, Lydians, heroic side-kicks, or generic easterners. This also makes it difficult to use depictions on vases to diagnose changes in warfare. Could the change in the appearance of eastern warriors reflect Athenian expeditions to Thrace and Cyprus, or the decreased visibility of warriors from the imperial heartland after the retreat of Xerxes’ great army?

914 Nikonorov 1997, Potts 2007
915 Sekunda 1988: 74-76

Although the Alexander historians give few details, they imply that the Persian armies which confronted Alexander were very different from those described by Herodotus. These armies formed up in several lines, with swarms of skirmishers in front and spearmen in the middle, contained cavalry who wore more armour and were more eager to fight hand-to-hand, and contained *kardakes* and scythed chariots but not Immortals or camel-riders. This is the type of army which remained typical of the kings who came after Alexander, and of the cities like Rome and Carthage in the distant west beyond the sea. As we saw in the introduction, Arthur Ferrill suggested that the Persian army in Herodotus was much more 'the way of the future' than early Greek armies. However, it might also be worth asking whether the eighty years of wars over Ionia, Sicily, Central Italy, and Egypt which began at the end of the fifth century BCE lead to military change all over the Mediterranean world, spread by travelling experts, maritime trade, and aristocratic networks of hospitality, so that the armies which confronted each other in the 330s were very different from those of a century earlier.[916]

6.5.6 Persian Armies in the Alexander Historians

Although as we have seen it is possible to say something about Persian armies in the Alexander historians, that something is less than we might wish. The Alexander historians have remarkably little to say about the armies which Alexander and his men defeated. They divide them into infantry or cavalry, sometimes subdivide by ethnic (Greek) or professional (*kardakes*, *misthophoroi*) titles, and occasionally provide a few details about how particular contingents appeared on the march or in great battles. However, they have nothing like Herodotus' catalogue of nations, and only a handful of comments on how different equipment of ways of fighting influenced the course of battles. Several of these deal with Alexander's campaigns in India, which inspired historians to comment on ethnography and geography.

It should be said that ancient writers are vague about Alexander's army as well.[917] Rather than describe it, they allude to its different elements and their equipment in passing. The only description of all the elements in Alexander's army and their numbers is a passage of Diodorus (17.17.3-5). Like many historians writing about the World Wars today, the Alexander historians assume that their readers already know everything that they need to know about the armies and technical jargon. The pictures of Alexander's army in modern surveys are the product of centuries of research combining the literary sources with archaeological finds, Hellenistic documents, and artwork. Questions as simple as which infantry made up the famous Macedonian phalanx with its long *sarisai*, and which were armed more like Greek hoplites or Thracian peltasts, can only be tentatively answered.[918] However, the Alexander historians wrote as part of a tradition which had

916 I am intrigued by the words of Jonathan P. Hall in Sabin/van Wees/Whitby (eds.) 2007: 377 "While it is difficult to quantify (as it can be a function of the survival of sources), the frequency and intensity of warfare in the Mediterranean region appears to have increased during the fourth century. The Greek city states ... the Aetolian league ... even before its conquest by Alexander, the Persian monarchy was increasingly involved in civil wars and rebelion, which often involved Greek forces on one or both sides. The Hellenistic monarchies were incessantly at war, particularly in their first hundred years of existence. Carthage expanded aggressively ... the Roman republic was involved in at least one military campaign, if not several, during almost every year of the period in question."

917 Karunaithy 2013 collects the evidence

918 References to "the lighter-armed part of the phalanx" show that its equipment was not uniform. It is commonly thought that the Hypaspists were lighter-armed than the Foot Companions in some way. Some of the victorious

some room for describing the exotic equipment and fighting styles of foreign armies, and despite the great length of their military narratives they provide less details about these things than Herodotus or Xenophon. Herodotus and Xenophon also assume that readers have a great deal of implicit knowledge about armies in the Aegean, but nevertheless find room to say something about how other nations fight. The vagueness of the Alexander historians about Persian armies (and whether this reflects the Roman context in which they wrote, or the Argead and Successor context of their sources) deserves explanation, but few researchers have discussed the problem.

However, whatever the reasons, it has shaped the sources available to modern researchers. A commonplace of modern research is that by Alexander's day the Persian infantry were despised and ineffective and so the kings relied on aristocratic cavalry. As recently as 2000, Ernst Badian praised Darius by declaring that after his defeat at Issos:

> he decided on a truly astonishing measure: to equip some of his eastern infantry after the Greek and Macedonian fashion. No Achaemenid King had ever dared to do this. Providing effective arms and training for the peasantry and making them play an equal part in defending the kingdom would have social consequences that no King had been willing to face. Hence hordes of primitively armed infantry had for two centuries left defence to noble cavalry, and Greeks had been hired to supply effective infantry without upsetting the traditional pattern of society.[919]

As we have seen, this emphasis on cavalry reflects tropes about armies in the lands from the Ottoman Empire to the Moghul Empire in recent centuries, and modern feelings about what styles of fighting are properly 'oriental.' A.T. Olmstead concluded that the Egyptian army in Herodotus "was largely if not entirely mercenary, for native Egyptians neither form good military material nor can be trusted to fight for their masters."[920] while A.R. Burn suggested that bow estates ceased to support good soldiers due to over-taxation and the enervating effects of life in the fertile plains.[921] While Burn's theory would have pleased Herodotus, the idea that the Persians oppressed their subjects with taxes is very controversial. A glance at ancient Egyptian history, whether the famous New Kingdom or the period in the first millennium BCE where Egyptian kings fought against or alongside northern rulers, hardly supports the idea that Egyptians make worse soldiers than anyone else. Herodotus 2.153-154 does emphasize the role of these soldiers in helping Psammetichus win a civil war, and protect Amasis against the Egyptians, but this fits a pattern in world history. Rulers often import a bodyguard of ferocious foreigners in hope that they will be independent of local politics, whether the *Germani corpori custodes* of the Julio-Claudians, or the Varangians (more often English or Norse than "Franks" in the narrow sense) of the Byzantine emperors. Finding the best warriors possible was not necessarily as important as making sure they were loyal and impressing visitors to court with exotic foreigners and their fearsome weapons.

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soldiers on the "Alexander sarcophagus" from Sidon carry the large Argive shield with its rim instead of the smaller, rimless Macedonian shield. A large and controversial literature attempts to turn facts like these into a coherent description.

919 Badian 2000: 256

920 Olmstead 1948: 244

921 Burn 1962: 556

It is certainly the case that the Persian cavalry are very prominent in our narratives of the battle, and the Persian infantry less so. But it is dangerous to use this to argue that Darius and his satraps valued cavalry more than infantry. This is because historians in antiquity rarely attempted to describe the experiences of everyone in a battle, rich or poor, in-group or out-group, famous or obscure. Historians today, influenced by ideas of equality or comprehensiveness, often try to meet this ideal. Anthony Beevor, an ambitious popular historian, makes sure to discuss soldiers and civilians, men and women, the ideologically committed and the quietly heretical, and individuals on both sides in his stories about the wars of the 1930s and 1940s. However, most ancient historians saw their job as telling a story about upper-class men from their own ethnic group. One of the central results of research into Greek warfare since 1989 has been that classical historians hide some significant aspects of warfare and give others disproportionate attention. Troops received attention if they were of the right class and ethnicity (so cavalry and hoplites received more attention than psiloi, Greeks more than barbarians, and friends and allies of the author and his city more than others). Thucydides, Xenophon, Diodorus and Arrian were aristocrats writing for other aristocrats, not modern academics trying to include all classes, ethnic groups, and genders in their stories.

This neglect could take various forms. In the *Anabasis*, Xenophon both shows how essential light-armed troops were in the Greek army, and avoids naming them. Out of 66 named Greeks in the army, only five command light-armed troops (and the one common peltast is not named but called "a man saying that he had been a slave at Athens," Xen. An. 4.8.4).[922] Xenophon mentions his slaves and his horses only in passing (Xen. An. 3.3.19, 4.2.20, 7.8.6). Similarly the Alexander historians make clear that the archers and Agrianes were some of his favourite troops. In stories about times when Alexander left the main army with a chosen body of troops, the archers and Agrianes appear regularly alongside the hypaspists and companion cavalry. Yet their commanders are some of the obscurest officers in his army. Most are only mentioned once or twice, and several have such similar names that there is a suspicion that they are the same person.[923] Counts of armies often only include hoplites and cavalry, or occasionally a few special light troops such as archers, and ignore the rest.

Moreover, some parts of the Macedonian army which researchers usually describe as key to his success are not as prominent in ancient stories about battles as one might expect. Although the ancient sources enjoy describing how Alexander arranged his infantry, once the fighting starts the phalanx often gets little attention. When it is mentioned, it is often in difficulties, as when gaps appeared in its formation at Issos and Gaugamela. No historian uses this to argue that the Macedonian phalanx was ineffective, small in number, or not trusted. Instead this seems to reflect the interest of our sources. Rather than let their "battle pieces" become excessively long and detailed, they focus on the two kings and the horsemen next to them, on the Persian attempts to outflank the Macedonians, and dramatic crises in other parts of the army. Arrian is especially interested in how Alexander controlled his army and gave just the right orders to meet each new threat, while Curtius Rufus enjoys ethnological details and exotic weapons. Under these

922 Roy 1967: 305
923 Heckel 1992: 332-338

circumstances, the ancient historians chose to say little about the Macedonian phalanx. Nobody denies that they were present and central to both Alexander's plans and the actual unfolding of each battle.

This kind of deconstruction has become a basic tool in the study of other armies. One thinks of Ann Curry's observation that the archers are less prominent in fifteenth-century English accounts of Agincourt (when they were lowly commoners to be deliberately ignored by the bourgeois and noble audiences of chronicles) than in later ones (when they had become a symbol of English pride),[924] or of specialists in the Second World War who challenge Allied stereotypes about lazy and incompetent Italians, courageous but clumsy Russians, and determined, professional Germans. However, so far it has not often been applied to the study of the army of Darius III. This is unfortunate, given the tendency today to look at 'great men' within their context of individuals and institutions. Few of Alexander's followers had a chance to know him as a person, but most had a deep knowledge of how the Persians fought. Before he could become King of the World, Alexander had to defeat Persian armies, which required deep knowledge of their strengths and weaknesses.

Looking at Xenophon, we could also say that, at least within his narrative, armies which he approves of can defeat vast numbers of Persians whether they are infantry or cavalry, arrayed loosely or densely, military colonists or militia. While his Spartan commanders are more worried about Persian cavalry than Persian infantry, this might say as much about the unusual weaknesses of their own armies as the unusual strengths of enemy armies: it seems to have been easier to raise mercenary infantry than cavalry, and shipping horses across the Aegean was difficult, as Thucydides describes in his account of the Sicilian expedition. Thus the idea that Persian infantry were less effective than Persian cavalry can be questioned. In the narrative of the *Hellenica* and the last book of Thucydides, it is interesting that first armies raised in the Peloponnese and the cities along the sea seem powerless against the Athenians, then armies raised from the King's land prove powerless against the Ten Thousand and the Spartans. Even within Xenophon's narrative, some Greeks are much better soldiers than others. He describes how when Pharnabazus and Tissaphernes confronted the army of Derkylidas:

> all those soldiers in the army who came from the Peloponnese made ready for battle in a quiet and orderly way. Very different was the conduct of the men from Priene and Achilleon, from the islands and from the Ionian cities. Some just ran away, leaving their arms on the plain of the Maender; and those who did stay in their positions were quite clearly not going to stay there long.[925]

For some reason, this story is not often chosen as an *exemplum* of Greek military prowess. Rather than assuming that Persian infantry had declined but Persian cavalry had remained strong, we might look at either the circumstances which made particular armies more or less effective, or the ways in which our sources may have slanted their narratives. The Greek class politics which encouraged historians to focus on horsemen and hoplites, and the economics which made rich men better able to commission works of art in durable materials, clearly shaped the sources available to us, as did the opinion of Thucydides, Xenophon, and Ephorus about the character of particular commanders.

924 Eg. Curry 2000: 20, 473
925 Xen. Hell. 3.2.17 tr. Rex Warner

The emphasis of our sources on cavalry is unfortunate given the great changes in Achaemenid infantry which had probably occurred since Herodotus' day. Darius stationed large numbers of light infantry before his line at Issos and in the hills to disturb Alexander's formations as they advance. In Herodotus, the Persians rely on cavalry for this role, and have only one main infantry line which is expected to both barrage the enemy with arrows and kill them with spears and daggers. The same is true in Xenophon, where fast-moving slingers and horsemen harass the Ten Thousand on their retreat, but Persian armies again form up in a single line to fight battles. In the Alexander historians, the infantry in the main Persian line do not seem to be armed with bows, and the large wicker shields which impressed Herodotus are not mentioned. In other words, even the very limited information available strongly suggests that the infantry in the service of Darius III were very different than those described by Herodotus. Duncan Head sketched these changes, but it would certainly be possible to analyze them at greater length and bring in the last 25 years of archaeological discoveries.

6.5.7 Greeks as a Cause of Change

The idea that cavalry became increasingly important to the Achaemenids, and infantry less, is an example of a larger theory about change. Many researchers are quick to not just see changes in the sources as corresponding to changes in Persian warfare, but to explain that these change were responses to defeats by Greeks. Nefiodkin is the latest writer to suggest that the scythed chariot must have been designed to defeat the best hoplites in the world, therefore the Greeks.[926] Duncan Head refers to the widely-known view (amongst wargamers and amateur historians?) that the *kardakes* were "a Persian attempt to create an effective close-fighting infantry, by copying the Greek hoplite,"[927] and suggests that the disappearance of the large rectangular shields in Greek art, and the appearance of eastern archers with small shields, could have been because the *sparabarai* had failed against Greek hoplites.[928] He also speculates that the deployment of infantry and cavalry side-by-side on the Persian left at Gaugamela "may in fact have been inspired by Greek and Macedonian examples."[929] Sekunda suggested that the barbarian archers with small shields who appear on Attic art after 460 were a response to the defeat of *anoploi* warriors in Herodotus.[930]

Some researchers have recognized the trend of all of these theories. To Bardunias and Ray, the archers with small shields, the *kardakes*, and the employment of Greek and Karian mercenaries show that "the Persians themselves recognized the shortcomings of their combat gear and took steps to improve it.[931]" while Nefiodkin explains that "Clearly all the changes in the Persian military, which began in the mid-5th century BC, were connected with the long war against the Greeks."[932] And indeed, if one looks at a theory of change in Persian military practice, one can usually find a corresponding theory which explains this as a response to wars with the Greeks. Few of these theories have received harsh criticism, whereas Herodotus' explicit statement that the Karians were

926 Nefiodkin 2004: 373, 375, 376
927 Head 1992: 42
928 Head 1992: 40, 43, 44
929 Head 1992: 62
930 Sekunda 1992: 18, 19
931 Bardunias and Ray 2016: 197 n. 23
932 Nefiodkin 2006: 14

the first to put handles and insignia on shields and crests on helmets (1.171.4) has been attacked in several chapters and articles.[933]

As we have seen, it is not obvious that differences between sources for different periods reflect changes in warfare, rather than differences between regions or changes in the focus of our sources. It is very hard to say that Greek vase paintings show specific ethnic groups, as opposed to 'barbarians' whose clothing and weapons mark them as 'exotic' within the language of vase painting. We have seen how Christopher Tuplin's study of evidence for cavalry left him skeptical that cavalry were much more numerous or more given to close-quarters fighting in the time of Darius III than the time of Xerxes. However, there is a larger issue.

Most people writing about Persian warfare are trained as classicists and highly knowledgeable about early Greek warfare. They usually think about the Persians during wars with Greek cities. They tend to know less about warfare in Egypt, Phoenicia, the thinly populated mountainous parts of the empire like Paphlagonia, or the Eurasian steppes. Less is known about warfare in these areas, and it tends to be published and studied by specialists in other cultures. Thus when they think about possible causes for the changes which they see, explanations involving Greeks come quickly to mind. This makes them vulnerable to what psychologists call availability bias- assuming that things which come easily to mind are common, and things which they rarely hear about are rare. People tend to overestimate risks such as airplane crashes or wars which are commonly discussed in the news, while underestimating risks which affect one person at a time. Moreover, researchers with a classical background tend to be sympathetic to the idea that the Greeks were an especially creative and expansionistic people. This also predisposes many to see ideas of Greek influence on foreigners as plausible. (While some researchers are just as keen to refute this idea, they are rarely the researchers who write about warfare).

In my view, it is plausible that changes in different parts of the Aegean world were interrelated. Hoplites in 'Greek' cuirasses and crested helmets appear in the wall paintings at Kızılbel in Lykia (c. 525 BCE),[934] and 150 years later Xenophon recommends cavalry equipment which resembles finds in Thracian tombs and armour on monuments from Anatolia.[935] Elite culture, including the culture of wealthy warriors, often crosses cultural lines, just like the use of cylinder seals and drinking bowls spread across Achaemenid Anatolia.[936] At the same time, the Aegean was only a small part of the Persian empire. Steven Ruzicka has suggested that the Achaemenids divided their attention in the far west between Egypt and the Aegean, and that problems in one area made it easier for dissidents in the other to escape Persian control. In the east, Bactria and India must have also divided Persian attention. Writers from the fourth century mention wars which only appear in the

933 Snodgrass 1964, Raaflaub 2013: 99, Holmes 2015. Stories about the time of King Minos which probably draw upon archaic poetry should certainly be questioned, but so much more evidence about arms and armour survives from the Peloponnese in the 8th and 7th centuries BCE than from other parts of the Aegean, that it would be a remarkable coincidence if everything first attested there was invented there. As J.M. Cook put it sixty years ago (Cook 1959/1960: 50) "Our difficulty with early Caria is that we have no means as yet of distinguishing Carians; archaeologically their culture appears as little more than a reflection of contemporary Greek culture" but one could just as well say that Peloponnesian material culture reflects Carian and Lydian (cp. Brouwers 2013: 98-101, 167)

934 Mellink 1973: fig. 5

935 The best example is the tumulus at Golyamata Mogila (Agre 2011), see Head 1992 and Sekunda 1992 for other artwork.

936 Dusinberre 2013

classical tradition by chance- a Median revolt towards the end of Darius II's reign, the Cadusian campaign of Artaxerxes II- while the Athenian tribute lists of the fifth century show Athens claiming tribute from cities which the few historical sources do not mention them conquering. Local governors must have been frustrated when the Athenians seized control of a port and its tribute, but the king had many other things to worry about. In these circumstances, it is strange to see every possible change in Persian warfare attributed to defeats by the Greeks.

We should certainly be skeptical of our ability to identify changes in Persian warfare, but we should be just as skeptical of theories that these changes were caused by warfare with the Greeks.

6.6 Three Excursi

Having considered methodological problems and combat mechanics, a few other topics deserve attention.

6.6.1 Calculating The Size of Armies

So much has been written about the size of Persian armies that to add to the total is a Callimachaean "big evil." Believers are unlikely to convince sceptics, and sceptics believers, although the debate can be educational to the undecided. Almost 40 years ago, T. Cuyler Young pondered why even historians skeptical of Herodotus tended to make his armies some of the largest in world history:

> In search of larger-than-life heroes, Herodotus exaggerated the odds against the Greeks beyond the possible, and, though no modern historian believes his figures, the power in the concept of the 'Great Event' continues to influence the thinking of western ancient historians, including practical soldiers like General Maurice. So it is that even at our most cautious, we tend to follow in the footsteps of the Father of History and continue to make the odds against the Greeks overwhelming beyond the limits of military logic.

The occasional challenges to sceptics to prove Herodotus wrong (a logical impossibility) and frequent attempts to transform an upper limit into a probable minimum certainly support this view.[937] At the same time, Young's attempt to prove that such armies were absurd starts from debatable assumptions and applies questionable arithmetic, just as proposals that Herodotus confused a word for 10,000 and a word for 1,000, or counted the ships in the bridge over the Hellespont and the ships in Xerxes' invasion fleet together, are based on the assumption that his numbers derive from a real count or document but have been distorted or misunderstood.

I side with those scholars who argue that Persian armies existed in a similar environment, with similar limitations of technology, transportation, and organization, to Hellenistic and Roman armies, so put similar numbers onto the field.[938] These constraints include poor transportation and logistics, the difficulty of withdrawing troops from one part of the empire to mass them on another, and above all limitations of command in a world without general staffs or mass literacy. It is

937 For examples see Young 1980: 236; Matthew/Trundle 2013: 69 still insists that the Persian army was probably several hundred thousand men strong.

938 Cawkwell 2005 presents these arguments in an appendix, Sabin 2007: 11-15 also leans in this direction (eg. he postulates a Persian army of 80,000 at Issos). This is probably the majority view amongst classicists and ancient historians today.

significant that the first verifiable armies of hundreds of thousands of troops appear during the Napoleonic Wars, after the creation of divisions, army corps, and staffs and systems of command and communication which allowed armies to be divided into many parts and come together for a battle or siege. Achaemenid armies, like the Greek and Roman armies which followed them, did the reverse, spending most of their time together and only splitting briefly (as on the march from Doriskos to Akanthos, Hdt. 7.121) or to send small detachments to harass the enemy[939] or attack from an unexpected direction.[940] Rather than work through all of the arguments which have been introduced over the centuries and address their strengths and weaknesses, I will confine myself to a few brief points.

First, the idea that Persian armies had specific and amazingly large numbers of men is only found in the classical tradition. The Cyrus Cylinder contains some rhetoric about the "vast troops" which proceeded Cyrus into Babylon, but the Behistun Inscription contains just as many phrases about Darius' small army. The only numbers in these sources are the figures of enemies killed and taken alive at Behistun. The Babylonian chronicles are equally silent, although they dutifully record dates and prices and the duration of celestial events. None of the Neo-Assyrian kings claimed to lead more than 120,000 men (and 6, 12, and 144 are very frequent numbers in Neo-Assyrian inscriptions).[941] As was discussed in chapter 2, scholars struggle to estimate the size of Assyrian armies using documents, but there is some evidence that the Assyrians relied heavily on a small and well-equipped "royal corps" for the serious fighting. The 'historical' books of the Old Testament contain many large numbers for the size of armies, but not for Persian armies. Thus the idea that vast armies are characteristically Near Eastern is a product of the classical and biblical tradition, not of the cuneiform tradition.

Second, this tradition also faced muted criticism in antiquity.[942] Thucydides seems to express doubts (if we can read his opinions in the opinions of his characters) and Polybius tries to show that Callisthenes' figures for the numbers and size of the battlefield at Issos are contradictory. Refusal to give numbers might also be read as criticism. It appears that it was very difficult for anyone working within the Greek tradition to assign a Persian army less than "ten myriads" of soldiers (Xen. An. 1.7.10-11, Nepos Datames 8.2, Diodorus 17.19.5 [Granicus], 17.30.3 [Charidemus' proposed army for Issos], Curtius Rufus 3.2.4 [ethnic Persians gathered at Babylon before Issos, and qualified as including 3 myriads of cavalry]).

Third, attempts to calculate the size of Persian armies on the basis of logistical considerations and rules of thumb have been part of the tradition since Herodotus. Herodotus claims to know the number of infantry, cavalry, camel-riders, and triremes which invaded Greece. He then purports to calculate the total number of men, by adding in servants and other ships and estimating the number of men on the ships, capping off by estimating their minimum requirements of food and water and modestly refusing to number the women and eunuchs. He does not claim to have sources for much

939 As when the Artaxerxeans were burning the fields ahead of Cyrus' army and Orontas volunteered to take some horsemen and stop them, Xen. An. 1.6, when Tissaphernes chased the Ten Thousand into the mountains, Xen. An. 3, some of the skirmishes in the Hellenica, or Mardonius' actions before the battle of Gaugamela.

940 As when Xerxes took Thermopylae, or Cyrus took the passes into and out of Cilicia.

941de Odorico 1995

942 One good overview is Cawkwell 2005: Appendix 3

of this additional information, and is explicit that the final totals are the result of calculations. And yet, a book published in 2013 by two editors with doctorates in ancient history tells us that "Herodotus states that the daily ration for the Persian army was only one *choenix* of grain, or around 680 g, per man" and deduces from this that the soldiers would have been weakened by hunger and perhaps at a disadvantage against better-fed Spartan opponents![943] What Herodotus actually states is that even if their ration was small, the army would have consumed an incredible amount of grain: "*if* they took a *choenix* of wheat every day and no more, *then* ..." (a simple conditional).[944] Even though researchers who perform similar calculations often frame their work as a challenge or correction to the classical tradition, their methods are part of that tradition.

Fourth, estimating the size of an army is a difficult task, full of implicit assumptions, deliberate simplifications, and opportunities for error. In my MA thesis I discussed some of them.[945] A general who wishes to know the size of his army must decide who to count, communicate this to individual units, collect their counts, and sum them together. Under ancient conditions, this was no small task, especially when subordinates had reasons not to give true figures and education was limited.[946] The actual strength varies from day to day. Estimating the size of enemy armies was even more difficult. Although few modern studies consider how the strength of enemy armies was estimated, references in ancient literature do not suggest that this was a sophisticated process.[947] As stories are retold, important details tend to drop away from specific numbers. Thus modern historians sometimes quote Diodorus and Rufus as giving the number of Persian troops at Issos, when the sources they quote give the number of troops which Darius amassed at Babylon before the battle.[948] Over a period of several months and a march of hundreds of kilometres significant numbers of troops sicken, die, desert, or are detached for various reasons (while Herodotus and Xenophon describe Persian armies receiving reinforcements as they marched) so it is not safe to assume that the numbers at Babylon equalled the numbers at Issos.[949] Combining numbers which measured different things is a common source of error, as is mixing actual measured quantities with estimates based on counting units and multiplying by a paper strength. Herodotus, Thucydides (5.68), and Polybius all walk their readers through this kind of calculation, and in late antiquity the *Strategikon* of Maurice warns against enemies who will try to estimate the size of your army by

943 Matthew and Trundle 2013: 77, 78

944 Hdt. 7.187.2 εἰ χοίνικα πυρῶν ἕκαστος τῆς ἡμέρης ἐλάμβανε καὶ μηδὲν πλέον, ἕνδεκα μυριάδας μεδίμνων τελεομένας ἐπ᾽ ἡμέρῃ ἑκάστῃ καὶ πρὸς τριηκοσίους τε ἄλλους μεδίμνους καὶ τεσσεράκοντα

945 Manning 2013: 118-120

946 Back in the days of the Raj, this was a common cause for skepticism of economic statistics from British India: figures were collected from untrained village headmen and then recorded without being checked. Josiah Charles Stamp, *Some Economic Factors in Modern Life* (London: P.S. King & Son, Ltd., 1922) pp. 258-259.

947 Xenophon, Thucydides, and Maurice mention methods such as judging the length of the battle line or size of the camp, examining the dung left by enemy horses, questioning prisoners, and counting the number of banners or units or campfires in the enemy army then multiplying by an estimate of their strength. They also discuss ways to make an army seem larger or smaller than it really is, such as arming servants, building extra camp-fires, or adopting a dense formation. There is no hint that scouts were specially trained in reliable methods of estimating, or that their estimates were tested and corrected. Highly educated modern people struggle with similar problems, and in a world where basic arithmetic was not universal, it appears that the conditions were ripe for what psychologists call the 'illusion of validity' (Kahneman 2011: 209-221). A detailed study of empirical methods of estimating the size of armies in the ancient world is a *desideratum*, since it would complement the work on numbers as symbolic figures by Catherine Rubincam, Reinhold Bichler, and other scholars.

948 "Modern historians" eg. Head 1992: 67

949 I discuss comparative evidence for wastage rates in Manning 2013: 141

counting banners. While it cannot be proved, the possibility that some numbers in the sources come by counting 'thousands' and multiplying them by a thousand men each, rather than trying to determine the current strength of each unit, has much to recommend it.[950]

Comparisons between the size of armies in literature and the size of armies in archival records do not inspire confidence in the former. Anne Curry's recent work on the Battle of Agincourt is interesting in this regard, since she argues that none of the figures for either army in the dozens of stories about the battle agrees with the archival record.[951] She imagines both sides about 10,000 soldiers strong, rather than a force of about 6,000 English against tens of thousands of French soldiers (itself a modern revision of the 60,000, 100,000, or more French soldiers in the chronicles on which most modern narratives of the battle are based).[952] Rhoads Murphy notes that Venetian ambassadors estimated that the Ottoman sultans of the late 16th and early 17th century could put 200,000, 230,000, or even 250,000 cavalry into the field without paying.[953] He estimates that the *timars* (property held in exchange for military service) supported no more than 107,000 men even with generous allowances for the number of cavalry supported by the holders of large *timars*; by this time the Ottomans no longer gathered large numbers of irregular cavalry who fought for booty.[954] Nor were all of these troops mustered for a single campaign, and over the course of a campaign numbers rapidly dwindled as soldiers became sick, were sent home on leave, or were detached from the main army for smaller operations. Thus well-informed foreigners writing to help their home city make better decisions seem to have more than doubled the number of cavalry which they could put into the field.

A specialist in the Red Army in the Second World War describes the case of the battle of Prokhorovka near Kursk in 1943.[955] A tradition dating back to a Red Army intelligence report compiled after the battle claims that between 1,200 and 1,500 tanks and assault guns (*Sturmgeschütz*) were engaged. The specialist argues that a combination of miscommunication between branches of Soviet intelligence and over-estimates of the current strength of various formations and the portion of their forces engaged inflated the true number of approximately 978 vehicles spread across two fights, while in the postwar era several figures found it useful to treat both fights as a single battle and repeat the highest possible totals. After the figures of 1,200 and 1,500 became 'canonical' many historians were reluctant to criticize them, because that would offend senior colleagues and the public. If professional historians and trained intelligence officers with access to archives could inflate the number of troops in a battle by 50%, it seems unreasonable to expect ancient writers to be precise.

Finally, there are fundamental differences between claims about the size of Persian armies which are usually rejected, and claims about the size of Hellenistic and Roman armies which are broadly

950 eg. Head 1992: 64, Guthrie 1999. This idea is very widespread and I would welcome other examples. De Odorico 1995: 85, 86 seems to come to a similar idea about Neo-Assyrian inscriptions independently, suggesting that numbers like 400 or 450 were rounded up to 1,000 in royal inscriptions.

951 Curry 2005

952 There is an educational overview of these numbers on Curry 2000: 11-13 (although her table is even more useful to a reader who knows which accounts form the basis for modern narratives of the battle).

953 Murphy 1999: 36, 222 n. 3

954 Murphy 1999: 40, 41

955 Zamulin 2012

accepted. In the former we have estimates from without, by writers who did not even share a language with the clerks and commanders in the enemy army. In the later we have estimates from within (Hannibal, for example, left bilingual inscriptions [Polybius 3.33.17-18, Livy 27.46.15-16] and brought Greek historians along on his campaigns, and Thucydides prided himself on questioning sources on both sides [1.22, 5.26.5, 5.68]). In the former we have grand totals and round figures for some specific contingents, but not a list of the size of every important unit. When both a grand total and estimates for many specific units appears, the two are difficult to reconcile. Figures for the size of armies in Polybius or Caesar are hardly accepted without question.[956] Polybius is sometimes accused of "double-counting" troops in the Seleukid army at Magnesia, and archaeologists are not certain about Caesar's boasts to have depopulated whole regions. One disturbing case is the excavations of wrecks from the First Punic War off Sicily. While Polybius, our main source, claims that the war was fought with quinqueremes carrying 300 rowers and up to 120 soldiers (1.26.7, 1.59.8), the rams found on the site of the battle seem to belong to much smaller ships.[957] This undermines his calculations of the numbers of men in specific fleets. However, when writers give both a grand total and a list of specific contingents, there is some possibility to check their numbers, and some hope that they might be no more than 20% in error.

It is sometimes argued that the numbers for the Battle of Gaugamela could come from the Persian battle-plan which Arrian (An. 3.11.3 citing Aristoboulos) says was captured after the battle. But the description of Darius' army which follows contains only a scattering of numbers, and he implies that the numbers which he earlier gives for Darius' army come from prisoners or camp gossip (Arr. An. 3.8.6) not Persian documents. If this plan really existed (and when Greek and Latin writers cite documents in other languages, historians are often suspicious) it might have been a simple list of contingents like the famous "battle plan for Agincourt."[958] While Arrian's description of the Persian deployment is similar to that of Curtius Rufus, his estimate of the size of the Persian army is four times as big.[959] This does not suggest that the Alexander historians drew their numbers from a common reliable source.

Researchers occasionally appeal to the size and organizational sophistication of the Persian empire. In this view, an empire which stretched from Egypt to Sogdia should have been able to raise armies of hundreds of thousands of soldiers. The case of Rome, whose citizen body vastly increased without ever putting an army large than the one which fought at Cannae into the field, should be sufficient to disprove this. In the sixteenth century, the Ottoman empire also raised armies similar in size to those in Roman and Hellenistic historians.[960] In western Eurasia, solid

956 For citations to specific problems see Sabin 2009: 184, 185 (Cannae), 197 (Graniger's theory on Magnesia), 216, 217 (Pharsalus).

957 Tusa and Royal 2012: 41

958 I am not familiar with any overviews of citations of 'barbarian documents' in Greek and Latin literature. The literature on Herodotus' citations is vast eg. Fehling 1989, Dunsch and Raufflaub 2013. A recent overview of opinions on Ctesias' claim to have used Persian documents is Llewellyn-Jones and Robson 2010: 58-65. On Sallust's claim that he had Punic books translated for him and used them to write his ethnography of Afica (*Jugurtha* 17-19), see Woolf 2011: 27, 57 and Morstein-Marx 2001: 195-197. On the French plan of battle for Agincourt (written before they knew where they would be able to bring the English to battle) see Curry 200: 468, 469

959 Arrian 3.8.6 reports that Darius "was said" to have almost 40,000 cavalry and a million infantry, while Curtius 4.12.13 gives 45,000 cavalry and 200,000 infantry. 1,045 / 245 = 4.265

960 Murphy 1999: 36, 39, 49

evidence of gatherings of more than 100,000 soldiers is extremely scarce before the Napoleonic Wars, while claims that an army had 100,000 or more soldiers are everywhere.

In short, since antiquity writers have argued about the size of Persian armies and attempted to give true numbers. Correcting earlier figures or calculating 'better' ones is very much part of the classical tradition. Without archival sources, the true number cannot be known. However, comparison with later periods suggests that the vast majority of numbers in literary sources are of no value in understanding the size of the armies involved.

Many traditions of scholarship attempt to rationalize the numbers in the sources. A theory dating back to Eduard Meyer connects the four divisions of the Persian army at Cunaxa with the six generals plus Hydarnes in Herodotus to create an empire of six military districts (*Militärbezirke*) or toparchies.[961] A.R. Burn remarked that forces of 60,000 men appear several times in the last three books of Herodotus (escorting Xerxes home under Artabazos at 8.126, defending Mycale under Tigranes at IX.96) and that in the catalogue of nations there are 30 commanders, one of whom commands the 10,000 immortals.[962] (29 × 60,000) + 10,000 makes 1,750,000 which is very close to the number of Persian infantry who were said to be counted at Doriscus. Peter Green attempted to explain Aeschylus' 1207 triremes as a total which included the ships which were used to build the bridge,[963] while Wallinga happily spoke of a fleet based on groups of 300, 600, and 1,200 triremes, despite the fact that he believed that the figure of 1,207 came from "Herodotus' Athenian informants" misinterpreting the figure of 1,000 ships in Aeschylus (*Persae* 341-343).[964] The idea that Herodotus or his source confused words for 'thousand' and words for 'ten-thousand' and thereby multiplied the size of Xerxes' army by ten is widely known, although it still leaves an army twice as big as the largest known Macedonian and Roman armies.[965] Xenophon's statement in Cyropaedia that "they say that there are about twelve myriads of Persians" (1.2.15) has been rationalized as referring only to the nobility, or as a calculation based on his twelve tribes (1.2.5).[966] A number of researchers attempt to estimate Persian strength at Issos by halving the strengths of the specific contingents mentioned by Rufus or Arrian.[967]

In my view, these authors are on the right track in relating numbers in the classical literary sources to other numbers in those same sources. For example, it is curious that Xenophon gives

961 Meyer, Geschichte, 4.1.i p. 69; Cambridge History of Iran II.269; Danamayev and Lukonin 1989: 222

962 Burns 1962: 326

963

964 Wallinga 1992: 122, 122, 183-185

965 eg. Hignett 1963: 351 "An Oxford scholar has suggested to me that some of these estimates may have been due to a genuine misunderstanding, that the Persian unit of calculation may have been a chiliad, misinterpreted by the Greeks as a myriad, so that all figures derived from Persian official sources were automatically multiplied by ten. This explanation ... must remain an hypothesis only."

966 Eg. Sekunda 1988: 75 "it is normally understood that in this passage he is referring to the *homotimoi*," Sekunda 1992: 5 "It may be that he gives this figure as the total number of the nobility, or perhaps as the total strength of the national army," Dandamayev and Lunkon 1989: 223 "the reference here is probably to adult males," Tuplin, C. 1990. "Persian Decor in Cyropaedia. Some Observations," In Sancisi-Weerdenburg, H. 1990:17-30 (Achaemenid History V), Sekunda 2008: 74 "the Persians numbered 120,000: presumably the number of adult males." I suspect that much earlier scholars had similar ideas.

967 Sabin 2009: 134, 135 (citing work by Devine and his own preferences), Guthrie 1999. Duncan Head has also expressed ideas along these lines. I believe that this interpretation has been widespread in the wargaming community, and may well have circulated orally before it was first written down.

Cyrus almost twelve myriads of infantry,[968] 20 scythed chariots, and a bodyguard of 600 cavalry, but Artaxerxes 120 myriads of infantry (including troops who arrived after the battle!), a bodyguard of 6,000 cavalry, and 200 scythed chariots. While he claims that the later figure comes from prisoners taken before and after the battle, and puts the former figure next to his description of a count of the Greek soldiers, the pattern is suspicious. Could he have simply guessed the size of Cyrus' barbarian army, then decided that Artaxerxes' was about ten times as big? It is also peculiar that Diodorus claims that Darius marched towards Issos with 40 myriads of infantry and 10 myriads of cavalry (17.39.2), and gathered 80 myriads of infantry and 20 of cavalry for Gaugamela (17.53.3). Is the second number simply a way of saying that the new army was even bigger? Amongst authors who relied on similar sources to Diodorus, Curtius Rufus says that Darius had 45,000 cavalry at the battle (4.12.13), and Justin says that Darius gathered 100,000 cavalry at Babylon before the battle (XI.12.5). Allowing for some rounding and distortion in transmission, these numbers are surprisingly close to a ratio 4 (Diodorus) : 2 (Justin) : 1 (Curtius).[969] Could these numbers have already been 'corrected' to match different ideas about how many Persians Alexander could defeat? When the odds at particular battles in the last three books of Herodotus are often in the range of 2 or 3 to one, is this a sign that these numbers are 'more accurate' than Herodotus' grand totals, or that he felt that higher figures would not be believed?[970] This approach offers some hope that a common source lies behind the disparate numbers in the tradition, but does not guarantee that that source was reliable.

In my master's thesis I proposed another approach.[971] This focused on placing the quantitative aspects of Achaemenid history in a broad comparative context, one which considers both the problems of quantifying incomes and armies before the 20th century, and evidence from across world history. Rather than attempt to find exact answers, it attempts to narrow the range of possibilities and explore what different estimates imply about the structure of the empire. Where there is a range of possibilities, armies at the high or low ends of that range often shared common features. This approach reduces the arbitrariness of the search for parallels, where those who wish Persian armies to be large cite the largest parallels they can find, and where it is difficult to decide which differences between two cases are significant. Systematically analyzing a wide range of cases, and looking for features which characterize armies with unusually high or low values, offers an escape from arbitrary judgement and the limits of any one body of sources. However, this approach still requires the use of some numbers from classical literature to 'prime the pump.'

Another approach looks for symbolic and meaningful numbers in the tradition. While folklorists long ago taught historians to be suspicious of numbers like three and seven, a growing number of

968 Ten myriads of barbarians, and almost two of Greeks ... but a glance through modern historians shows how often qualifications such as "almost" and "more than" in the sources drop out as estimates are repeated. For a detailed study, see Rubincam 2008.

969 The infantry numbers do not fit as well, and there are difficulties in the text, but the range of variation is similar. A study which looked closely at the manuscript basis for various numbers, and the subtle differences in what they claim to describe, would be valuable. To claim that Darius gathered X men at Babylon, that he had X men with him when he marched to Arbela, and that he had X men on the morning of the battle are not the same thing.

970 Reinhold Bichler has explored this dilemma in some unpublished conference papers. De Odorico 1995 occasionally suggests that a particular number in a Neo-Assyrian inscription could have been chosen because it was high enough to surprise, but not so high as to be laughed at.

971 Manning 2013: chapter 4

scholars are considering large numbers in this way.[972] For example it is curious that the number 120,000 appears under Shalmaneser III in the 9th century BCE, then in Xenophon ("they say that the Persians are about 12 myriads" *Cyropaedia*, 1.2.15; the deserters at Xen. An. 1.7.11-13 claim that Artaxerxes has 120 myriads of men), then again in stories about Roman wars against eastern opponents in the first century BCE.[973] Numbers beginning in 120 are common in Assyrian royal inscriptions, and could be written conveniently as 2 × 60 in sexagesimal notation.[974] In the book of Jonah, YHWH calls Nineveh "that great city, in which there are more than a hundred and twenty thousand persons who do not know their right hand from their left, and also many animals,"[975] the book of Judges (8:10) has Gideon and his 300 soldiers kill 120,000 Midanites, and 2 Chronicles 28:6 laments that Pekah of Remaliah slew 120,000 valiant men in Judah in a single day.[976] It is hard to believe that each of these sources arrived at the figure of 120,000 without being aware that it was in some way 'appropriate' for a large army or vast city. This fact sheds a different light on the forces of 60,000 men in Herodotus, and A.R. Burn's suggestion that Herodotus or his sources had assumed that most of the Persian commanders commanded that many men. Such a postmodernist approach can move numbers from the unknowable context of real Persian armies to the known context of classical and Near Eastern literature. It offers hopes that even 'wrong' numbers can tell us something about the ways in which writers worked and the diverse traditions upon which which they drew. However, it also tends to reduce the value of these numbers for learning about the actual size of Persian armies.

In his article on Achaemenid arithmetic, Christopher Tuplin addressed both he literary and the logistical approaches and worried that we know less than we wish about Herodotus' literary aims and the practical constraints on the size and movement of armies in antiquity.[977] Research since he wrote has lead to some progress in both areas, but more could be done, especially integrating cuneiform texts into a debate which has often been based on Greek and Latin texts and modern parallels. However, it might also be helpful if researchers placed their studies of individual campaigns in a broad methodological context, and considered the possibility that the size of Persian armies may not be the most important thing about them. The size of armies is certainly one way of measuring the wealth and organization of different states, and whether the Achaemenids could raise about as many soldiers as their Hellenistic successors, or about twice as many, is important. However, for the purposes of understanding particular battles, focusing on the relative size of the

972 Catherine Rubincam's Numbers in Greek Historiography project and the unpublished papers by Reinhold Bichler discussed above. Marco DeOdorico 1995 combines skepticism with hope that the scribes often distorted true numbers in ways which can be identified and reversed.

973 eg. Plut. Sulla 22.4

974 DeOdorico 1995: 107-112 (overview), 108 (Old Babylonian text about Naram-Sin), 23 (Tiglath-Pilser I), 107 (Shalmaneser III), 100 (battle of Qarqar).

975 Jonah 4.11 New Revised Standard Version

976 I thank Reinhold Bichler for bringing the classical and biblical passages to my attention in a series of seminar and conference papers. Other examples of the number 120,000 used to describe a remarkable army, nation, city, or number of deaths include the defeat of 120,000 Arabs and 1,800 ships at Byzantium in 716 CE (Cunliffe 2016: 398 *non vidi*), a massacre of 120,000 people by rebels at Guangzhou in 878 CE (Cunliffe 2016: 411, 427 ff. *non vidi*), an English chronicle which proclaims that the French had at least 120,000 men at Agincourt in 1415 CE (quoted in Curry 2000: 12, 92, 94, 95). Tuplin 1996: 154 fn. 88 is said to address this issue in Greek and Biblical texts (*non vidi*).

977 Tuplin 1997: 366-373

two armies may be more productive than trying to find absolute totals using the kinds of numbers which ancient narratives provide.

Focusing on the size of individual armies can also distract from questions like how many armies could be raised at once, and how easily casualties could be replaced. Some ancient societies were much more able to lose a battle and keep fighting than others. The Hellenistic kingdoms seem to have been able to raise a single large army, but not to replace it quickly, while the Roman republic famously sent army after army as one was destroyed. The effects on Ottoman power of the loss of archers and ships at Lepanto in 1571 continues to be debated. Numbers can be used to understand more things than just the size of individual armies at particular battles.

6.6.2 The Idea of the Persians Adopting Greek Weapons

Xenophon and the Alexander historians do not expressly contrast the technical side of warfare in the period that they are describing and that described by Herodotus. If anything, in the *Cyropaedia* Xenophon is eager to assure readers that practices introduced by Cyrus continued in his day. Rather than giving Cyrus' Persians the weapons which Herodotus' Persians carried, he equips them with small shields, curved swords, and axes "like the Persians are drawn holding" (Xen. *Cyr*. 1.2.13). The author of the last chapter of the *Cyropaedia* confirms this: the Persians still use the weapons which have been described, but lack the courage and skill to be successful (Xen. *Cyr.* 8.8.20-26). While it is hard for the modern reader to agree that these weapons were used by "Persians" since Cyrus' day, Xenophon in no way suggests that they were new.

However, these later sources sometimes mention change. Probably the most famous is the tradition that Darius changed the equipment of his army before the battle of Gaugamela: "He had made swords (*xiphē*) and lances (*xysta*) much larger than the old ones because of the opinion that Alexander had gained a great advantage by means of them in the fight for Kilikia." (Diodorus 17.53.1) Curtius shows his interest in material culture:

> In addition, while the army was almost half again as large as that which had been in Cilicia, arms were lacking for many, so they were collected with great cares. For horsemen and horses there were coverings of iron lames woven together in rows; those to whom previously no more than javelins had been given were provided with shields and swords; herds of horses to be tamed were distributed to the footsoldiers, so that the mounted force would be greater than before; and a great terror of the enemy (as they believed), two hundred scythed chariots, a weapon unique to their nations, followed. (Curtius 4.9.3-4 tr. Manning)

These anecdotes tell different stories: what Diodorus presents as new kinds of equipment, Curtius presents as increased quantities of equipment (and Arrian's decision to leave out this anecdote fits his decision to erase events distant from Alexander and present Darius as a passive coward not an active king). Diodorus' version also has echoes with traditions about the reforms of Iphicrates, just like Arrian alludes to a cavalry skirmish in the *Hellenica* in his account of the Granicus (Arrian An. 1.15.5 = Xen. Hell. 3.4.14). Curtius Rufus also mentions that "at the beginning of his reign Darius had ordered the Persian scabbard of the *akinakes* to be replaced with the form which the Greeks used" (Curtius 3.3.6). Similar ideas appear in a few earlier writers: Xenophon describes Cyrus'

bodyguards at Cunaxa wielding Greek *machairai* (Xen. An. 1.8.7), and in the first book of the histories, Herodotus famously says that the Persians borrowed their clothing from the Medes, their armour from the Egyptians, and pederasty from the Greeks (1.135). In his catalogue of nations, he also states that many nations in the fleet were armed like Greeks (7.89ff). Researchers have expanded this idea by glossing various things in Greek and Latin literature as imitations of or responses to Greek soldiers. The *kardakes* at Issos, the fallen infantryman with an Argive shield and Persian clothing on the Darius Mosaic from Pompeii, and Phalinos the Greek "who was knowledgeable about battle lines (*taxeis*) and armoured combat (*hoplomachia*)" (Xen. An. 2.1.7) have often been glossed as showing that the Persians were learning from Greek soldiers or imitating Greek equipment. However, it is important to keep modern glosses separate from the actual words of our sources.

In my view, these passages must be considered in both the context which they claim to describe, and the context in which they were retold: Arrian wishes to show that where the troops of Xenophon's idol Agesilaus were mastered by the Persians, the troops of his idol were superior, and Herodotus' example of what the Greeks taught the Persians is surely meant to deflate some listeners' expectations about eastern luxury and Greek moderation. Where many modern researchers retell these stories out of pure antiquarian desire to gather every trace of the past, Diodorus or Arrian have other considerations. Moreover, it is later writers who put Greek weapons in the hands of soldiers from the heart of the empire, and modern researchers who have explained some changes as "borrowings from the Greeks" or "responses to Greek hoplites."

The hypothesis that soldiers in the Persian empire borrowed weapons or techniques from outside it is certainly plausible. As we have seen in chapter 2; the previous centuries involved a great deal of borrowing: horseback combat from the Zagros, Kimmerian bows and arrows from the Caucasus, and whatever process caused infantry across the imperial heartland to be 'double armed' with lance and bow and not divided into distinct forces of spearmen and bowmen. The same was true of the Hellenistic period when soldiers borrowed equipment and military practices which had been invented anywhere from Iberia to India.

A few of these borrowings may be more in the eye of scholars than in the sources. As we saw in the case of curved swords, researchers have often assigned cultural or ethnic labels to objects in a simplistic way. Some of these attributions may be incorrect, and some may not allow for the complex ways in which people interpret the material parts of their culture. A fashion can be 'read' very differently in the culture where it originated, and in another culture which imitates it. Margaret Miller's idea of 'perserie' serves as a useful model from the Greek side: Greeks borrowed or copied Persian objects, but put them to new uses or changed them to meet their own tastes. Clearly the same was true of Scythian horsemen who wore Corinthian helmets or greaves while fighting as mounted archers, as on the famous Solokha Comb. Scythian nobles admired Greek armour, but were not as attracted by the Greek custom of fighting on foot with spears. In his preliminary report on the Karaburun II tomb, Mellink summarized the battle scene painted on the walls as follows:

> The weapons of the victors are partly of Greek type (shields) , or Achaemenian-Anatolian (daggers); the two-edged javelins may be local. The vanquished army consists of ill-equipped archers, perhaps auxiliaries, who have no chance in the hand-to-

> hand fighting of the frieze; and of better armed, cuirassed, and helmeted warriors, who could be Greeks. ... In general terms, this is some kind of a Persian war in which the Greeks are the losers.[978]

While the hoplites do seem to be losing the battle, it can be very much questioned whether an ancient reader would have interpreted the scene as "the Persians defeating the Greeks." Many Karians and Lydians used "Greek" equipment, and some Greeks experimented with Scythian bows or Thracian shields. Moreover, an ancient observer might have thought in terms of individuals or political factions instead of ethnicities: "the king's men defeating the rebels" or "my father killing Teucer."

We should also be mindful of the modern ideologies of a backwards, static East unable to innovate without Western advice. Modern research has hardly been interested in the possibility of foreign influence on Greek warfare, but very interested in the possibility of Greek influence on foreigners or of other cultures on the Persians. Thus the idea of Greek influence is more available to military historian than the idea of Egyptian, Thracian, Saka, or Indian influence. Herodotus famously says that the Karians taught the Greeks to fit helmets with plumes and shields with grips (1.171) but scholars with a classical background have been very skeptical despite the lack of archaeological or artistic evidence for the equipment of early soldiers in Karia.[979] This makes an interesting contrast to the reception of Herodotus's words about Persian spears, which have been generally accepted despite the fact that they disagree with contemporary art.

With these methodological notes firmly in mind, let us look at one area where Greek and Latin literature suggest that soldiers in the empire borrowed skills or equipment from outside it. Rather than focus on the passages discussed above, I will turn to one aspect of fighting on land which I have not previously discussed: the siege.

6.6.3 Siege Warfare

There is no developed "siege piece," full of descriptions of the engineering works in technical language to impress readers, in Herodotus, Xenophon, or the fragments of Ctesias. Herodotus describes Harpagos the Mede's sieges as follows: "When he came to Ionia, he took the cities with mounds in this way: having made them go inside their walls, throwing mounds of earth against their walls he took them" (Hdt. 1.162). Later on the Persians fail to take Barke in Cyrene by means of tunnels under the walls (Hdt. 4.200.2--3), take Soli on Cyprus by "undermining the walls" (Hdt. 5.115) and besiege Miletus by "undermining the walls and bringing up every kind of machine" (καὶ ὑπορύσσοντες τὰ τείχεα καὶ παντοίας μηχανὰς προσφέροντες Hdt. 6.18). These brief technical phrases could reflect deep technical knowledge, or just a general awareness that a Persian siege involved more than storming a low section of wall with ladders, but in any case they invite the

978 Mellink 1972: 268

979 Snodgrass 1964. This continued to be quoted with approval eg. Raaflaub 2013: 99, Holmes 2013: 38, 39. Snodgrass' basic argument is that these things could have been borrowed directly or invented in Greece, where the customs of depositing weapons in graves and shrines and painting warriors on pottery allow their adoption to be traced at an early date. But as he himself acknowledges, the lack of similar customs in Karia (and the difficulty of labelling sites in Anatolia as 'Karian') makes it impossible to know if these things were invented or adopted earlier there, and in the Greek tradition Karian 'men of bronze' were very active in the east. Brouwers 2013: 75, 161 notes the problems with Snodgrass' argument.

reader to fill in the details based on their own knowledge of sieges in general. Herodotus neither provides detailed anecdotes, not a long technical account.

Just why this is can only be speculated. The reigns of Cyrus and Darius were long before his time, but that does not prevent him from telling detailed stories about some aspects of the Ionian Revolt. His anecdotes about sieges often focus on times when Greeks got the better of their opponents, such as the secret message on an arrow and unlucky tide at Artabazos' siege of Potidaia in 480 (Hdt. 8.128-129) or how the people of Barke detected the Persian tunnels with a bronze-faced shield.[980] Near Eastern royal inscriptions also tend to describe sieges in set phrases rather than record technical detail, and Herodotus' description of the Persians forming a 'net' to catch islanders echoes those phrases.[981] However, stories about tricks and treachery also suited Herodotus' methods. Where the 'siege pieces' from Thucydides onwards impress the reader with the author's deep technical knowledge, Herodotus was more inclined to boast of his wide travels and inquiries amongst many different informants. For his purposes, it was enough to communicate that the Persians took cities one after another by building ramps, digging tunnels, and bringing up machines.

Christopher Tuplin has recently analyzed military narratives in the fragments of Ctesias.[982] Three of the four sieges end because of a trick or wonder: Semiramis takes Bactra by climbing its cliffs with a few picked solders, the rebels take Ninus when a flood foretold in omen destroys its walls, and Cyrus takes Sardis by raising dummies in Persian clothing on long poles so that they seem to have taken the Acropolis. The fourth, the siege of the Acropolis of Athens, ends when the defenders escape in the night.[983] None of these anecdotes preserves any technical detail. Diodorus in fact remarks that when Sardanapallus was besieged in Ninus, the siege progressed slowly "for neither stone-throwers nor ditch-filling tortoises nor rams designed for overthrowing walls had been invented at that time" (2.27.1 tr. Manning). While most of the second book of his *Library* is customarily printed amongst the fragments of Ctresias, the most recent editor brackets this phrase as a product of a later writer. It is certainly wise to be cautious about the relationship between Diodorus and his lost sources. However, it certainly does not appear that Ctesias gave a long technical description of his legendary siege of Ninus, as Xenophon gives for some of the legendary battles in the *Cyropaedia*.

The absence of a long "siege piece" in Xenophon may reflect the characteristics of the armies which he followed. Cyrus the Younger seems to have relied upon winning a quick battle in the field and persuading local magnates to go over to him.[984] After his defeat and the looting of his camp, the Ten Thousand had no time, equipment, or skills to conduct a complicated siege. The Spartan army in Asia lived up to the stereotype of Spartans as clumsy in sieges (Hdt. 9.70, Thucydides 1.102),[985] and this weakness was one which Agesilaus never addressed. While Xenophon proudly describes

980 Hans Michael Schellenberg informs me that a recent German project was unable to detect the sound of digging in this way. This could reflect lack of skill, as when teams of academics with books and money fail to make useful saltpeter (KNO_3) where penniless farmers with experienced teachers succeed, but I hope that they publish their work.

981 Rollinger and Degen forthcoming

982 Tuplin 2011: 459-464

983 Ctesias F13.30 *apud Photio*

984 Manning 2013: 142-145

985 For an overview of early Athenian and Spartan sieges and assaults see Campbell 2006: 32-41

how Agesilaus created an effective force of cavalry which enabled him to beat Tissaphernes in the field, he was silent about the walls of Sardis, Leontōn Kephalai, Gordion, and Dascylion which the Spartans were powerless to cross (HOxy 15.1, 24.3-25.3 Behrwald). Xenophon was more eager to relate clever stratagems by which a general took a town with little or no fighting, or inspiring leaders who persuaded their countrymen to hold out. Xenophon's treatment of sieges in the *Cyropaedia* broadly parallels that in the *Anabasis* and *Hellenica*. In *Cyropaedia* Xenophon introduces scythed chariots and ox-drawn towers into his land battle, and describes their construction in some detail. He was not uninterested in the construction of arms and armour. However, his siege of Sardis lasts only a single day after which some of his soldiers climb the cliffs and occupy the Acropolis (Cyr. 7.2.2, 3), the Karians surrender when one of Cyrus' generals approaches with siege machines and smooth words (*Cyropaedia* 7.4.1-7), and when Cyrus approaches Babylon there is a lengthy description of the circumvallation and then the story about diverting the Euphrates and entering the city along the bed of the river. Since Xenophon had great freedom to chose what to include in *Cyropaedia*, we can presume that he did not think that his readers needed a lecture on the technical side of siege warfare: perhaps he felt that gentlemen let engineers worry about *mechanai*.

While we should perhaps not hold out much hope in their historicity, the stories about Cyrus besieging cities at least remind us that most sieges did not involve wheeled machines and long months of earthmoving. The betrayal of a city by its gate guards leaves no archaeological evidence, and a rush up ladders and over the walls might only be attested as a destruction layer. As late as 1812, the turning point in the assault on Badajoz was the scaling of the castle walls by a few British infantry with ladders. Rumours of their success discouraged the French defenders and encouraged the British attackers who had so far failed to break into the town below despite all of their artillery and earthworks. Few letters from the Achaemenid period describe events on campaign, and royal inscriptions tend to refer in a vague way to lands devastated and cities taken. Intimidation, treachery, surprise, and sudden assaults were certainly part of siege warfare in the Ancient Near East, even if the stories preserved by Herodotus, Ctesias, and Xenophon belong in the realm of folklore. The Hittite Instruction for the Lord of the Watchtower[986] presents surprise attacks or traitors who open the gate at night as a constant danger to small towns on the frontier, and Neo-Assyrian queries to Šamaš run through a long list of ways in which a town might fall other than being stormed with ramps and battering rams.[987]

However, the sieges of the Teispids and early Achaemenids are best studied through archaeology (see chapter 6). As was discussed in chapter 2, there was a long and continuous tradition of siege warfare in the Near East, and works and engines such as ramps, movable siege towers, battering rams, and sapping walls had been built since at least the third millennium. The story about the siege of Ninus is probably better cited as an example of Greek ignorance about Mesopotamian 'deep time' (and fascination with Mesopotamian rivers and canal-building) than as a historical source. Christopher Tuplin suggests that Ctesias could have believed that the Persians did not have siege machines like Dionysios of Syracuse,[988] but Herodotus' *mēchanai* certainly sound like moving

986 For a list of earlier editions, including von Schuler 1957 and A. Goetze, ANET, see Singer 2008: 252
987 Eph'al 1997, for sources see SAA 4
988 Tuplin 2011: 465

engines, and it hardly seems likely that a tradition which had lasted for thousands of years would be broken by a century of interrupted peace.

However, during the Achaemenid period a technological change occurred which is much easier to study through Greek texts. This is the invention of machines for throwing projectiles. The Greek and Latin terminology is a tremendously complicated subject, but scholars roughly divide catapults in the ancient Mediterranean along two axes: some were powered by oversized bows (bow artillery) while others used twisted skeins of rope (torsion artillery), and some hurled heavy arrows while others shot stones weighing minas to talents.

Today the early history of catapults can only be approached through Greek texts. The oldest known depictions of catapults appear among the spoils carved on the stoa of Athena at Pergamon (2nd century BCE)[989] and the first datable remains are some fittings from the skeins of catapults from a farmstead at Ephyra in Epeiros destroyed by the Romans in 167 BCE.[990] The attempts to find throwing-machines in sources before the fifth century BCE, including the Old Testament and Neo-Assyrian reliefs, have been summarized and rebutted many times.[991] While no doubt texts in Punic and other Semitic languages once existed, so far none have been identified. A story in Polyaenus that the Egyptians defended Pelousion against Cambyses by shooting "sharp-pointed missiles, stones and fire" from catapults (Polyaenus 7.9.1 eg. Wöflfin) is usually dismissed as anachronistic. However, a wide range of references to catapults are preserved in credible sources from the fourth century BCE onwards.

Amongst those Greek texts, the main sources are Aeneas Tacticus, a number of Attic inscriptions, Diodorus Siculus, and the technical manuals, particularly that of Biton who describes a number of machines powered by bows and attributes them to named engineers. Biton is not interested in chronology, and while he himself wrote when an Attalus was king of Pergamon, his engineers are even more difficult to date.[992] Hans Michael Schellenberg notes that without the technical manuals we would have no hint of the existence of bow artillery in antiquity.[993] This is unfortunate, because Heron of Alexandria says that the catapult was based on an earlier machine powered by a bow which he calls a *gastraphetēs*, and because the first certain evidence for torsion artillery is an inscription of 306 BCE.[994] It seems likely that in the 4th century BCE, the vast majority of catapults were powered by giant bows rather than twisted cords.

Catapults seem to have been invented somewhere in the neighbourhood of Sicily and southern Italy in the fifth century BCE. The most famous literary testimony is Diodorus' account of the engineering works sponsored by Dionysius I of Syracuse. Dionysius gathered engineers from Italy, Sicily, and Carthage with promises of rich rewards, and they invented various things including the *katapeltikon* (τὸ καταπελτικὸν 14.42.1) and made all kinds of catapults (καταπέλται παντοῖοι

989 Campbell 2011: 682.
990 Campbell 2011: 684
991 Eg. Marsden, Historical Development, 52-54; Campbell 2006: 25-29
992 For arguments about the date of the treatises, see Marsden, Technical Treatises, 78 and Lewis 1999: 165-168 (a bit too confident in Marsden's reconstruction of the development of early catapult technology, and I do not understand why it would be quicker to make giant composite bows than ropes of hair or sinew in an emergency).
993 Schellenberg 2006: 20 Ohne die militärmechanischen Werke Bitons und Herons wäre die Existenz der Bogenartillerie unbekannt.
994 Campbell 2011: 262, cp. Marsden 1969 and Schellenberg

14.43.3) which he used in the siege of Motya. On the other hand, the engineer Zopyros of Tarentum (about whom more below) seems to have designed two catapults before 400, and Pliny attributes various types of catapults to Piseaus (probably the legendary founder of Pisa), the Cretans, and the Syrophoenicians (*Historia Naturalis* 7.201). While Diodorus seems to think that the catapult was first used under Dionysius, it is possible that his source described the invention of one specific type of catapult to add to other existing designs.

How and when these new weapons made their way east is not recorded. Biton describes a piece of bow artillery designed by Zopyros of Tarentum at Miletos. Zopyros is a very common name in classical texts, despite the fact that it does not seem to be linguistically Greek. The *Realenzyklopädie* gives it no less than twenty entries, including one representing eighteen different Athenian inscriptions, and suggests that it could be related to the Sasanid royal name Sarpor.[995] An ingenious theory by Peter Kingsley identifies the engineer with Zopyros of Heraclea the Pythagorean, and dates his works to the period of Milesian independence after 412 BCE, when a Syracusan fleet was active in the Aegean and when Miletos was eager to defend itself.[996] Kingsley's Zopyros is far too patriotic to work for barbarians or be involved in a siege of Cumae or Miletus. Regardless of his employer and date, Zopyros shows that the catapult reached Achaemenid territory very early in its development.

Our sources for the reigns of Artaxerxes II and III are vague about military engineering. In mainland Greece, catapults are only attested by a handful of anecdotes, an offhand mention in Aeneas Tacticus, and a few inscriptions.[997] Intriguingly, one of these is a gravestone from the Piraeus commemorating Herakleidas the Mysian, catapult-operator (καταπαλταφέτας).[998] Graves with foreign ethnics and a profession prominently displayed are usually thought to belong to slaves, but that does not mean that Herakleidas learned his trade in captivity. Artillery do not appear in the traditions about the wars with Egypt. However, Diodorus' entry for the year 341/340 BCE includes a detailed account of Philip's siege of Perinthos on the north shore of the Sea of Marmara. Diodorus himself (16.76.5) tells readers that Ephoros' history ended with the siege of Perinthos. It may therefore have served as a "show piece" like Thucydides' account of the siege of Plataia, in which the author demonstrated his knowledge of the skills and jargon of siege warfare. If this is correct, Ephoros may have avoided describing engineering in the years before this siege to make his account of the siege of Perinthos as impressive as possible. Certainly, Thucydides seems to let his account of the siege of Plataia stand for the other sieges which he describes briefly, much as he lets his account of the civil war in Corcyra stand for similar events which he does not describe in detail.

At first, Philip's engineers made steady progress. They built towers 80 cubits high to overtop the battlements, catapults to shoot the defenders, mines to collapse the walls, and rams in wheeled sheds to knock them down, while Perinthos fought alone except for Byzantium. Then something unexpected happened:

995 RE s.v. Zopyros
996 Kingsley 1995
997 Marsden 1969: 65-66
998 IG II^2.9979 Quoted in Marsden 1969: 69 and dated sometime after 350 BCE.

> Philip's growth to power had been reported in Asia, and the King, viewing this power with alarm, wrote to his satraps on the coast to give all possible assistance to the Perinthians. They consequently took counsel and sent off to Perinthus a force of mercenaries, ample funds, and sufficient stocks of food, missiles (*belē*), and other materials required for operations. [999]

Belē can be a wide variety of projectiles, and a variety of specialized types were useful in sieges (for example, pointed projectiles to stick in enemy shelters and light them on fire, or heavy ones to drop from walls and towers). Diodorus prefers concentrating on the courage and tirelessness of the Perinthans to describing how they fought back. In his narrative he only uses the word catapult once, when he describes how Philip killed the soldiers defending the wall with *oxybeleis*, while Byzantium sent them allies, catapults, and missiles (16.74.4, cp. 16.75.3). Since *oxybeleis* can be either the sharp-pointed darts shot from catapults, or the catapults which shot them, exactly which Diodorus or his source meant remains unclear. But it certainly seems that cities on the Persian side of the sea were well supplied with equipment for resisting a siege. As more cities came to help Perinthos, and the siege dragged on, Philip withdrew.

Our anecdotes about the fighting which gave Philip and Alexander a ‘bridgehead’ in Asia do not mention artillery. Probably, both sides relied on sudden surprises and persuading some or all of the defenders to let them in. Artillery features much more prominently after the battle of the Granicus River, when Alexander famously took port after port. His sieges of Miletos and Halicarnassos feature prominently in histories of ancient siege warfare and as with the siege of Perinthos, scholars continue to debate the technical details.[1000] The engineering at the siege of Tyre is even better known. It is often remembered that the siege turned in Alexander’s favour when ships from Cyprus and Phoenicia joined in the assault. It is less famous that after his towers on the mole were burned, he called in many engineers (μηχανοποιοὶ) from the whole of Cyprus and Phoenicia who built the new engines which attacked the city from land and sea (Arrian 2.21.1). At Gaza Alexander was "shot with a catapult" through his shield and body armour (Arrian, *Anabasis*, 2.27.2; cp. Curtius Rufus 4.6.17-18). Artillery becomes less prominent in the narrative after Alexander crossed the Euphrates, but there are hints that the defenders of the Persian Gates used artillery. Arrian has them “shooting with machines” (ἀπὸ μηχανῶν βαλλόμενοι, Arr. An. 3.18.3) while Curtius Rufus has them hurling stones with slings (*fundis*, 5.3.17-20), a term which occasionally refers to large siege engines rather than small personal weapons.[1001] Four large bronze three-bladed points which appear to be for catapult missiles were found in the Treasury at Persepolis, and another at the Tal-i Takht at Parsargadae.[1002] While the excavators at both sites identified them as “javelin heads,” they are similar to the three-bladed barbed points found in the remains of Olynthus which are customarily interpreted as catapult shot.[1003] Distinguishing between arrowheads, javelin points, catapult points,

999 Diodorus 16.75.1-2 tr. Loeb (slighty modified). The latest text is in Goukowski 2016.

1000 Arrian, *Anabasis* 1.22.2 has the Macedonians hurl "great stones" from "machines" on their towers at a counterattack by the Halicarnassians, but "machines" in Arrian is a vague word; cp. Marsden 1969: 49-51 on the stationary, flame-throwing "machines" in Thucydides.

1001 Admittedly, mostly in late Latin, and Quintus Curtius Rufus' style is usually thought to belong to the first century CE

1002 Schmidt, Persepolis II p. 99 and fig. 76 and Muscarella 1988: 213 no. 323. I thank Paul McDonnell-Staff for the parallel with Olynthus

1003 Campbell 2006: 60

and spearheads is notoriously subjective, but there is little evidence for warriors in Persis throwing spears on foot, and thrusting spears normally had two-bladed points. Thus there is some reason to think that catapults were already present in Fars when Alexander arrived.

In his influential book on ancient artillery, E.W. Marsden stressed that catapults were invented for the Greek Dionysius of Syracuse and improved for Philip and Alexander, so that they could take cities much more effectively than the kings who went before them. In his view:

> "It appears, therefore, from this summary analysis of sieges, that a besieger who possessed efficient artillery and knew how to use it stood a very good chance of success. A city could only hope to survive if it had thoroughly up-to-date fortifications and artillery, and if it conducted an active defence."[1004]

He suspected that Philip was the first general with a large number of arrow-shooting engines powered by twisted cords, and Alexander's engineers were the first to build catapults which could hurl heavy stones and damage city walls.[1005] His proposed history of the development of the catapult is a story about Syracusans, Athenians, and Macedonians who purchased catapults, and Greek engineers who built them.

Mastery of catapults and other machines did shift the advantage in sieges towards the attackers. One of the key differences between Alexander and the other "Ionians" who raided the Assyrian and Persian empires was that he could take walled cities, including cities away from the coast. However, it is possible to tell the story of these developments in a way which is less focused on Greeks.

As we have seen, the early history of the catapult is reconstructed based on three key sources who both focus on Greeks. Diodorus only provides detailed accounts of Greek and Macedonian sieges, Biton names earlier Greek authorities who probably wrote handbooks, and the Athenian inscriptions describe catapults held at Athens. However, when we look closely we see many signs that Phoenician and Anatolian engineers, artisans, and operators designed, built, and used early catapults. One of the inventories from Athens mentions barbarian catapult somethings in 321/320 BCE (…7…ται βαρ[β]αρικ[α]ὶ ϰα[τα]πά[λτηι προ]σκεκρουμέναι … IG II^2 1469: 72, 73).[1006] Three of the engineers named by Biton came from western Anatolia: Charon of Magnesia who built a *petrobolon* at Rhodes,[1007] the *lithobolos* built at Thessalonica by Isiodorus of Abydos, and Damis of Colophon who built a sambuca (an adjustable wooden ramp to allow soldiers to walk from ground- or sea-level to the top of a wall). These figures are even more difficult to date than Zopyros of Tarentum: there are candidates in the second century BCE, but by then the bow artillery designed by Charon and Isiodorus would probably have been obsolete. A generation after Alexander, when Dionysius besieged Rhodes, the city's chief engineer was one Kallias of Arados.[1008] Arados is an island off the Syrian coast, so whatever Kallias' ethnicity, this certainly suggests that by the time of the siege engineers in Phoenicia had mastered the latest inventions. Kingsley notes that Zopyros is

1004Marsden1969: 113
1005Marsden 1969: 160-162
1006Marsden 1969: 68
1007Biton W 45 = Marsden 1971: 67
1008Vitruvius, *De Architectura*, 10.16.3-8. On Arados see Strabo, *Geography* 16.2.12-14

an example of the "wandering experts" who were so common in the first millennium BCE,[1009] like the Greek and Phoenician sailors and shipbuilders called to Babylonia by Assyrian and Macedonian kings.[1010] There were many skilled engineers who were not Greeks, and experts from Mysia or Arados could find work at Athens or Rhodes. No one ethnic group or culture had a monopoly of catapults, no one ethnic group or culture deserves all the credit for their development. On the contrary, Alexander invaded an empire whose cities were busy acquiring the latest catapults.

However, most of the cities with a few catapults did not use them to conquer other cities. They were busy trying to survive in the confusion of Greek politics, as the Spartans, Thebans, Phocaeans, and Macedonians struggled for power. This is a common theme in the history of technology: a new technology makes some things possible, but whether or not they are realized depends on people and broad economic structures. Most kings and cities did not have the resources to bring overwhelming force against a neighbouring city and keep it there for weeks or months while their engineers worked. While the literary sources focus on the most elaborate sieges of major powers, most sieges were probably very much like those described by Aeneas Tacticus or the Hittite Instruction for the Lord of the Watchtower: surprise attacks when the gates were opened in the morning, blockade while the besiegers tried to persuade someone inside to let them in, or attacks using one or two poorly-built machines.

It appears that Philip invested large sums of money for decades in hiring the best engineers, paying them to build new machines, and training his soldiers in siege after siege. This sustained investment gave his engineers an advantage in sieges and let them build improved versions of existing weapons. The first clear references to stone-throwing catapults come from descriptions of Alexander's siege of Tyre.[1011] Alexander's opponents are never clearly shown using stone-throwing engines, but often using bolt-throwing ones. While dart-throwing engines were useful to defenders in killing men and setting things on fire, stone-throwers were useful for smashing enemy engines and breaking the shelters which attackers constructed to approach the walls. Thus it is possible that Alexander's engineers had discovered how to make powerful stone-throwing engines which engineers in the service of his opponents had not yet learned to counter.[1012]

1009Kingsley 1995: 151, 152

1010Rollinger 2008

1011Polyaenus 2.38.2 is sometimes cited as an earlier use of stone-throwing machines. Polyaenus tells how the Phocaian general Onomarchos prepared an ambush for Philip of Macedon by placing stones (*petroi*) and stone-throwers (*petroboloi*) on a crescent-shaped ridge, positioning his army in the valley below, then pretending to flee between the horns. When they reached the desired point, they turned around and the stone-throwers attacked the Macedonians from three sides, disordered their phalanx, and forced them to retreat. Petroboloi and lithoboloi can mean either men or machines (as Pritchett shows in *The Greek State at War*), and Polyaenus does not specify which, although this has not stopped many translators or commentators from using language which excludes one possibility. One branch of the text of Polyaenus, a collection of paraphrased excerpts put together between the 6th and the 9th century CE, says that Onomachus placed "infantry and stone-throwing machines" on the ridge, and this version has been used by authorities such as Marsden. But Polyaenus is a late writer (his work is dedicated to emperor Marcus Aurelius, r. 161-180) more interested in collecting anecdotes than questioning them, stone-throwing catapults were large bulky machines which were rarely used in the field or hidden, and famously ancient catapults had difficulty shooting downwards (Plut. Marcellus 15.5, cp. comments by scholars such as Marsden who have built and shot catapults). It is difficult to find an event corresponding to this battle in other stories about the Third Sacred War. Thus it is difficult to use this passage as evidence for stone-throwing machines early in Philip's career (Campbell 2006: 93).

1012Marsden 1969: 60 suggests that the torsion (skein-powered) catapult was invented by engineers in the service of Philip of Macedon. But this theory is tied into his 'late chronology' for artillery development, and is hard to

Similarly, the siege towers in Diodorus 16-20 are remarkably high. Near Eastern texts do not give the size of siege machines, and the Near Eastern and Egyptian depictions of siege engines give little idea of scale, while Diodorus' figures cannot be tested. Still, it is worth asking whether engineers along the Upper Sea began to build siege towers larger than had been customary, just like they began to build larger warships. Oak, pine, and cedar were plentiful along the coast and could be pulled into the water, formed into rafts, and brought to a besieged town by sea, whereas tall trees were scarce in Egypt and the Mesopotamian lowlands and the Tigris and Euphrates were less convenient routes for transportation. Building things bigger is not trivial: bigger structures require different design, and are less forgiving of poor construction. A key moment in catapult design was when engineers in the service of the Ptolemies discovered formulas for making larger or smaller versions of a catapult: before then, each new catapult had to be designed separately.

At the same time, though, these impressive machines were useless without skilled workers to build them and brave soldiers to haul them into place, operate them close to the enemy walls, and prepare the way with old-fashioned earth-moving and wicker shelters. To the inhabitants of remote valleys or peaceful towns which had not faced a serious siege for generations, Alexander's soldiers must have appeared like “experts contending with amateurs” (Hdt. 7.211.3 ἐν οὐκ ἐπισταμένοισι μάχεσθαι ἐξεπιστάμενοι, cp. Diodor. XIV.23.3-4). Bringing large forces together and building all of these devices cost staggering amounts of money and required careful organization.

By investing in engineers and developing the technologies of catapults, battering rams, towers, and tortoises, Philip and the kings who came after him gained a temporary, qualitative advantage over the cities they besieged. As long as they combined technology, superior wealth, and persistence, they could take most cities by force, whereas before the powers west of the Aegean had struggled to do so. Any technological advantage was fragile, since other powers were eager to hire or kidnap (Diodorus 20.93.5) their engineers, and since unemployed engineers travelled widely in search of work. We cannot trace the history of engineering under Artaxerxes III and Darius III in such detail, but the sources suggest that their engineers built similar machines. If those engineers failed to stop Alexander's onslaught, so did infantry, cavalry, and chariots.

6.7 Conclusion

As we have seen, anyone who wishes to tell the story of a fight in the Achaemenid empire is confronted with many problems, both in the surviving sources, and in the modern interpretations with which they have become encrusted. Identifying Pierre Briant’s “Achaemenid nugget of information” is no easy task.

One possible approach would be to stop trying to find answers and focus on defining the limits of sources and methods which any proposed answer must overcome. Whatley focused on the available methods and their limits, while Bichler concentrated on the sources, their contradictions,

reconcile with Kingsley’s ‘early’ date for Zopyros of Tarentum. If Kingsley is correct, powerful bow-artillery with stands and winches existed 25 year before Marsden’s date for the invention of the smallest and simplest bow-artillery. For an attempt at synthesis which avoids committing to the idea that Alexander had a monopoly on torsion catapults, see Campbell 2006: 48-53, 71-79. Campbell 2011: 681, 682 notes that in principle the stone-throwing catapults at the siege of Tyre could have been bow artillery rather than skein artillery.

and their silences. The recent volume on *The Battle of Marathon in Scholarship*[1013] took this approach, because the author felt that as a humble teacher unable to read French and German he was not qualified to put forward his own view.

Another possible approach would be to back away from narrative and focus on systems and structures and types of events. This has been a common approach in Achaemenid studies in general, where researchers write studies of themes such as king and court or the organization of the empire rather than trying to write another narrative history which inevitably turns to the same handful of classical and cuneiform sources and asks the questions which those sources encourage us to ask. In a famous article on Xerxes, Heleen Sancisci-Weerdenberg warned against trying to understand the personality of Xerxes (or any other Teispid or Achaemenid monarch) given the structures which shaped their actions and the disinterest of our sources in factual accuracy.[1014] As discussed in chapter 3, powerful models of the Good King and the Wicked Tyrant circulated in the Near East, and stories about a given king could be chosen and framed to fit one of these models.

However, the flood of retellings of Marathon and Alexander's campaigns, from the driest scholarly prose to the most spectacular cinematic treatment, suggests that scholars lack the power to stop people retelling the Persian Wars. Researchers in Achaemenid Studies may be able to erase the memory of the Achaemenid court as a place characterized by drunkenness, debauchery, and outspoken women, since the classical and biblical sources are no longer so widely read and since later courts fill our culture's need for *exempla* of the Decadent Court. It seems less likely that they will be able to erase the myth of the Persian Wars and the legends of Alexander's conquests. Under the circumstances, it seems defensible to press on, not hoping to be right, merely to be less wrong than some earlier attempts and to ensure that the perspective of Achaemenid Studies is part of the conversation.

One of Thomas Harrison's criticisms of the dominant tradition in Achaemenid Studies is that researchers tended to position their work against less sophisticated readings of Herodotus and the other classical sources.[1015] The problem is that these more sophisticated readings have not often been applied to the topics discussed in this chapter. People who agree to write books about the Persian War tend to be people who believe that they can find the truth behind Herodotus' account. There is certainly room for analysis of the sources for military questions which pays more attention to their literary goals, intertexuality (*not* just sources), and the assumptions which we apply when we interpret them. There is even more room to bring these sources in dialogue with other evidence, and not simply list sources as supporting or confirming the authorities. This would require a wise selection of topics, since some of the things most prominent in the classical literary tradition are invisible in other sources. I have not discussed the "ten thousand immortals,"[1016] the *kardakes*,[1017] or

1013Fink 2014

1014Sancisci-Werdenberg 1989

1015Harris 2011: 28-37

1016On the immortals: Charles 2011, Schmitt 2004, Sekunda 1988a: 69-70, Gnoli 1981, Pagliaro 1954. The writers after Herodotus who mention them seem to be drawing on him. The identification of the guards on the reliefs at Persepolis and Susa as "immortals" (eg. Sekunda 1992: 8-9, Olmstead 1948: 238, 239) also depends on Herodotus, since other classical sources focus on the thousand 'applebearers' commanded by a chiliarch.

1017On the kardakes see Charles 2012, Encyclopaedia Iranica s.v., and Head 1992: 10-12 as well as chapter 5. In my view, the lexica have been neglected as sources: I am intrigued by the definition κάρδακες˙ οἱ στρατευσάμενοι

the elephants at Gaugamela[1018] because it is so hard to connect the classical sources which mention them to other evidence. A great deal of research is devoted to these topics, and it is intriguing to speculate about the Old Persian word for "companion" and Indo-European warbands of young men, but these speculations rest upon a tiny base of evidence. On the other hand, linking Herodotus' procession with reversed spears to Neo-Assyrian reliefs and a Hittite rule,[1019] his story about the flying snakes of Ethiopia to Assyrian annals and a passage in Josephus,[1020] or his story about Oibares and the mare to an omen list,[1021] has been more productive.

This chapter may sound negative and abstract. This is because of the methodological difficulties involved, and the extent to which studies of the military aspects of the Achaemenid empire have fallen behind studies of Greek, Roman, and Germanic warfare. The 'entrance requirement' to the debate in those fields have become very high, and relies upon a second generation of foundational studies, such as Pritchett's *Greek State at War* and the *Olympische Forschungen* volumes, which supplement the first generation in the late 19th and early 20th century. Such a foundation has not yet been laid for the military aspects of the Achaemenid empire despite a series of studies by classicists, archaeologists, and Assyriologists. The wide range of approaches to Herodotus, from Donald Kagan's "higher naivete," to Herodotus-as-investigative-reporter, to the "liar school," to the suspicion that he gathered stories then re-arranged them and added something of his own,[1022] also makes it difficult for any interpretation to find wide acceptance.

However, just because a question has usually been approached with quick and simple methods does not mean that it could not be studied with more complex, time-consuming ones. In my discussion of the barbarian infantry at the Granicus, of battle mechanics in Herodotus, and of the development of siege engines, I have attempted to show ways in which it is possible to advance our understanding of the classical sources by reading them more carefully, reconsidering our preconceptions, and bringing in other kinds of evidence.

At the end of his painstaking survey of the evidence for cavalry in the empire, Christopher Tuplin concluded that he could not see good evidence that much had changed between the period described by Herodotus and that described by Xenophon or the Alexander historians.[1023] This chapter attempts to argue for change in specific military practices over the course of the empire, and not just for changes in the interests of our Greek and Latin sources. We should be especially skeptical of the idea of a static empire, only able to change when forced by clever, dynamic Greeks, given the prominence of this idea in later stereotypes about oriental armies. While it has a long history (the people of Catholic Europe enjoyed telling themselves that the Turks relied on traitorous German gunsmiths),[1024] it became especially prominent in the 19th and 20th centuries when the

βάρβαροι ὑπὸ Περσῶν. καὶ ἐν Ἀσίᾳ οὕτω καλοῦσι τοὺς στρατιώτας, οὐκ ἀπὸ ἔθνους ἢ τόπου in Hesychius.

1018Elephants: Aside from general studies of war elephants in the Greco-Roman world and Briant 1997a or Charles 2008, see Trautmann 2015 and RlA s.v. Elephant.

1019Tallis 2010

1020Rollinger and Lang 2005

1021Rollinger 2018

1022Rollinger and Lang 2005, Schäfer 2015

1023Tuplin 2010a: 179-182

1024Agoston 2005 discusses this in detail, and argues that while the Ottoman empire was not on the cutting edge of technological innovation, it was able to produce a large and effective array of ordnance and spread gunpowder technology east and south.

Industrial Revolution and European imperialism and exploration made the contrast in military practices in different areas stark, and when classically-educated travellers saw things which they recognized in ancient sources in remote parts of the world. If such changes did exist, it is unlikely that we will be able to trace them in as much detail as those which affected the Roman army of the Caesars, let alone warfare in recent centuries. However, in time it should be possible to advance beyond either a simple synchronic picture, or the “early/late” dichotomy in Head and Sekunda.

Limitations of space and time, and gaps in my own skills, prevent me from exploring many other topics in detail. As I finish this chapter, a long list of possible subjects for further research come to mind. There are very many opportunities to apply modern methods from the disciplines of classics and ancient history to the Greek and Latin sources, question previous conclusions and propose new interpretations. The work is not easy, but at the same time new research is more likely to bring progress than in better-established areas of research.

Chapter 7 Conclusion and Future Research

Having surveyed the evidence, let us return to the problems with existing research discussed in chapter 1. There is clearly a great deal of specialized research, and many sources, outside of the classical, military-historical tradition. Entire bodies of evidence have appeared or become readily available since the Second World War. Achaemenid warfare can be viewed through the lens of several different disciplines, which allows dialogue and debate between these different perspectives. Moreover, the classical literary sources pose many questions which make it difficult to simply string passages together to provide a body of facts. Given all of this, why do so many broad works repeat ideas and topics which could already be found in Eduard Meyer in the 1890s? It is not so surprising to be told that many of the Persians' subjects were naturally unwarlike by a Hans Delbrück or an A.T. Olmstead, but uncomfortable to read it as late as 2000 in an article by the respected Alexander historian Ernst Badian.

If we think back to the history of research at the beginning of this thesis, several themes emerge. One is the difficulty of communication between disciplines. Work by Assyriologists, archaeologists, and Iranian philologists has slowly and unevenly made its way into broad works by classicists. As we have seen, Eduard Meyer did not make use of the Aramaic texts from Elephantine or early work on cuneiform texts from Babylonia in his study of the army, despite his deep interest in Egypt and the ancient Near East. Studies which make a point of comparing different sorts of evidence, such as Christopher Tuplin's works on garrisons and cavalry, Nicholas Sekunda's studies of evidence for Iranian settlement in Anatolia, or Duncan Head's synthesis, have limited impact. To some extent, this is a consequence of disciplinization, which involves a choice to forget some evidence and ignore some possible lines of inquiry. Specialists in Greek literature, historical linguists, ancient historians all notice different aspects of Herodotus. However, in other areas of Achaemenid studies there has been much more success in bringing researchers from different disciplines together and finding agreement about how in general to use the sources.

Another theme is that studied of armed force in the empire begin from very different assumptions about what kinds of evidence are most important, how that evidence should be interpreted, and just what the empire was. Although all researchers are familiar with say Herodotus or the sculptures at Persepolis, they approach these sources with different background knowledge and mental tools. While these assumptions are usually implicit, and every piece of research is unique, one can still sketch out some common frameworks.

One approach could be called the classical-synthetic. This approach relies on classical, literary sources for its framework and takes the view that they are basically reliable and consistent, needing only to be organized and interpreted. Other kinds of evidence tend to be used anecdotally to support ideas drawn from the classical sources. Works in this tradition tend to be confident, listing facts rather than warning about uncertainty. Eduard Meyer's treatment of the army can be grouped in this category, as can J.M. Cook's from 1983, Stefan Bittner's, and Christopher Matthew's use of written evidence in his study of hoplite combat. The weaknesses of this approach are that it focuses on a single kind of evidence against the consensus of modern Achaemenid Studies, and that

it erases the difficulties of interpretation raise by specialists in the classical literary sources. (Indeed, criticism of this approach often comes from within the fields of classics and ancient history).

A second could be called classical-critical. This approach also relies on the classical, literary sources but sees them as misleading, picking out the gaps and contradictions and sometimes proposing interpretations which are quite different from those on the face of the main sources. Weiskopf's *The So-Called "Great Satraps' Revolt,"* Cawkwell's *The Greek Wars; The Failure of Persia*, and Ruzicka's *Trouble in the West* are good examples of this tradition. When it is cautious, this approach can slip into rationalizing the classical sources, removing a few absurdities and contradictions but keeping the broad message intact. When it is bolder (such as the idea that Herodotus never visited Egypt or Xerxes did not lead the invasion in 480 BCE), it often relies heavily on subjective ideas of what is reasonable or plausible. Christoph Schäfer recently published an overview of the problems interpreting Herodotus' story of the campaign of 479 BCE which reached its climax at Plataea, but some of his criticisms of the plausibility of specific stories (would Amompharetos, a Laconian, really have refused to obey orders from his king (Hdt. 9.53-55)?) are subject to the arguments of a Peter Green or a David Lewis that a year of following the news will reveal acts of folly and villainy as great as any in classical literature.[1025] Other works in this tradition seem to question whether it is possible to know anything at all about the past, even though everyone engages in historical reasoning when they flip through back issues of a news magazine or decide which smartphone to buy after reading some reviews and talking to friends. In everyday life, some people seems to be better than others at deciding between conflicting testimonies and hearsay by forgetful, self-interested reporters.

A third tradition draws on the kind of ideas about the timeless east which Eduard Said called orientalism. This research compares the armies of the Teispids to Persians, Arabs, Turks, and Mongols (or even Russians) in recent times. In academic research this can be traced from W.W. How to Victor Davis Hanson and countless works written by or for the interested public. It should be said that in the era of colonalism, these ideas did not seem so problematic ... 19th century travellers noticed many things which resembled what they read in the classical literary sources, lived in a world where prestigious thinkers endorsed the idea that races and nations were real and eternal, and had never read *The Invention of Tradition*. Also, some work in this tradition is meant to please a wide audience, not survive nit-picking criticism by specialists. Rawlinson, Olmstead, and Cook wrote for a different readership than the audience of Pierre Briant's *Histoire*.[1026] It is more disturbing that it continued to be promoted without any acknowledgement that its assumptions can be questioned or that it is used by people who intend to cause real harm to real people.[1027]

1025Schäfer 2015: 9ff.

1026In reviewing another project, Bruno Jacobs stressed the significance of this to me.

1027In his career as a political pundit, Victor Davis Hanson explicitly appeals to his credentials as an ancient historian as a justification for large-scale military operations, and Saidian orientalist ideas about the ancient Persians from older works by classicists and ancient historians continue to be invoked in pop culture, including by anti-Islamic and eliminationist groups. Jona Lendering once observed that most misconceptions from antiquity originate in the work of an academic writing outside his or her area of expertise. While some of Hanson's writing on classical Greek farming and warfare is valuable, I am seriously concerned that the best criticism of Hanson's ideas about ancient warfare for the public is Lynch 2008: chapters 1 and 2 (very polite and written by a modern historian, not an ancient historian).

A fourth tradition starts from the premise that Iranian culture before the Arab conquest forms an organic whole. Early work in this tradition often focused on the terms feudalism and Zoroastrianism and occasionally invoked Indo-European practices. This kind of research began to unravel with, first, the rethinking of the nature of ethnicity and tradition in the postwar period, and second, with more detailed research into subjects like bow land or Achaemenid religion (the publication of the Persepolis Fortification and Persepolis Treasury Texts, with their non-Aryan gods and intricate bureaucracy, also had a role). As we have seen, the granting of land in exchange for service was a well-established tradition in Mesopotamia, and historians of religion tend to describe the Achaemenids as "Mazdaean" rather than "Zoroastrian." Bruce Lincoln's recent attempt to revive this tradition within academe relies on poetic arguments and echoes between traditions rather than weight of evidence. At the same time, nobody doubts that early Greek and Roman culture had a lasting influence on the Mediterranean world into late antiquity and beyond, and it is plausible that the same was true with early (Indo-European) Iranian culture in the lands from the Zagros to the Hindu Kush.[1028] It is simply the case that we lack sources to prove this continuity, and that it is no longer justified to assume that the Persians of the Behistun inscription were pure migrants from the Eurasian steppe rather than products of ethnogenisis after the collapse of Elamite and Assyrian monarchy.[1029] As Bernfried Schlerath wrote in a review of one of Geo Widengren's last books, Widengren organizes and fleshes out his sources on the basis of Indo-European practices which are "selbst wieder das Resultat einer Rekonstruktion."[1030]

A fifth, Assyriological approach relies on texts written in cuneiform or Aramaic and sees the Achaemenid empire as part of an "Ancient Near East" stretching from the first cities to at least Alexander's time. Until a few decades ago, the Achaemenid and Seleukid periods were somewhat neglected by Assyriologists, but now there are rich traditions of research into the Astronomical Diaries and the Long Sixth Century BCE. However, this research is often inward-looking, since after the fall of Nineveh very few Akkadian texts survive outside of Babylonia, and the parts of society which left most surviving texts also focused their lives on Babylonia and their reading on traditional cuneiform knowledge. Studying groups of Karians or Kimmerians, or Iranian names in Akkadian texts, is not the same as having texts from Karia, Scythia, or Media, and despite the evidence that Babylonian continued to be spoken into the Achaemenid period, it certainly seems plausible that many new developments appeared in Aramaic and were never written down on clay. Assyriology gives a very deep understanding of Babylonia and Persis, but does not have nearly as much to say about even neighbouring regions.

The Achaemenid history workshops could be seen as creating a sixth approach, while archaeologists like P.R.S. Moorey sometimes sketch their own view. It is fortunate that Elspeth Dusinberre addressed warfare in her recent book on Achaemenid Anatolia. We should also not overlook the accident that at the time of the Achaemenid history workshops, the study of warfare in the sixth, fifth, and fourth centuries BCE was a tiny field, and that the workshops lead students of

1028I continue to stress the (Indo-European) part because Iranology tends in practice to focus on one cultural tradition (speaking Iranian languages like Avestan or Pahlavi) even though peoples like the Elamites, or the Turkish and Mongol immigrants of the last thousand years, are just as Iranian in the geographical sense.

1029Rollinger 1999, Henkelman 2008

1030Schlerath 1976: 326

the empire away from narratives and warfare to focus on culture and ideology at the same time that Victor Davis Hanson was leading Greek historians to focus on warfare but do so within a Greek, literary framework. Whether we speak of five approaches or seven, research into Achaemenid armies and warfare is riven by disagreements about methodology, disagreements which can be traced back through the history of the field.

It seems to me that the central problem is finding an approach which can deal with all of the different kinds of evidence. It is not just that the last group of syntheses, published between 1985 and 1992, are all short in a field which has grown so that entire monographs are dedicated to specific themes. These syntheses were also built on models and methods which are hard to believe in today. However, until a new approach wins general acceptance, it will be tempting to fall back on the classical writers and vague ideas about the orient.

This situation makes it hard to define narrow areas of research and master them one at a time in a monograph or dissertation. In a well-established field like "Homeric society" or "literature in the Old Babylonian period," there is agreement about the shape of the field, the types of questions which should be asked, and how different problems relate to one another. This makes it possible to define specific questions and lean on research on neighbouring problems. However, in the case of armed force under the Teispids and Achaemenids, it is very difficult to get an overview of the available sources and methods, let alone of the state of research in particular fields. This makes it difficult to rely on consensus in some areas while pushing forward original research on a specific topic. Perhaps this is why the closest things to a synthesis since 1992 have been on the cuneiform, documentary sources, since these are positioned within a well-established field of research into Babylonia in the long sixth century. However, these studies have little to say about evidence from outside of Babylonia, so it is hard for studies from other disciplines to lean on them.

Christopher Tuplin addressed this in his work on garrisons, which was framed as a dialogue between two passages in Xenophon (Xen. Cyr. 8.6.1ff, Xen. Ec. 4.5-4.11) on one hand, and the "more copious but less systematic evidence about other garrisons."[1031] In other words, Xenophon provides a general model, while the other sources give glimpses of the messy reality of specific garrisons at particular times. In his closing remarks he worried about the "lack of contact" between the Xenophontic passages and the other sources.[1032] Twenty five years later, he framed his study of cavalry around three theories: that the army of Cyrus the Great was based on cavalry, that this cavalry was able to defeat the Greeks of Asia in a way it could not defeat the Greeks of the mainland, and the counter-theory that cavalry were more important in the period described by Xenophon and the Alexander historians than the period described by Herodotus.[1033] His conclusion hinted that the role of cavalry in modern pictures of Persian warfare had more to do with the authors' expectations that Persians are horsemen than with the documentary, iconographic, or literary sources.[1034] Stephen Ruzicka also framed *Trouble in the West* around a model of struggles between the ruler of Egypt and the ruler of the upper Euphrates over the lands in between, and the hope that this would allow narratives of Achaemenid history which were not centred around wars

1031Tuplin 1987: 175
1032Tuplin 1987: 232
1033Tuplin 2010a: 102-103
1034Tuplin 2010a: 179-182

with Greek *poleis*. However, most writers about Persian warfare have been less able or willing than Ruzicka to propose new models. The lack of broad works on the martial side of the empire in the past 20 years suggests that there is widespread dissatisfaction with the existing approaches.

Speaking of models calls Thomas Kuhn's theory of normal science and paradigm shifts to mind.[1035] Kuhn suggested that successful research in the natural sciences requires a partnership between a discipline (a community of scholars) and a paradigm which defines the problems they should try to solve and the methods they should use. A successful paradigm attracts new researchers, answers old questions, and provides a steady stream of new problems to work on and convincing reasons to believe that these problems can be solved. It also marks off other areas as not worth investigating: thus historical linguists are eager to explain that their methods cannot address the origins of language, and tend to be skeptical of attempts to find older and larger language families in Eurasia. Kuhn called research within a paradigm normal science, and contrasted it with pre-paradigmatic research where researchers spend their time arguing about fundamentals rather than building off each other's work.

As a program of normal science continues, tensions build within the discipline. Kuhn emphasized the collection of anomalous data which cannot be explained in the old paradigm (such as the growing evidence for 'deep time' in the 18th and 19th century), but one could also mention the failure of research under the old paradigm to find answers to problems which that paradigm suggests are solvable (such as the failure of superstring theory since the 1980s to produce testable predictions), or the undermining of the premises of the old paradigm by developments in another area of knowledge (and here, the impact of decolonization and the fall of the Shah upon Achaemenid Studies is a good example). Adventurous researchers begin to propose new paradigms and they begin to attract followers away from the old one. Eventually one of these is widely seen as the way forward, and partisans of the old paradigm change their coats or drift into irrelevance. Thus in geology, catastrophism was replaced by uniformetarianism and then by Wegener's plate tectonics. In natural science, Kuhn was impressed by the role of textbooks in indoctrinating students with the idea that the current paradigm was inevitable, and discouraging students from reading older research and noticing that the underlying assumptions differed from the ones their teachers professed. He presented the transition from one paradigm to another in terms of a "crisis" and "loss of faith" leading to a "revolution."[1036]

The kind of research described in chapter 1 does not completely fit Kuhn's model of "pre-paradigmatic" or "normal science." What seems scattered and contradictory from within the field of Achaemenid studies was often respectable, conventional work within the disciplines of classics, Iranian studies, archaeology and Assyriology. The archaeologists who saw the empire as invisible and therefore negligible, the classicists who faithfully combined and correlated literary sources, and the Assyriologists working on the rich documents from Late Babylonia all worked from different views of the purpose of research, what constituted valid methods, and what other sources and research should be addressed, but they drew these views from a community of scholarly peers.

1035Kuhn 1970 is a short book and widely available. The philosophy, sociology, and history of science continue: see Godfrey-Smith 2003 for a philosophically-oriented approach.

1036Kuhn 1970: ch. 8

Each of these communities continues to exist and continues to find its methods satisfactory for most purposes even if members now adapt them to study the Achaemenid empire in particular. (Kuhn in fact admitted that his contrast between pre-paradigmatic and paradigmatic science was too schematic, and that "there are circumstances, though I think them rare, under which two paradigms can coexist peacefully in the later period").[1037]

It is easier to describe research since the Achaemenid History Workshops and Briant's *Cyrus to Alexander* as a discipline with a paradigm. However, this highlights the difference between research into military matters, and research into other aspects of the Achaemenid empire: where the research of the 1980s and 1990s produced a general agreement about what kind of puzzle researchers should attempt to solve, no such consensus has been reached in the study of hunting, warfare, service, and similar areas of life. This is very different from the situation in Roman Army Studies, where career paths, iconography, and the development of military equipment are all established fields of research with agreed rules, and just as different from the study of early Greek warfare, where research tends to be focused around the idea of the hoplite and the relationship between warfare and political culture.

The idea of a paradigm also helps to explain why the works of Stefan Bittner or Geo Widengren are so difficult to use today. It is less that their facts are wrong than that the underlying ideas about what counts as evidence and how that evidence should be used are hard to defend today. Widengren's mastery of the sources in a dozen ancient languages in the original is impressive, but the way he jumps from the Avesta to Sasanid texts to passages in Herodotus or the Hebrew Bible is difficult to justify. Bittner uses the *Cyropaedia* to understand the armies of Cyrus the Great, rather than either the Persian world that Xenophon visited or the Greek world which he hoped to influence. Researchers' switch to the second or third ways of reading owes as much to intellectual trends in the wider culture as to anything in Xenophon's writings. When we consider that Kuhn developed his theory to describe shifts like the change from Newtonian physics to relativity, the small difficulties in applying it to Achaemenid studies are not so surprising (some of his smaller examples, such as the ninety years between the first recorded sighting of Uranus and Sir William Herschel's proposal that it could be a planet rather than a star or a comet, are closer to the changes of assumptions which overtake ancient history).[1038]

The idea of paradigms has been frequently invoked to describe the change in understanding of the Achaeemenid empire in the 1980s and 1990s. In a book review, Jona Lendering spoke of the "Iranological Revolution of the 1980s" in which "Briant found a discipline in its preparadigmatic stage, and in the 1980s created Iranology's first real paradigm."[1039] More recently, Bruce Lincoln suggested that the first Achaemenid History Workshop "initiated a paradigm shift from a (distorted and condescending) Hellenocentric perspective to an Iranocentric approach that promised comprehension of the empire on its own terms."[1040] One could certainly debate the relative importance of Heleen Sancisci-Weerdenberg, Margaret Cool Root, Pierre Briant, and other participants in the workshops, and question whether "Iranocentric" is a fair characterization of work

1037Kuhn 1970: ix
1038Kuhn 1970: 115, 116
1039Lendering 2008 = Bryn Mawr Classical Review 2008.09.62
1040Lincoln 2014: 262

on Achaemenid Studies in the 1990s and 2000s (not everyone sees the empire in such "Iranian" terms as Lincoln!) One could also argue that another shift is underway, as a number of researchers challenge the positive, defensive picture of the empire in much research coming out of the workshops.[1041] However, it is hard to disagree that the research coming out of the Achaemenid History Workshops in the 1990s and 2000s represented something new, based on a shared understanding of the purpose of research and how sources should be used.

Speaking of the disciplines of classics, Iranian studies, archaeology and Assyriology raises another set of issues. One consequence of organizing the research university around disciplines is that they reward members for research within that discipline, but not for broader knowledge. Ancient historians rarely read works by medievalists or sources from Mughal India, and they are rewarded for writing for other specialists more than students or the general public. Assyriologists often lament that their discipline has become closed off from work in other fields, so research in related fields rarely uses Assyriological data. Combining different kinds of sources is difficult, because each of these kinds of evidence suggests different questions, and because each discipline has its own heuristics and traditions about what makes up good research. The research into soldiers in Late Babylonian documents is rarely acknowledge by classicists, partially because it assumes that readers know where to find the texts discussed, partially because it assumes a detailed knowledge of technical terms, Late Babylonian geography and culture, and so on, and partially because it is not discussed and cited in the books and journals which ancient historians and classicists usually read. I have mentioned how Assyriologists' use of names to assign individuals an ethnicity looks questionable from the perspective of, say, research into Late Antiquity. These failures in communication can even affect closely related fields of research. One of Susan Reynolds' criticisms of the idea of feudalism (discussed in chapter 5) was that supporters tended to assume that true, ideal feudalism existed somewhere just outside the places and times which they studied. However, contact between disciplines is usually rewarding.

Creating a new paradigm to understand armed force in the Teispid-Achaemenid empire will be a formidable challenge and require contributions from many researchers from different disciplines. However, the history of Achaemenid Studies in the 1980s and 1990s shows that this is possible and rewarding. A wide range of scholars have a broad agreement on how sources should be used to understand the Achaemenid empire, even if they disagree whether to identify with it, against it, or try to keep a neutral stance. The growth of Roman Army Studies to include archaeologists, epigraphists, ancient historians, and experts in specific technologies also shows that research programs do not have to be confined within a discipline with its own departments at universities. Researchers come together across disciplines within this specific program of research, even if they rarely speak to members of those other disciplines at their own institutions, and even if their teaching is centred around the demands of their own discipline.

1041Here I think of Lloyd Llewellyn-Jones, Bruce Lincoln, and Thomas Harrison. The occasional comments by classicists and ancient historians that they are sympathetic to much work in Achaemenid Studies but tired of being used as foils (eg. Hornblower 1990) also support this.

There is also a strong French tradition of comparative history, and several recent Austrian projects which look at the Teispids and Achaemenids through the lens of empires in world history.[1042] Despite my criticism of the "eternal Iran" school of research and the description of the bow estates as fiefs, I think that comparative research has value. At the very least, it encourages researchers to define what was really new and distinctive about the society which they study, and to look at research into an area of life from outside their discipline. The problem with equating the ancient Persians with medieval Franks or Mongols is not comparison, it is that this comparison is based on popular ideas of these other cultures rather than a careful examination of primary sources or the works of medievalists.

Such an expanded research program does not necessarily threaten the place of classics or history in understanding the Achaemenid empire. Many classicists would argue that stringing together citations from the classical writers without addressing subtext, context, or contradictory passages by the same writer is not good work within their discipline. The classical literary sources will always remain central for narrative history from Cyrus to Darius III even if other kinds of history become increasingly important, and better readings of Plutarch or Arrian will depend on research by scholars focused on those authors or Greek literature rather than on the Achaemenid empire.

However, in my view it is necessary to be explicit about theoretical context and methodology, and to establish a hermeneutical circle between methodological experiments and data-collection. Just what counts as "the Achaemenid army" or a "military event" is shaped by examining the evidence, but the evidence we chose to look at is shaped by our assumptions about categories. Early collections of sources such as Jacoby's fragments and testimonies can *de facto* define the field, and since a number of scholars are assembling catalogues of Achaemenid data, it is important that they explain their criteria for inclusion and consider several possible definitions. This does not mean that studies need to begin with chapters of quotations from Friedrich Schiermacher or postwar French philosophers, but it would certainly be helpful to place one's research within a clear framework and address some of the concerns which researchers from other communities might have.

In his review of Stefan Bittner's *Tracht und Bewaffenung*, Gerold Walser suggested that a broad study of even the equipment and clothing of soldiers called for an academic polymath. Today one might suggest one of the large projects by a team of researchers which are slowly spreading from the experimental sciences to the humanities. This dissertation is the work of a single author which provides a view of the situation and some case studies. No doubt it can be criticized from many perspectives. However, without researchers willing to cross disciplinary boundaries, criticize assumptions and propose broad theories, the current unsatisfactory situation will persist.

1042For the first, see the volume containing Cardascia 1977. For the second, see the Imperium et Officium Research Network and Gehler and Rollinger 2014.

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