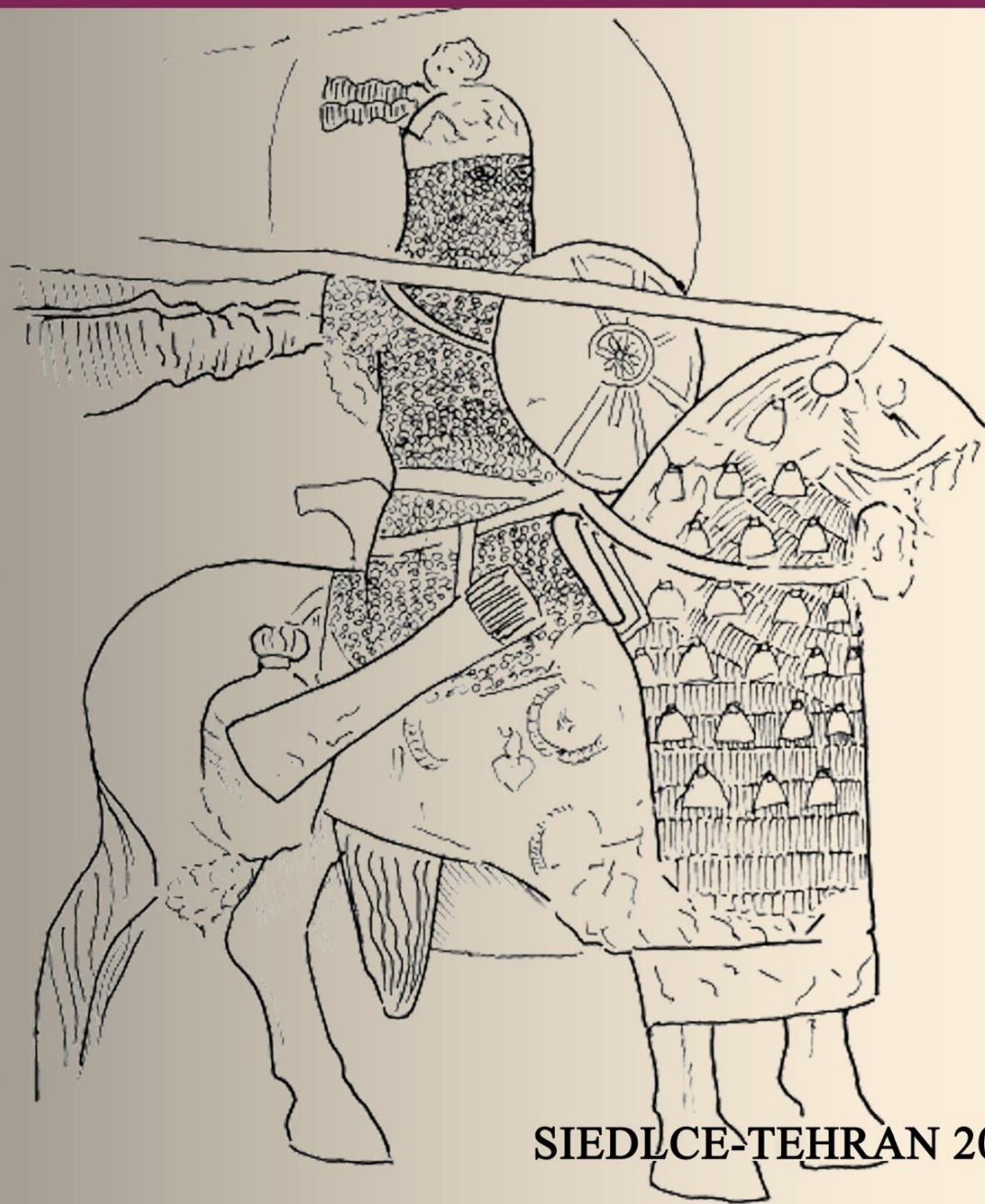


A Synopsis of Sasanian Military Organization and Combat Units

Kaveh Farrokh & Gholamreza Karamian & Katarzyna Maksymiuk



SIEDLCE-TEHRAN 2018

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*If there is no army, the sovereign remains without servants,
the religion without adherents, the arms become useless,
mercy obsolete, and the treasury unprofitable.*

(Dēnkard III 134; translated by A. Tafazzoli)

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The book *A Synopsis of the Sasanian Military Organization and Combat Units* is the result of several years of collaboration between the authors who undertake daily research on the history of pre-Islamic Iran. The present work is primarily addressed to students of history who acquire their first experiences in exploring the history of the Near East. We hope that it will help readers with a fascinating (us) topic and will encourage them to continue their studies on Iranian military.

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You know...

TABLE OF CONTENTS

Introduction	11
Organization	13
Military Reforms	22
Rationlization of the empire's defense	22
Military inspections	27
A new cavalry elite	27
Cavalry	29
Early Sasanian cavalry (c. 224 – late 200s/early 300s CE)	30
Cavalry development in the early 300s – c. 490s CE	34
Late Sasanian cavalry (c. 490s/early 500s – 651 CE)	37
Infantry	42
<i>Paygān</i>	43
<i>Hoplites, Murmillos or Paygān?</i>	45
Deylamites	47
Archery	49
Foot archers	49
Archery equipment	51
Other missile systems	52
Horse Archery	53
Elephant Corps	59
Auxiliary Forces	61
Central Asia	61
The Caucasus	62
The Iranian realms	64

Slingers	65
Foot javeliners	66
Arab auxiliaries and the Naṣrids	66
Other Miscellaneous units	68
Overview of Siege Warfare	69
Conclusion	71
Appendix Select passages from sources.....	75
Bibliography	89
Figures	111

Introduction

One of the greatest challenges faced by the Sasanian army (Mid. Pers. *Spāh*)¹ was the vast landmass of the Sasanian Empire with limited military resources.² This necessitated the formation of a well-trained professional force capable of rapid deployment across the empire to confront military challenges posed along the empire's western (Roman-Byzantine), northern (Caucasus), southern and Central Asian frontiers.³ The Parthians had developed in course of history a primarily all-cavalry force doctrine allowing for the rapid deployment of their forces to threatened sectors, usually to the west (Roman frontier) and Central Asia to the northeast. The nucleus of the Parthian force was in the combination of armored cavalry lancers (Gk. *kataphraktoi*) supported by horse archers (Gk. *hippotoxotai*),⁴ as seen for example at the Battle of Carrhae (53 BCE).⁵ While the Sasanians inherited the Parthian all-cavalry concept and applied this in cases such as the Battle of Callinicum (531 CE),⁶ Sasanian battle doctrine was fundamentally different from its Parthian predecessor. The *Spāh* was not an "cavalry-only" force it deployed varied combat arms such as infantry (of various types), combat elephants, engineering units, on top of traditional division to heavy lancers and horse archers. Also the cavalry became more varied and included javelineers and other forms of light cavalry. References are available to camel corps and chariots, despite the latter's obsolescence as a battlefield weapon. This book focuses on the organization, weapons, equipment (suspension of equipment and equestrian gear) and tactics of all combat arms of the *Spāh*. There appears to have been a sophisticated system of tactics, with Dīnawarī for example classifying these into two distinct categories:

¹ SHAHBAZI 1986: 489-499; TAFAZZOLI 2000: 4.

² JALALI 1383/2004: 48.

³ DODGEON, LIEU 1992; GREATREX, LIEU 2002; POURSHARIATI 2008; DARYAEE 2009; MAKSYMUK 2015a.

⁴ OLBRYCHT 2010a: 66-81; WOJNOWSKI, 2012; POTTS 2012.

⁵ Plut. *Crass.* 23-27; Dio Cassius XL 21-24; BIVAR 1983: 48-56; SHAHBAZI 1990: 9-13; SIDNELL 2006: 237-242; SAMPSON 2008.

⁶ Zachariah IX 4; Jordanes 363; SHAHĪD 1995: 134-142; GREATREX 1998: 200-207.

(1) battlefield tactics for set-piece battles against enemy armies and (2) siege tactics for the capture of enemy fortifications, strongholds and cities.⁷

⁷ Dīnawarī, *Uyūn al-Akhbār*, 112-115.

Organization

The term often used to designate the Sasanian army in Middle Persian texts is the *Spāh* however there were also a number of similar terms signifying "military power" and "army" such as *Zōr* (Parth. *Zāwar*) and *Laškar*.⁸ The *Nāma-ye Tansar*⁹ and the *Dēnkard*¹⁰ describe two major groups of warriors in the Sasanian military, the cavalry and the infantry. In practice, the Sasanian army's primary battlefield asset was the armored cavalry lancers, often supported by other combat arms such as infantry, including close combat troops as well as foot archers, slingers, battle elephants and auxiliary light cavalry forces. The deployment of multiple combat arms also facilitated Sasanian siege warfare capabilities, a task in which they equaled the Romans in skill.

Sasanian military organization was based on the *Wašt-Draṣš-Gund* system of their Parthian predecessors.¹¹ The *Wašt* (Parth.), commanded by the *Wašt-Sālār* was a small detachment of troops. A larger unit of possibly one thousand troops was the *Draṣš* (lit. banner) with the *Draṣš-Sālār* in command. Each *Draṣš* unit appeared with its own exclusive banners and heraldry consistent with their clan of origin.¹² The largest known unit was the *Gund* of possibly 12,000 warriors,¹³ led by the *Gund-Sālār*¹⁴ (Arm. *gundsatar*).¹⁵ The term *Gund* originally designated "legion" or "regiment" but Pahlavi texts also aver to this as "army".¹⁶

While no direct evidence for the use of a decimal system by the Sasanian army has surfaced to date, the Sasanian military term *Hazār* (thousand) would suggest that the *Spāh* utilized a decimal system. The Achaemenids who utilized

⁸ TAFAZZOLI 2000: 6-7.

⁹ *Nāma-ye Tansar*, 12.

¹⁰ *Dēnkard*, IV.

¹¹ WIDENGREN 1976: 281.

¹² CHRISTENSEN 1944: 210.

¹³ *Šāhnāme*, C. 1388.

¹⁴ JALALI 1383/2004, 113.

¹⁵ TAFAZZOLI 2000: 10.

¹⁶ TAFAZZOLI 2000: 4-5.

the decimal system, designated the commander of one thousand troops as *Hazārapati* (Old Pers.; Parth. *Hazārpet* or *Hazāruft*) who could also be the court's master of ceremonies.¹⁷ The Parthians may have also had a thousand-system as suggested by Lucian's 2nd century CE description of one thousand warriors (armored cavalry?) fighting under a distinct "Dragons".¹⁸ This would be consistent with the presence of 1000 armored riders in Sūrēna's army (10,000) at the Battle of Carrhae (53 BCE) raising the possibility that the Parthians organized their troops with the thousand system.¹⁹ Nöldeke has proposed that the Sasanian title of *Hazār-mard* (lit. thousand man) meant that the Sasanians also may have used the thousand system of organization.²⁰ This is consistent with a similar military Parthian term *Hazārpet* (lit. one thousand commander/chief/greater).²¹ The *-Pet* designation has also entered the Armenian military lexicon. Jalali suggests that the selection of the *Hazār-mard* or *Hazārpat* was made form among the most (militarily) meritorious of the *Sarhangān* (singular: *Sarhang* = colonel) of a particular *Gund*.²²

The *Hazār* title occurs from early Sasanian times in the inscriptions of Šāpūr I (r. 242-272 CE) on the Ka'ba-ye Zardošt at Naqš-e Rostam (ŠKZ). with respect to a certain Pābag identified as a *Hazāruft* (Gk. *Chiliarch*).²³ The term *Hazārpet* appears during the reign of four Sasanian kings (Yazdgerd I, Bahrām V, Yazdgerd II and Pērōz)²⁴ in reference to Mehr-Narseh Sūrēn, a high level minster (*Wuzurg*

¹⁷ GIGNOUX 1991: 423-424 ; FARZIN 1387/2008: 102.

¹⁸ Lucian 29: "he describes the Parthian 'Dragons' (they use this ensign as a numerical formula - a thousand men to the Dragon"

¹⁹ DEBEVOISE 1968: 83; WIDENGREN 1976: 261-283.

²⁰ NÖLDEKE 1352/1973: 284; CRAWFORD 2013: 103.

²¹ POURDAVOOD 1336/1957: 244-245.

²² JALALI 1383/2004: 111; ZAKERI 1995: 82-84.

²³ ŠKZ 29/23; ŠKZ 31/25; in the inscriptions of Narseh (r. 293-302 CE) from Pāikūli a certain Ardašir was the *Chiliarch* (NPi 16/14); FRYE 1984, App. 4; MOUSAVI HAJI, KHORASHADI 2014: 141-160; KHURSHUDIAN 2015: 21-68, 101-119.

²⁴ Tabarī 866, 868, 871, 872; POURSHARIATI 2008: 60-70; GYSELEN 2008; MAKSYMIUK 2015b.

Framādār) who is designated as the *Hazārpet* of Iran and Non-Iran (*Ērān ud Anērān*).²⁵ The inscriptions (ŠKZ, NPi) and Mehr-Narseh Sūrēn cases would appear to suggest that the *Hazār* designation was possibly indicative of a status higher than just a military commander of a thousand men. In the *Sūr ī saxwān*, the order and placement of the *Wuzurg Framādār* is only below the *Šāhānšāh* and the princes of the blood, while the *Spāhbeds*, the *Šahr Dādwārān*, the *Mowān Handarzbed*, the *Hazārbed*, and the performer of the *Drōn-yaz* are all below him.²⁶ The *Hazār*-title may have superseded the *Aswārān-Sardār* (commander of the Cavalry).²⁷

The thousand (decimal) system appears in the late Sasanian era in reference to a commander named Aspād-Gušnasp²⁸ who was in command of a thousand men in the army of Šahrwarāz in the 7th century CE.²⁹ Islamic-era historian Dīnawarī appears to support the usage of a decimal system when describing Emperor Maurice's (r. 582-602 CE) agreeing to Xusrō II's (r. 590-628 CE) request to furnish him with an armed force which included "ten of the Hazārmard".³⁰

According to Ṭabarī ranks the *Spāh*'s three most important military titles as *Argbed* (most important), followed by *Artēštārān-Sālār* and the *Spāhbed*.³¹ The literal Middle Persian translation of *Argbed* is translates commander of a castle or fortress (*Arg*) or "citadel chief".³² This title is seen in early Sasanian

²⁵ Ṭabarī 868; FARZIN 1387/2008: 104.

²⁶ DARYAEE 2007: 66-67.

²⁷ LUKONIN 1372/1993: 106-107; FARROKH 2005: 7-8.

²⁸ Gusdanaspes Aspad-Gushnasp, MARTINDALE 1992: 578; Ṭabarī 1046, where he is referred to as Asfād Jošnas and described as 'head of the cavalry of the military host.

²⁹ *Chronicon Paschale*, 731; Theophanes A.M. 6118.

³⁰ Dīnawarī, *Akhbār al-Tiwāl*, 121.

³¹ Ṭabarī 869 : "The third was called Kārd[ār], supreme commander of the army, the name of his rank in Persian being Rathāštārān Sālār; this is a rank higher than that of al- Iṣbahbadh and is near to that of al-Arjabadh."; NÖLDEKE 1352/1973: 173; FIGULEVSKAYA 1354/1975: 110.

³² TAFAZZOLI 2000: 9; Ṭabarī 810; NPi (Mid. Pers. 6, 8, 10, 15, 19, 30; Parth. 5, 7, 9, 13, 34), the *argbed* Šāpūr; BARTHOLOMAE 1916: 16; CHAUMONT 1986: 400-401.

times with Ardašīr I (r. 224-242 CE) as the *Argbed* for the fortress Dārābgerd.³³ Osheidari outlines the regal status of the *Argbed* title within the *Spāh*,³⁴ with Noldeke defining the *Argbed* as district commander³⁵ and Wiesehofer identifying this as “supreme tax collector”.³⁶ There appears to have been a title similar but lesser in status than the *Argbed*, known as the *Dizbed* (commander of a fortress) as cited at the Ka‘ba-ye Zardošt at the time of Šāpūr I.³⁷

Tafazzoli avers that the *Artēštārān Sālār*³⁸ (Mid. Pers. *Artēštār* (singular) = Miles, soldier;³⁹ *Sālār* = commander) provides the same designation as the *Spāhbedān-Spāhbed* (General of Generals).⁴⁰ The office of the *Artēštārān-Sālār* was not eliminated as a result of the reforms of the 6th century CE, but simply stripped of some of its functions. Shahbazi notes that this post was had transformed into a more ceremonial and religious post void of true military function by later Sasanian times.⁴¹

The term *Spāhbed* (Mid. Pers. General, army chief; Arm. *Sparapet*) signified a high military official.⁴² The *Ērān-Spāhbed* was commander-in-chief of the entirety of the *Spāh*’s troops⁴³ and differed from the *Artēštārān-Sālār* by lacking the latter’s ceremonial-religious roles. The *Ērān-Spāhbed* was also entitled to a large portion of captured enemy supplies and booty in victorious scenarios.⁴⁴ The roles of the *Ērān-Spāhbed* were to:⁴⁵ (1) ensure (as commander of all provincial and district forces) the efficient distribution military forces throughout Iran

³³ ZARRIN’KUB 1381/2002: 184; NAFISI 1331/1952: 257.

³⁴ OSHEIDARI 1371/1992: 97.

³⁵ NÖLDEKE 1352/1973: 55-56.

³⁶ WIESEHÖFER 1996: 188.

³⁷ ŠKZ 32/26.

³⁸ SUNDERMANN 1986: 662.

³⁹ VULLERS 1962: I, 76.

⁴⁰ TAFAZZOLI 2000: 10.

⁴¹ SHAHBAZI 1375/1996: 32.

⁴² TAFAZZOLI 2000: 7; GYSELEN 2004; MAKSYMUK 2018c.

⁴³ ZARRIN’KUB 1381/2002: 190.

⁴⁴ REZA 1374/1995: 16.

⁴⁵ JALALI 1383/2004: 109.

to maximize the empire's defense assets against foreign attacks as well as providing internal security⁴⁶ (2) act as minister of war (3) act as military chief of staff when the king assumed command of the *Spāh* (4) partake in meetings with top officials in the war council when war was imminent and (4) negotiate peace terms with enemies when authorized by the king. The *Ērān-Spāhbed* apparently reached its highest prestige as premier (military and civilian) official of the realm during the reign of Yazdgerd II (r. 439- 457 CE).⁴⁷

District and regional commands appear to have fallen into three broad categories: *Marzbān*⁴⁸, *Pāygōsbān*⁴⁹ and *Tirbad* (discussed in archery). The *Marzbān* (lit. borders/marches guardian/warden) is believed to mean "margrave, one who protects the land frontier"⁵⁰ signifying responsibility for frontier defense against potential invaders, consistent with a prime post-Islamic source, Ya'qūbī⁵¹. At wartime the *Marzbān* acted as one of the *Spāh*'s military commanders subordinate to his regional *Spāhbed*.⁵² The *Marzbān* was to ensure the efficient mobilization of military forces within his jurisdiction to then join these with the main body of the *Spāh*. In peacetime, the *Marzbān* remained responsible for the supervision of troops under his jurisdiction but could also be deputized to administrative duties as determined by the state.⁵³ There may have been a number of "lesser" *Marzbāns* such as *Šahrab* in (Iranian) *Āturpatakān* and *Kanārang*⁵⁴ in the Xorasān region⁵⁵ identifies the *Kanārang* as responsible for guarding against the Hephthalites and Kušans) and *Bidaxš* in Armenia and Georgia.⁵⁶ The *Pāygōsbān* was possibly initially responsible for

⁴⁶ JALALI 1383/2004: 87.

⁴⁷ CHRISTENSEN 1944: 421.

⁴⁸ KHURSHUDIAN 2015: 76-95.

⁴⁹ KHURSHUDIAN 2015:69-76

⁵⁰ MAHAMEDİ 2003; 154.

⁵¹ Ya'qūbī I 219.

⁵² NAFISI 1331/1952: 249.

⁵³ JALALI 1383/2004: 112.

⁵⁴ KHURSHUDIAN 2015: 95-100.

⁵⁵ DIAKONOV 1346/1967: 421.

⁵⁶ OSHEIDARI 1371/1992: 69, 187, 431; HERMAN 2010: 58-82; RAPP 2014: 19.

managing state affairs in his respective region,⁵⁷ Ya'qūbī has defined this as “the one who drives enemies away from the homelands”.⁵⁸ The sources describing the Persian commander Xusrō II's Šāhēn Vahmanzādagān as *Fādhūsban*⁵⁹ (*Pāygōsbān*?)⁶⁰ of the West. The term remains challenging to decipher, as seen in the varying interpretations by scholars. Wiesehöfer for example defines the *Pāygōsbān* as the military commander of a province⁶¹ in contrast to Adontz who sees this as a civilian authority in contrast to the (military functions) of the *Spāhbed*.⁶² By the late Sasanian era the *Pāygōsbān* function may have changed in its function, possibly resembling at times the *Marzbān* (i.e. the *Marzbān* of Eṣfahān referred to as *Pāygōsbān*).⁶³

There were a number of other military titles. The *Hām-Harz* (Mid. Pers. adjutant)⁶⁴ may have been equivalent to modern day lieutenants, staff sergeants or NCOs. *Dezhban* (guardian) officers supervised the conduct and efficiency of the *Spāh*'s various combat units,⁶⁵ a function attributed by Firdawsī's as early as the reign of Ardašīr I.⁶⁶ The *Dezhban* was also responsible for meting out punishment against soldiers who had transgressed the rules⁶⁷ as well as slaying fleeing troops who had deserted the army in battle.⁶⁸

Military commanders and elite cavalry often hailed from the upper classes or the *Wuzurgān* (Mid. Pers. grandees, magnates) who according to Lukonin were persons in state service, chiefs of noble clans and semi-independent rulers

⁵⁷ SAMI 1342/1964: II, 50.

⁵⁸ Ya'qūbī I 219.

⁵⁹ Ṭabarī 1002.

⁶⁰ Sebeos 124: Shāhen Patgosapan.

⁶¹ WIESEHÖFER 1996: 198.

⁶² ADONTZ 1970: 168-169.

⁶³ JALALI 1383/2004: 110.

⁶⁴ TAFAZZOLI 2000: 12.

⁶⁵ IMAM-SHUSHTARI 1350/1971: 60.

⁶⁶ *Šāhnāme*, C. 1403; JALALI 1382/2003: 19.

⁶⁷ IMAM-SHUSHTARI 1350/1971: 60

⁶⁸ TASHKARI 1356/1977: 151.

of small provinces (wealthy landed gentry).⁶⁹ The *Wuzurgān* consisted of the clans of Parthian origin such as the Andēgān, Wārāz, Kārin, Sūrēn as well as those in Persis such as the Farrukhāns.⁷⁰ The great noble families are mentioned on the court list of early Sasanian kings (ŠKZ, NPī).⁷¹ There are only vassal kings and dynasts (*Šahrdārān*) and princes of the royal blood as well as members of royal families (*Wāspuhragān*) having a higher rank.

Many persons hailing from these clans had inherited their military titles across the generations.⁷² There appears to have been a registry of professional cavalry hailing from the upper nobility in the *Asābar Nipēk* (*List of Horsemen*) section of a Sasanian law book, *Mādayān ī hazār dādestān*. The *Asābar Nipēk* also describes specified land allotments required for “fully equipping” the elite mounted warrior.⁷³ Each of the upper nobles also appears to have had a list of dependents known as “free members of a community” whom he armed at his own expense, essentially having his own core of professional warriors.⁷⁴ *Wuzurgān* of Parthian origin had established their history of service prior to Sasanian times, with a prominent example being a military leader Sūrēn who destroyed a Roman invasion force at Carrhae in 53 BCE. In the midst of the supposedly powerful ruler Šāpūr II (r. 309-379 CE) the house of Sūrēn Pahlav played the key part. According to classical sources a member of Sūrēn clan commanded Persian army,⁷⁵ but what is of greater importance he carried out negotiations which resulted in the peace treaty of 363. He was also active in the negotiations with the Emperor Valens (r. 364-378 CE).⁷⁶ Ammianus Marcellinus describes this dignitary’s status as the Second Person After

⁶⁹ DE BLOIS 1985: 5-15; TAFAZZOLI 1989: 427; LUKONIN 1993: 703; POURSHARIATI 2008; MAKSYMUK 2015b; MAKSYMUK 2015c.

⁷⁰ LUKONIN 1993: 702-706.

⁷¹ ŠKZ 29/24/57; 31/25/62; 32/26/62; NPī 16, 23, 32, 46.

⁷² Theophylact Simocatta III 18.7-9.

⁷³ *Mādayān ī Hazār Dādestān*, LI A 16-17.

⁷⁴ LUKONIN 1993: 700.

⁷⁵ Amm. Marc. XXIV 3. 1; XXIV 4. 7; Zosimos III 15. 5-6; III 19. 1-2.

⁷⁶ Amm. Marc. XXV 7. 5; XXX 2. 5; Malalas XIII 27; Zosimos III 31. 1.

the King (*Surena potestatis secundae post regem*).⁷⁷ Another representative of the Parthian clan in Šāpūr II court was Mehrān commanding the army that made military moves against Julian the Apostate (r. 361-363 CE) in Xūzestān in 363.⁷⁸ The Sūrēn family kept their status in the court in the 5th century. According to Armenian sources Rahām (Bahrām) of the Mehrān family of nobles, the commander of Iranian army, killed the elder son of Hormozd III (r. 457-459 CE) and placed his younger brother Pērōz (r. 459-484 CE) upon the throne.⁷⁹ Oriental sources unequivocally state that the key role in deposing of Sukhrā⁸⁰ the members of the Kārin clan in 6th century was played by the *spāhbed* Šāpūr of Ray, from the Mehrān family.⁸¹ In Ṭabarī's account he is named as the supreme Commander of the Land (*Iṣbahbadh al-bilād*).⁸² Wuzurgān of Parthian origins continued their service into late Sasanian times, notably Bahrām Čōbīn, a military commander of hailing from the Mehrān-Pahlavs, who commanded a cavalry force which captured Dārā in 572 CE⁸³ and defeated a large Turco-Hephthalite force in 588 CE.⁸⁴

Estimates of the numerical strength of the professional core (versus total number of fighters that can be mobilized such as levies, etc.) of the *Spāh* vary with respect to primary sources consulted. Severus Alexander (r. 222-235 CE) for example claimed to have destroyed "One hundred and twenty thousand of their [Sasanian] cavalry"⁸⁵ in his victory speech to the Roman senate (September 25, 233 CE). While this would suggest that the early Sasanians were able to field very large numbers of professional cavalry, the credibility of these claims as recorded

⁷⁷ Amm. Marc. XXX 2. 5.

⁷⁸ Amm. Marc. XXV 1. 11; XXV 3. 13.

⁷⁹ Elišē 242; Łazar P'arpec'i's III 60; A different version of events presented Ṭabarī 872 (sic!): "Fayrūz...marched against his brother Hurmuz, son of Yazdajird [II], who was at al-Rayy".

⁸⁰ JACKSON BONNER 2015: 110-114.

⁸¹ *Šāhnāme*, C. 1605; Ṭabarī 885; Dīnawarī, *Akhbār al-Tiwāl*, 67.

⁸² MAKSYMIUK 2018c.

⁸³ Theophylact Simocatta III 18. 10.

⁸⁴ SHAHBAZI 1988: 514-522. NAFISI 2013: 944-951.

⁸⁵ HA *Sev. Alex.* 56. 5.

in the *Historia Augusta* are now questioned by Western scholarship.⁸⁶ Ṭabarī for example reports the full professional complement of the Sasanian professional troops (*Savārān* and Daylamite infantry) standing at a maximum of 60-70,000 in 578 CE (approximately 250 years after Severus' speech).⁸⁷ Nevertheless the total number of 120,000 troops is verifiable if we include levies, non-professional (elite) troops and various recruits. Olbrycht's detailed analysis of the troop complements of the Parthian and Sasanian military provide totals approximating 120,000-150,000 when factoring all possible recruits from provinces, levies and auxiliaries in combination with the professional core.⁸⁸

⁸⁶ CHARLES 2007: 305-308.

⁸⁷ Ṭabarī 271.

⁸⁸ OLBRYCHT 2016: 292-296.

Military Reforms

Xusrō I Anōšīrvān (r. 531-579 CE) had implemented a series of reforms during the 6th century CE (possibly originating during the previous reign of Kawād I (488-497/499-531 CE),⁸⁹ endeavoring to enhance the *Spāh*'s military effectiveness. These reforms could be classified into three broad categories: (1) rationalization of the empire's defense (2) military inspections and (3) the formation of new cavalry elite, the *Dehqāns*.

Rationlization of the empire's defense

Rationlization of the empire's defense was implemented by the first was the elimination of the office of the *Ērān-Spāhbed* in favor of four regional generals or *Spāhbed*.⁹⁰ According to Ṭabarī until the Xusrō's reign there was only one supreme military commander (*Iṣbahbadh al-bilād, Ērān-Spāhbed, Artēštārān Sālār*) in Iran.⁹¹ With no doubt this title defines the overall military leader but not the cavalry commander. In the playing chess manual the *Vizārišn ī catrang ud nihišn ī nēvardašēr* appears *Artēštārān Sālār* (contemporarily called queen) as the chief of the warriors and *Aswārān-Sālār* (horse or warrior at present) as the chief of horsemen.⁹² Despite this *Kārnāmag ī Ardašīr ī Pābagān* as well as Muslim authors (the latter drew upon information basing on the lost the *Gah-nāmag*) confirm that the *Spāhbed* title denoted the highest military rank.⁹³ He led diplomatic missions e.g. Sūrēn⁹⁴ during the reign of Šāpūr II, Bōē⁹⁵ and Siyāwuš⁹⁶ during the reign of Kawād. Šāpūr of Ray Mehrān was also

⁸⁹ *Šāhnāme*, C. 1620-C. 1624; Ṭabarī 960-961; GRIGNASCHI 1971: 87-147; RUBIN 1995; SCHINDEL 2003: 675-690; GARIBOLDI 2006.

⁹⁰ Ṭabarī 489.

⁹¹ Ṭabarī 869; *Spāhbed* by the name of Raxš in ŠKZ 30/24/58 and NPi 16, 32 is mentioned.

⁹² DARYAEE 2002b: 300; MACIUSZAK 2003: 95-97.

⁹³ CHRISTENSEN 1944: 265, 524-525; NYBERG 1964: 16. 8;

⁹⁴ Amm. Marc. XXV 7. 5; XXX 2. 5; Malalas XIII 27; Zosimos III 31. 1.

⁹⁵ *asṭbīd*: Yesu' the Stylite 59; ἀσιετίος: Theophanes A.M. 5991; ἀσιεβέδης: Proc. Bell. I 9. 24.

⁹⁶ ἀδρασταδάρων σαλάνης: Proc. Bell. I 6. 18; I 11. 25

a supreme military commander but there is no knowing about his diplomatic activity.⁹⁷

The basis of military reform in 6th century was replacement of the single commander by four *Spāhbeds* beholden directly to the king.⁹⁸ The quadripartition of military power was employed: a quarter of the east (*kust ī xwarāsān Spāhbed*), a quarter of the south (*kust ī nēmrōz Spāhbed*), a quarter of the west (*kust ī xwarbārān Spāhbed*) and a quarter of Ādurbādagān (*kust ī Ādurbādagān Spāhbed*). The term *abāxtar* (north) was generally avoided because of its negative religious connotation (Fig. 1).⁹⁹

Study on *Spāhbeds* identity can corroborate the continued participation of the Parthian dynastic families in the post-reform period. There is not any doubt that function of *Spāhbed Xwarāsān* was transferred by Xusrō to Kārin,¹⁰⁰ *Spāhbed Ādurbādagān* to Mehrān¹⁰¹ whereas *Xwarōārān* to Ispāhbudhān.¹⁰² Of course one can assume that allocation of the territories far from homelands of the families had to weaken their power in the empire.¹⁰³ Three out of four *kust ī* the power was given to the members of the Parthian nobility. The Pahlav clan members held high offices in military structures, and shaped the Sasanian state's foreign policy. Īzad Gušnasp was responsible for contacts with Byzantium, while the negotiations with Central Asian powers were led by Sitād Mehrān. It should be pointed out here that most of the House of Mehrān was faithful to the crown even

⁹⁷ Bal'amī 147; Ṭabarī 869.

⁹⁸ Ṭabarī 894; FRYE 1984: 154; TAFAZZOLI 2000: 8; GYSELEN 2001a; GYSELEN 2001b; GYSELEN 2007.

⁹⁹ DARYAEE 2002a: 11-14; DARYAEE 2007: 66 note 7; DARYAEE, SAFDARI 2010: 2-4.

¹⁰⁰ Dīnawarī, *Akhbār al-Tiwāl*, 102-103; *Nihāyat*, 380.

¹⁰¹ Sigillographic material examined by R. Gyselen, shows two seals dated to the reign Xusrō I, which can be ascribed to the *Spāhbeds* from the family of Mehrān. MAKSYMUK 2015c.

¹⁰² Isfandiyār 91; KHURSHUDIAN 1992; KARIMIAN 2008: 108; POURSHARIATI 2008: 104-118, 127-160; *contra* MAKSYMUK (2015b: 193) that Ispāhbudhān is branch of Sūrēn one in fact.

¹⁰³ POURSHARIATI 2008: 97.

during the rebellion of Bahrām Čōbīn. Nastuh, son of Sitād¹⁰⁴ led Sasanian forces against the usurper, even though all they belonged to the same clan (Fig. 2-4).

Each *Spāhbed* may have had a *Marzbān* commander subordinated to their office with king also appointing a viceroy-type office known as the *Pāygōsbān* to each *Spāhbed*'s region. The *Bundahišn* text also mentions a certain *Spāhbedān*- *Spāhbed* or "General of Generals"¹⁰⁵ which may suggest that this office supervised and coordinated the four regional *Spāhbeds* when the *Spāh* was obliged to fight on separate fronts simultaneously.

In support of the *Spāhbed*'s tasks in repelling attacks on multiple frontiers, the empire constructed (and strengthened) a series of existing wall-systems of defense corresponding to the northern, eastern/northeastern and southern sectors.¹⁰⁶ These were the Wall of Darband in the Caucasus,¹⁰⁷ the Walls of Tammīša and Gorgān which shields against the Turkman steppes,¹⁰⁸ and War ī Tāzīgān (Wall of the Arabs) barrier facing the southwest against nomadic raiders from the Arabian Peninsula.¹⁰⁹

The system proved efficient when implemented strictly for the defense of the empire. Howard-Johnston¹¹⁰ and Reza¹¹¹ have summarized the plans of Justin II (r. 565-574 CE) for attacking the Sasanian Empire on three fronts in the early 570s: (1) the north by instigation of a anti-Sasanian uprising in Perso-

¹⁰⁴ Šāhnāmeḥ, C. 1942.

¹⁰⁵ *Bundahišn*, II 8. 15.

¹⁰⁶ MAHAMEDİ 2003: 145.

¹⁰⁷ KETTENHOFEN 1994: 13-19; MAKSYMIUK 2015d; MAKSYMIUK 2016a; DARYAEE 2016a; GADJIEV 2017; MAKSYMIUK 2018b.

¹⁰⁸ BIVAR, FEHÉRVÁRI 1966: 35-50; FRYE 1977; KLEISS 1999; BALL 2001: 365; SAUER, REKAVANDI, WILKINSON, NOKANDEH 2013, KLEIBER 2006–2007: 173-195.

¹⁰⁹ *Khandaq-i Sābūr*: SPRING 2015: 44; DARYAEE 2016a.

¹¹⁰ HOWARD-JOHNSTON 2010: 50-51.

¹¹¹ REZA 1374/1995: 96-97.

Armenia in 572 CE¹¹² followed by (2) Romano-Byzantine attacks along the empire's western Mesopotamian front by spring 573 CE¹¹³ followed by (3) Turkish offensives (pre-arranged by Turkish and Byzantine embassies¹¹⁴) against Marv and Nišāpūr in the empire's northeast.¹¹⁵ Reza proposes that the Sasanians stemmed the Turkish offensive, obliging them to cease hostilities, thereby enabling the *Spāh* to shift the bulk of its forces from the northeast to the west.¹¹⁶ Howard-Johnston proposes the opposite by stating that the *Spāh* first militarily disabled the Romano-Byzantines in northern Mesopotamia, allowing them to redeploy the bulk of their forces to the northeast in order to stem the Turkish offensive.¹¹⁷ Justin II was decisively defeated by the *Spāh* at Nisibis¹¹⁸ that had been besieged by the Romano-Byzantines, with the Sasanians subsequently capturing Dārā.¹¹⁹ Meanwhile, minimal forces had been put in place to contain the threat to the north posed by Perso-Armenian rebellion until the resolution of the battles in the northeast and west.

Despite its success in the 570s the four *Spāhbed* system was also beset by two fatal weaknesses. First, the system was designed to defend the empire from attacks from multiple fronts, implying a defensive (versus an offensive) doctrine. While the system did allow for strikes into enemy territory, there are no indications that the four *Spāhbed* system had been designed for the launching of major wars aiming for vast territorial expansion, like the one launched by Xusrō II against the Romano-Byzantine Empire in 603 CE.¹²⁰ The system appeared

¹¹² MAKSYMIUK 2016b

¹¹³ COWE 1991: 265-276. DIGNAS, WINTER 2007: 109-115; TROMBLEY 2007: 321-356; MAKSYMIUK 2011: 101-104; MAKSYMIUK 2015a: 75-78.

¹¹⁴ John of Ephesus VI 23; Theophylact Simocatta III 9. 3-10; Menander X 1-3; Menander XIII 5; HARMATTA: 249-252; ISAAC 1995: 125-155; MAKSYMIUK 2018a: 17.

¹¹⁵ HOWARD-JOHNSTON 2010: 54.

¹¹⁶ REZA 1374/1995: 97.

¹¹⁷ HOWARD-JOHNSTON 2010: 53, 55.

¹¹⁸ REZA 1374/1995: 97.

¹¹⁹ John of Ephesus VI 5; MAKSYMIUK 2016a.

¹²⁰ Mika'el Rabo X 25; RUSSELL 2001: 41-71; DIGNAS, WINTER 2007: 115-118; SARRIS 211: 242-249; MAKSYMIUK 2015a: 86-91.

effective in that war's initial stages as even as the *Spāh* advanced into Romano-Byzantine territories in the Near East, Egypt and Anatolia, the empire was able to repel a large and dangerous the Western Turks offensive in 618-619 CE.¹²¹ Nevertheless, the system failed when faced with a combined Khazar-Byzantine alliance coming through the empire's northern Caucasus front, leading to the war's end in 628 CE.¹²² The system had failed as the bulk of the *Spāh*'s forces had been used for garrisoning conquered Romano-Byzantine territory, leading to a paucity of forces to defend the northern sector. This was based on the four- *Spāhbed*'s doctrine of focusing the bulk of the *Spāh*'s resources on the more critical sector while maintaining the minimum forces necessary for avert disaster on the "less critical" sectors.

The second weakness was also inherent to the system's doctrine of defense: the placement of powerful forces in each of the *Spāhbed* commanded frontier regions, leaving the interior of Iran sparse with respect to professional troops. This would not pose a crisis if the frontier defenses and garrisons repelled enemy invasions but if the enemy succeeded in breaking through any of the empire's *Spāhbed* -manned regions, they often advance into the Iranian interior due to its lack of strategic reserves. The *Spāh*, already weakened as a result of Xusrō II's war with the Romano-Byzantines, was unable to muster fresh reserve forces after its defeats against the Arabo-Muslim invaders in the aftermath of the Battles of Qaddisiyah (636 CE), Jalula (636 CE) and Nihavand (651 CE), allowing for the eventual conquest of the interior of Iran.¹²³

¹²¹ DOBROVITS 2003: 3-8.

¹²² FIEY 1987: 96-103; HOWARD-JOHNSTON 1999: 1-44; GHODRAT-DIZAJI 2011: 315-329; MAKSYMUK 2015a: 92-98.

¹²³ FRYE 1984: 154; *contra* SKUPNIEWICZ (private correspondence with Maksymuk): "Year 636 devastated the system, one kust was almost entirely lost the other was heavily crippled, actually Nihavand proves opposite than said above - it shows that despite failure of spahbedan system, Iran was able to field substantial army and challenge

Military inspections

The second area of reforms was in military inspections. These had existed since early Sasanian times as indicated in the *Fārsnāmeḥ* with respect to the armies of Šāpūr I,¹²⁴ with the reforms making these more systematic and comprehensive. A type of or Ministry of war¹²⁵ appears to have been formed with one its primary functions having been military inspections.¹²⁶ The objective of the reformed reviews was to assess the readiness of military personnel for battle, notably with respect to their equipment and training.¹²⁷ Inspections of troops and military training regimens were to occur every four months.¹²⁸ Comprehensive military reviews could last up to forty days, with the king himself also obliged to present himself and his equipment for vigorous inspection.¹²⁹ There were also “surprise” inspections, when the *Šāhānšāh* and his military escort would unexpectedly arrive at various garrisons to inspect its respective military forces.¹³⁰

A new cavalry elite

Whitby has analyzed Xusrō I's concerns with the upper nobility's powerful political and military presence and ways of counterbalancing their influence.¹³¹ The upper nobles wielded considerable political and economic influence, having the capability of challenging Ctesiphon's enforcement of royal edicts¹³² and shifting their loyalty away from Ctesiphon, thereby endangering the Sasanian state.¹³³ Warriors from the feudal lord's estate would often be beholden to him

the early caliphate army, i.e. the superpower of the time. Nihavand was not an easy victory for the Arabs despite the fact that the Iranian army was gathered in somehow desperate manner”.

¹²⁴ ZOKA, IMAM-SHUSHTARI, GHAEM-MAGHAMI 1349/1970: 21-30.

¹²⁵ Dīnawarī, *Akhbār al-Tiwāl*, 74.

¹²⁶ Mostawfi 110.

¹²⁷ MATUFI 1378/1999: 209.

¹²⁸ TAFAZZOLI 2000: 14.

¹²⁹ Dīnawarī, *Akhbār al-Tiwāl*, 101.

¹³⁰ *Sirat Anoushīroan*, 371-374.

¹³¹ WHITBY 1994: 249-250.

¹³² *Proc. Bell.* I 23. 14.

¹³³ WHITBY 1994: 258.

versus the *Šāhānšāh* in Ctesiphon.¹³⁴ It would seem that Xusrō addressed these challenges by establishing a new cavalry class from the “lesser nobles” known as the *Dehqāns*,¹³⁵ but the reform could not possibly have been directed against Parthian clans and one should rather say that in the light of considerations Maksymiuk's there was a tight co-operation between the crown and the Parthian Houses.¹³⁶ The term *Dehqān* is not attested in early Sasanian documents. As noted by Rubin the induction of the *Dehqāns* into the esteemed ranks of the cavalry meant that: “Instead of an army of retainers, bought to the field by powerful feudal lords over whom the king had little control, there was now an army directly recruited and remunerated by the king”.¹³⁷ Paid and equipped directly by the state, the *Dehqāns* would thus be directly beholden to Ctesiphon versus the various upper class nobles. Prior to these reforms, each cavalryman's quality of equipment (armor, swords, etc.) varied according to his noble rank and wealth. The creation of the *Dehqān* cavalry corps meant that the king was no longer exclusively beholden to the upper nobles for the provision of high quality cavalry.¹³⁸ In practice the reforms resulted in a hybrid of the old and new systems in which warriors of the “upper nobles” would rally alongside the newly formed professional corps of *Dehqāns* at wartime.

¹³⁴ CHRISTENSEN 1944: 444.

¹³⁵ *Zand ī Wahman Yasn*, IV 7; IV 54; *Ardā Wirāz-Nāmag*, XV 10; TAFAZZOLI 1994: 225; TAFAZZOLI 2000: 38-59; GARIBOLDI 2006: 31-38; DARYAEE 2009: 147-148; BÖRM 2010: 179-180; OLBRYCHT 2010b: 243; MAKSYMIUK 2011: 66.

¹³⁶ MAKSYMIUK 2015b; MAKSYMIUK 2015c.

¹³⁷ RUBIN 1995: 228.

¹³⁸ On dependance of the kings on clan armies see: POUSHARIATI 2008; MAKSYMIUK 2015b; MAKSYMIUK 2015c.

Cavalry

The term *Aswārān* for the professional cavalry is also cited as *Savārān* in New Persian, with post-Islamic sources defining these by the Arabicized “*Aswārān*”.¹³⁹ One of the most coveted military titles bestowed to the *Wuzurgān* was the *Aswārān-Sardār* (cavalry commander), the commander of the entire cavalry corps. Known also as *Framādār Savārān* in New Persian,¹⁴⁰ this post could sometimes be seconded into a regional *Spāhbed*. The warrior staffing of the *Aswārān* or *Savārān* corps were also appointed from the *Wuzurgān*. Jalali specifies that the *Aswārān* designate the professional cavalry versus other non-Sasanian auxiliaries (excepting perhaps Albanian and Armenian allies) much like French *Chevalier* designation.¹⁴¹ Commanders of the *Savārān* corps could also be placed in command of non-cavalry units.¹⁴² The *Aswārān*’s *Wuzurgān* status and wealth allowed them to subsidize for themselves the highest quality weaponry.¹⁴³ The Middle Persian term *Aswār* (sing. cavalryman)¹⁴⁴ underwent lexical changes with respect to its military functions such that by the later Sasanian era *Aswārān* had also come to mean “officers of the army”.¹⁴⁵

The *Aswārān* or *Savārān* cavalry were to the *Spāh*’s primary strike arm with Bivar noting “The whole issue of the battle, once an opening appeared, depended on the single overwhelming cavalry charge”.¹⁴⁶ The function of the armored lance-bearing (*xystophoroi*) cavalry was to launch the primary battlefield strike, often preceded by the arrow barrages of foot archers.¹⁴⁷ Insotransev for example notes that cavalry was placed at the front of Sasanian armies before the

¹³⁹ BOSWORTH 1987; SKJÆRVØ 1987.

¹⁴⁰ MASHKOOR 1345/1966: 162; NAFISI 1331/1952: 277.

¹⁴¹ JALALI 1383/2004, 34.

¹⁴² MOHAMMADI-MALAYERI 1372/1993: 321.

¹⁴³ BIVAR 1972: 279.

¹⁴⁴ TAFAZOLLI 2000: 13.

¹⁴⁵ Ya‘qūbi I 219.

¹⁴⁶ BIVAR 1972: 289.

¹⁴⁷ JALALI 1383/2004: 48.

battle commenced,¹⁴⁸ however other types of formations were possible such as an all-cavalry doctrine (somewhat similar to the former Parthians), as well as cavalry acting in concert with elephants and infantry as discussed later in this book.

Early Sasanian cavalry (c. 224 – late 200s/early 300s CE)

The two-handed “bayonet” type wielding of the *Nēzak* (lance) appears consistently in reliefs of the early Sasanian era. The *Nēzak* was based on its 12-foot long Parthian lance (Gk. *kontos*) predecessor that had a sword-like blade of iron (23.2-37.5 cm) socketed onto the lance shaft. There was also the Sasanian *Aršt* (spear Gk. *aikhmē brakhēa*) that may have been a shorter version of the *Nēzak*, possibly used by Sasanian spear-wielding infantry contingents.¹⁴⁹ One of the earliest depictions of Sasanian cavalry is at the 3rd century site of Fīrūzābād (Fig. 5), Naqš-e Rostam (Fig. 6-11) and Tang-e Sarvak (Fig. 12) where lance warfare are prominently displayed. According to Bivar this was due to the armor having had “established its superiority over the missile”¹⁵⁰ at the time, protecting warriors against archery. Sasanian cavalrymen at Fīrūzābād are seen with combination armor (lamellar, laminated, mail).¹⁵¹ Notably, the cavalry at Fīrūzābād carry no shields.¹⁵² Mail is (possibly) also displayed at Bišāpūr among early Sasanian cavalrymen and certainly centuries after at Tāq-e Bostān in late Sasanian Times (Fig. 13-15).¹⁵³ According to the Iranian sources for the martial equipments of a heavily-armed Sasanian horseman very important was the horse armor (*zēn-abzār*).¹⁵⁴ Middle Persian texts named horse armor as: *tiğfāf*, *bargustuvān* and *silī*.¹⁵⁵ Findings at Dura Europos provide reveal late Parthian and early Sasanian *Bargostvān*,¹⁵⁶ covering

¹⁴⁸ INSOTRANSEV 1348/1969: 42.

¹⁴⁹ Iran Bastan Museum inv. no. 295-299; TAFAZZOLI 1993: 187; LITVINSKY 2010; *contra* KHORASANI 2006: 246.

¹⁵⁰ BIVAR 1972: 279.

¹⁵¹ BIVAR 1972: 275; ALLAN 1986; SKUPNIEWICZ 2016a: (claims that these are cuirasses).

¹⁵² SKUPNIEWICZ 2006b.

¹⁵³ SKUPNIEWICZ 2016a; SKUPNIEWICZ 2017a.

¹⁵⁴ SKUPNIEWICZ 2014; NICOLLE 2017.

¹⁵⁵ FARROKH 2005: 17-19; MELIKIAN-CHIRVANI 1988; SKUPNIEWICZ 2006a.

¹⁵⁶ MELIKIAN-CHIRVANI 1988.

the horse's torso with armor of metallic scales with an oval opening for the rider's seat in addition to armor for the horse's neck, head as well (Fig. 16-17).¹⁵⁷ As stirrups had not yet been invented, riders' stability was entrusted to a four-horn saddle (two at front and two at back) in order to brace the cavalryman in place.¹⁵⁸ It may appear that unlike armored cavalry of Parthians of Chinese Sui dynasty Sasanian *Aswārān* relayed more on maneuverability and dynamics than on mere weight of the battering hit.¹⁵⁹

The mural painting from Dura-Europos displays a fully armored cavalryman (man and horse) of the Iranian type wielding a lance with his sword hilt projecting from his left side (Fig. 18). Dating of the Dura Europos painting is debated among scholars, with Brown,¹⁶⁰ Colledge,¹⁶¹ Rostovtzeff,¹⁶² Robinson¹⁶³ and Shahbazi¹⁶⁴ dating this to the later Parthian era (late 2nd century to early 3rd century CE), Symonenko¹⁶⁵ proposing the 2nd century CE, Mielczarek¹⁶⁶ suggesting the 3rd century CE with current scholarship setting this to 232/233-256 CE or the early Sasanian era.¹⁶⁷ The primacy of the lance is again seen at the site of Naqš-e Rostam that features this type of combat in four panels. The first is a double-panel of Bahrām II (r. 276-293 CE): the top panel shows him in lance combat against an unidentified enemy (Fig. 6-7) with partial similarity to the Roman cavalryman depicted in the Vatican's "Sarcophagus of Helena".¹⁶⁸ The lower panel may represent Bahrām II against an unknown Sasanian prince or his rebellious brother Hormozd *Kušānšāh* (Fig. 8-9). The third lance combat panel at Naqš-e Rostam also displays

¹⁵⁷ JAMES 2004: 49-72; GALL VON 1990: 62; SKUPNIEWICZ 2006a: 157, 162.

¹⁵⁸ HERRMANN 1989.

¹⁵⁹ SKUPNIEWICZ 2014: 39.

¹⁶⁰ BROWN 1936: 195.

¹⁶¹ COLLEDGE 1977: 117, Fig. 44B.

¹⁶² ROSTOVITZEFF 1933: 207-209.

¹⁶³ ROBINSON 1967: 186.

¹⁶⁴ SHAHBAZI 1986.

¹⁶⁵ SYMONENKO 2009: 119.

¹⁶⁶ MIELCZAREK 1993: 36.

¹⁶⁷ NIKONOROV 2005, Note 12; WÓJCIKOWSKI 2013, 233-234.

¹⁶⁸ Pio Clementine Museum in the Vatican Museums, Cat. 238.

a Sasanian king (Bahrām II?, Hormozd II?) engaged in lance combat against a Roman opponent with broken lance (Fig. 10-11). The site of Panj-e Ali (Koohtasht in Lorestan, Western Iran) discovered in 2015, also shows a mounted lancer (Fig. 19-20) dated to the late Parthian or early Sasanian periods (c. 200s-220s CE).¹⁶⁹

Known early Sasanian helmets include the ridge helmet discovered and depicted at Dura Europos (see infantry) and conical helmet (with rows of riveted metallic plates) as seen at the wall mural at Dura Europos.¹⁷⁰ Panj-e Ali headgear is also pointed but centuries of weathering upon the panel prevents analysis as to its exact construction. Analyses of headgear in Sasanian iconographic depictions (esp. 3rd-4th centuries CE) at Fīrūzābād, Naqš-e Rostam, Bišāpūr and Naqš-e Rajab fail to ascertain if the displayed headgear are strictly military (i.e. one piece, multi-segment segments, or *cross-band* fashion, etc.), ceremonial or a combination of the two. For this reason research in Sasanian helmets is mainly focused on archaeological finds of actual helmets dated to the 5th-7th centuries (Fig. 21-22, Fig. 44).¹⁷¹

The Sasanian sword was approximately 1-1.11 m in length with the blade's width ranging between 5-8.5 cm. (Fig. 23-24) These were slung in the traditional scabbard slide suspended from the belt resulting in the weapon standing vertical in relation to the ground when the cavalryman was at Rest (Fig. 25-28). The *Savārān* suspended their swords on the left side, a martial tradition prevalent among the Parthians.¹⁷² Šāpūr I at Naqš-e Rostam is seen pressing his hand on the hilt of his sword (in scabbard), pushing it 45 degrees to the right (Fig. 29-30). Early to middle Sasanian era swords were built with long and broad blades, wide (sword) guards and broad pommels.

¹⁶⁹ FARROKH, KARAMIAN, DELFAN, ASTARAKI 2016: 31-40.

¹⁷⁰ ROSTOVITZ 1933: 216, plate XXXIII/2; GHIRSHMAN 1962: figs. 62, 100, 165; GALL VON 1990: 69; INVERNIZZI 1999: 22-24, fig. 6, pl. A.

¹⁷¹ AHMAD 2015; KUBIK 2017.

¹⁷² WINKELMANN 2009: 240.

Already an elite force within the Sasanian army, the *Aswārān* corps in turn apparently had select prestige units bearing high quality arms and armor. Distinguished by their exceptional martial performance, these units appear to have been often designated as the king's (or *Šāhānšāh*'s) royal guard units or armies (i.e. *Gund Šāhānšāh*)¹⁷³, a tradition attributed by Farzin to the Achaemenid era.¹⁷⁴ The Sasanian Pahlavi term for the *Šāhānšāh*'s guards was *Hām-Harzan* (singular: *Hām-Harz*; same in Armenian), derived from Parthian-Pahlavi *Hmhrz*, signifying the possibility that such elite royal units may be traced to the Parthian era. Note that *Hmhrz* variously means guard with spear, guardian and spear-bearer. An early Sasanian prestige unit, the *Jāvidān* (Immortals),¹⁷⁵ led by a commander designated as *Varhragh-Nighan Xwaday*,¹⁷⁶ may have been founded by Ardašīr I.¹⁷⁷ This unit appears to have remained in service centuries after Ardašīr I, as reported the sources.¹⁷⁸

Another prestige unit of the *Savārān* that may be traced to early Sasanian times was the *Jan-separan*.¹⁷⁹ The term *Jan-separ* is cited in reference to the *Savārān* cavalry of Ardašīr I in the *Kār-Nāmag ī Ardašīr ī Pābagān*¹⁸⁰ and the *Mēnōg ī xrad*.¹⁸¹ The unit may have been in place as late as the 7th century CE, as the *Šāhnāmeh* for example cites the *Janvespar* as having been in service during the reign of Xusrō II.¹⁸² The unit may have recruited Greco-Roman (deserters, mercenaries or volunteers) and other non-Iranian recruits.¹⁸³ One of the unit's leaders for example is cited as *Jālinus* (Iranian for Julius, Julian, etc.)¹⁸⁴ suggesting

¹⁷³ SİVRİOĞLU 2013: 679.

¹⁷⁴ FARZIN 1387/2008: 103.

¹⁷⁵ MEHREEN 1349/1971: 77.

¹⁷⁶ FARROKH 2005: 6.

¹⁷⁷ MEHREEN 1349/1971: 77.

¹⁷⁸ Malalas XIV 23; Socrates Scholasticus VIII 20; Proc. Bell. I 14. 44.

¹⁷⁹ OSHEIDARI 1371/1992: 231.

¹⁸⁰ *Kār-Nāmag ī Ardašīr ī Pābagān*, VI 16 61; VIII 7 81; IX 19 87.

¹⁸¹ *Mēnōg ī xrad*, I 64.

¹⁸² FARZIN 1387/2008: 107.

¹⁸³ PIRNIA, 1369/1990: 244.

¹⁸⁴ NAFISI 1331/1952: 22.

that he may have been of Greco-Roman origins. Farzin's analysis of the unit reports its commander as having been a personal guard of the *Šāhānšāh* who was even allowed to occupy a "lesser throne" in the Sasanian court.¹⁸⁵

Cavalry development in the early 300s - c. 490s CE

This early phase of cavalry development appears to span to Sasanian defeats in Armenia (298 CE) by Maximianus Galerius¹⁸⁶ after which a number of changes to the cavalry's weaponry, armour and helmets were apparently introduced during the reign of Šāpūr II. A possible doctrinal shift towards a more heavily armed and armored cavalry lancer, Heliodorus describes Sasanian cavalryman of the 350s CE as having been selected for "chosen for his bodily strength... lifted up by others [onto his saddle] because of his weight".¹⁸⁷ Libanius describes the array of weaponry of these cavalrymen as having included "darts, sabres (scimitars?), spears, swords and every warlike implement ... carried a lance which needed both hands".¹⁸⁸ Heliodorus describes these "bronze men" and their horses as having been covered entirely in "unbreakable" armor that was "proof against any missiles, and is a sure defense against all wounds".¹⁸⁹ Describing Sasanian cavalry at the time of Julian's invasion of Persia in 363 CE Ammianus Marcellinus describes them as having been "all the companies were clad in iron, and all parts of their bodies were covered with thick plates, so fitted that the stiff joints conformed with those of their limbs; and the forms of human faces were so skilfully fitted to their heads, that, since their entire bodies were plated with metal, arrows that fell upon them could lodge only where they could see a little through tiny openings fitted to the circle of the eye, or where through the tips of their noses they were able to get a little breath. Of these some, who were armed with pikes, stood so

¹⁸⁵ FARZIN 1387/2008: 107.

¹⁸⁶ P'awstos Buzand's III 21; LEADBETTER 2002; MOSIG-WALBURG 2009: 91-121.

¹⁸⁷ Heliodorus IX 15. 1; IX 15. 5.

¹⁸⁸ Libanius LIX 70.

¹⁸⁹ Heliodorus IX 15. 3.

motionless that you would think them held fast by clamps of bronze.”.¹⁹⁰ Interestingly, Tafazzoli cites a Pahlavi quote *Zēnagēn Ištēd pad čafār handām* (he is with armour on his four limbs),¹⁹¹ but it is not possible to reference this specifically to the 4th century CE or other Sasanian eras.

Heliodorus¹⁹² and Ammianus¹⁹³ describe Sasanian helmets of the 4th century as having been fitted with iron facemasks. The earliest known Sasanian depiction of four-segment (*Spangenhelm* types)¹⁹⁴ helmets have been discovered at Tappeh Yahya (c. 300s CE),¹⁹⁵ however this does not preclude the earlier existence of such helmets in Iran. The application of colors and motifs upon helmets may explain Ammianus’ description “Glittering helmets and bristling armor”¹⁹⁶ in reference to Šāpūr II’s armored cavalry lancers. Sasanian helmets were apparently functional (battlefield purpose) as well as possibly conveying rank and/or heraldry.

The scabbard slide sword continues to appear at least up the late 4th century with this depicted in the alcove relief of Šāpūr II and Ardašīr II (r. 379-383)¹⁹⁷ at Tāq-e Bostān (Fig. 31). Armenian historian Tiratsian,¹⁹⁸ cites the swords of mid 5th century CE Sasanian cavalrymen as having used three types of blade weapons: (1) *Tour* (Armenian: Sasanian short sword) (2) *Sousser* (Armenian: Sasanian long sword) often portrayed in Sasanian metalworks and rock reliefs¹⁹⁹ and (3) *Nran* (Armenian: Iranian dagger attached to the warrior’s thigh). A notable style of sword-combat technique known as the “Italian grip” seen in four Sasanian metalwork plates [*Kušanšāh* Bahrām II on

¹⁹⁰ Amm. Marc. XXV 1. 12-13.

¹⁹¹ TAFAZZOLI 1993: 193.

¹⁹² Heliodorus IX 15. 1.

¹⁹³ Amm. Marc. XXV 1. 12.

¹⁹⁴ GRANCSAY 1963.

¹⁹⁵ FARROKH 2005: 10.

¹⁹⁶ Amm. Marc. XIX 2. 5.

¹⁹⁷ OVERLAET 2011.

¹⁹⁸ TIRATSIAN 1960.

¹⁹⁹ KHORASANI 2006: 87; MASIA 2000: 205.

horseback slaying a boar; Fig. 32) 4th CE portrayal of Šāpūr I slaying a deer (Fig. 33); 5th-7th century CE depiction of an unknown king [Bahrām Gōr? (r. 420-439 CE)] slaying a Lion (Fig. 34); 4th century CE portrayal of Šāpūr III on foot slaying a leopard²⁰⁰ entailed wielding the sword entailed with the forefinger around the sword's quillons resulting in increased efficiency in fencing and thrust. There were also two-handed swords as indicated by the sample housed at Tehran's Museum of Iran²⁰¹ measuring at 116.5 cm (sword blade with its reinforcement on forte, handle at 31 cm).²⁰²

One of the assault tactics deployed during the Sasanian era is the three-wave attack implemented at the Battle of Nisibis in 350 CE (Fig. 53).²⁰³ Julian reports the first wave as having been lance-bearing armored cavalry followed by archers who would be (the third wave) of another contingent of armored cavalry lancers.²⁰⁴ The "archers" were presumably mounted to keep pace with the armored cavalry. The primary advantage of this tactic was that it forced defending infantry to rapidly "switch" their tactics in order to adapt to each type of (lance or missile) assault. Cavalry forces were also deployed in siege operations, notably at Amida in 359 CE.²⁰⁵ In this operation, Albanian cavalry was stationed to the north of Amida, the Sakas of Sakastān/Sistān to the city's West, and the Chionites to the east. Šāpūr II and his "royal escort" of elite cavalry situated to the south of the city are reported as having made several assaults towards Amida's gates.²⁰⁶ Šāpūr II's "royal escort" may have been prestige unit known as the *Puštigbān* (Pahlavi: life guardians) led by *Puštigbān-Sardār*²⁰⁷ and who was

²⁰⁰ Hermitage Museum, St. Petersburg inv. no. S-42.

²⁰¹ Iran Bastan Museum inv. no. 1574/7999.

²⁰² KHORASANI 2006: 98.

²⁰³ MAROTH 1979; LIGHTFOOT 1988.

²⁰⁴ Julian, *Orationes* III 11-13.

²⁰⁵ LIGHTFOOT 1989; WÓJCIKOWSKI 2015: 221-226.

²⁰⁶ Amm. Marc. XIX 1.

²⁰⁷ FARZIN 1387/2008: 104.

considered as one of the honored intimates of the *Šāhānšāh*'s entourage.²⁰⁸ Foss proposes that officers of this unit were identified as *Puštigbān-Sālār*.²⁰⁹ The commander of this unit may have also been known as the *Hazārbed* (commander of one thousand) cited previously and possibly escorted the king during battles.²¹⁰

It is possible that Ammianus Marcellinus' report of the "Royal Escort" escorting Šāpūr II during his attacks towards the gates of Amida in 359 CE may have been the *Puštigbān*. While it is not clear however when exactly this unit had been formed, one possibility may be traced to Šāpūr II's campaign which expelled Arab nomads invading southern Iran to the Arabian Peninsula.²¹¹ In reference to that campaign Ṭabarī describes Šāpūr II as having "he selected one thousand cavalrymen from among the stoutest and most heroic of the troops".²¹² The middle era of Sasanian cavalry development appears to have gradually ended with the *Spāh*'s defeat and death of king Pērōz against the Hephthalites in 484 CE.²¹³

Late Sasanian cavalry (c. 490s/early 500s – 651 CE)

The final phase of Sasanian cavalry development may be broadly traced from the late 5th-6th century CE (i.e. reigns of Kawād, Xusrō I) during which Sasanian weaponry underwent changes, with notable Central Asian Turco-Hun influences to the time of the Arab conquests in 636-651 CE. The military reforms of the 6th century CE ascribed to Xusrō I appear to have resulted in changes to military equipment. Another possible influence with respect to changes in military equipment may have been the result of the *Spāh*'s military experiences against nomadic Central Asian warriors, notably the Hephthalites in the 480s CE.²¹⁴ Changes to military equipment are evident in the phasing out

²⁰⁸ TAFAZZOLI 2000: 12.

²⁰⁹ FOSS 2002: 170.

²¹⁰ MATUFI 1378/1999: 203.

²¹¹ DARYAEE 2009: 16-17.

²¹² Ṭabarī 838.

²¹³ Ṭabarī 873.

²¹⁴ MICHALAK 1987: 83.

of the scabbard slide system for swords in favor of lappet suspension technology. This new method entailed the use of straps suspended from the belt and fastened to the sword sheath allowing the warrior to adjust the suspension angle of his weapon instead of having it hang perpendicularly to the ground. Examples of late Sasanian swords featuring this technology include the discovery of late Sasanian swords (6th or early 7th centuries CE) featuring P-mounts for lappet suspension systems (Fig. 35-38).²¹⁵

The Tāq-e Bostān warrior with his new equipment was essentially the late type of cavalryman often cited as the “composite” type entering service by the 6th century CE.²¹⁶ This composite cavalryman was combined several combat functions by being trained in the use of lances, archery equipment, and swords, axes and maces for close quarter combat (Fig. 39-41).²¹⁷ Other changes to cavalry military equipment include a new type of composite helmet (i.e. mail coif, helmet with ocular visor, metal facemask replaced with mail suspended from ocular areas, spherical spangen/segmented design, etc.) as seen at Tāq-e Bostān with respect to the seated “mage of Xusrō” (Fig. 42-43) and the armored cavalryman within the vault or *ayvān*.²¹⁸ Late Sasanian *spangenhelm* (segmented construction) helmets dated to the late 6th-early 7th century CE display a distinct “feather/scale” decorative motif (Fig. 44).²¹⁹

It would appear that military equipment of various units in the northeast and south could vary in accordance with local technological variations. For example, military units of the *kust ī nēmrōz* (Southern, Southeast district facing the Persian Gulf) most likely had segmented, *Spangenhelm* and ridge helmets also

²¹⁵ Louvre Museum, Paris inv. no. MAO. 423 and inv. no. AO. 25534; Romano-Germanic Central Museum, Mainz inv. no. 037985 and inv. no. 379386; Royal Museums of Art and History, Brussels inv. no. 1315.

²¹⁶ BIVAR 1972: 290; COULSTON 1986: 63; FARROKH, KHORASANI 2009: 39.

²¹⁷ FARROKH, KHORASANI 2010: 36-41.

²¹⁸ FARROKH, KARAMIAN, KUBIK, TAHERI OSHTERINANI 2017.

²¹⁹ Royal Museum of Art and History, Brussels inv. no. 1315; Romano-Germanic Central Museum, Mainz inv. no. 38823; Los Angeles County Museum of Art, LACMA M.76.174.149.

seen at the *kust ī xwarbārān* (Western districts) and the *kust ī Ādurbādagān* (North/Northwest and/or Azerbaijan district), alongside a possible local “southern” variation of the one-piece helmet type. Units of the *kust ī xwarāsān* (northeast district facing Central Asia) were most likely equipped with helmets bearing Soghdian and Central Asian influences resulting in local *spangenhelm*, segmented type variations.

The contrast between early and late/post-Sasanian military gear is evident when comparing the plates of Šāpūr II from the 4th century CE (Fig. 45) and the early post-Sasanian plate (late 7-early 8th centuries CE) of Pur-i Vahman (Fig. 46). At first glance the plates appear to similar as both plates depict riders engaged in the Parthian shot against a pursuing lion. Despite this apparent parallel between the plates, the two items diverge markedly with respect to weapons suspension, archery techniques and equestrian equipment. Both Šāpūr II and Pur-i Vahman have their swords suspended on their left sides, however their systems of suspension are markedly different. Šāpūr II’s sword is suspended with the scabbard slide in contrast to Pur-i Vahman’s sword which is suspended with the more efficient Central Asian style lappet system. Pur-i Vahman’s quiver is suspended along his right side and most likely utilizes the lappet system. The quiver of the late Sasanian armored cavalryman inside the vault at Tāq-e Bostān vault for example, employs the lappet suspension system. The contrast between the plates with respect to equestrian technology and archery styles are discussed later in this book.

Another visual source of late Sasanian heavy cavalry is provided by the *Spāhbedan* bullae where heavily armored warriors are depicted on mounts covered with the bardings (Fig. 2-4).²²⁰ The exact types of their armament are difficult to define due to the small size of the depictions however it is possible to notice scale or chain-mail armor covering the bodies of the riders and probably lamellar protection of the mounts which corresponds with the sculpture of the rider

²²⁰ GYSELEN 2001b; GYSELEN 2007; SKUPNIEWICZ 2017b.

in Ṭāq-e Bostān. Two of the late Sasanian capitals exhibited in Ṭāq-e Bostān museum show the personages in armors consisting of mail and solid plate and wearing hemispherical helmets. Although they are not depicted on horseback, their rich armament and lavishly decorated clothing associate them with the elite warriors i.e. cavalry (Fig. 42-43).²²¹

The Kulagysh plate (excavated in Perm province, Russia) dated to the 6th-8th century CE provides detailed depictions of Sogdian and/or northeast Iranian equipment such as swords, archery equipment, lances, mace, small shields, lamellar armor, mail “shirts” with long sleeves, as well as bronze or hard-leather armor (Fig. 47). Further information on Sogdian cavalry equipment is provided on the wall painting from the reception hall (VI-1 and VI-41) in the Palace of Panjikant (7th-8th centuries CE) such as framed helmets of segment construction with nasal pieces (Fig. 48), decorations and finials, mail for the neck and shoulders, face mail (like the Ṭāq-e Bostān warrior (Fig. 41).

The *Strategicon* military manual, most likely written in the late 6th century to early 7th century CE²²² (reports of *Spāh*’s military formations as being composed of three sections, a left wing, center and right wing.²²³ The *Uyūn al-Akḥbār* reports of specific battle rules for troops placed in the right, center and left positions of the *Spāh*, commencement of battles, numerical factors, assessment of troops’ experience, climate-geography and water supply.²²⁴ Pigulevskaya’s analysis of the *Uyūn al-Akḥbār* provides a four-point summary of Sasanian tactics:²²⁵ (1) cavalry would be stationed ahead of the infantry prior to the attack (2) cavalry would either initiate the attack or part to the left and right for the combat infantry to being the assault (3) the center or “heart” (preferably placed in an elevated

²²¹ SKUPNIEWICZ 2017a.

²²² DIGNAS, WINTER 2007: 66.

²²³ *Strategicon*, XI 1.

²²⁴ Dīnawarī, *Uyūn al-Akḥbār*, 191-192.

²²⁵ PIGULEVSKAYA 1354/1975: 127.

position)²²⁶ and right wing would join the cavalry in the attack but would then return to their original positions (4) the left wing (cited as “the direction of the shield” in the *Chronicon Anonymum*)²²⁷ was primarily defensive,²²⁸ especially against flanking attacks, entering battle only when under extreme circumstances (Fig. 54). The *Strategicon* reports of 400-500 “selected men” (elite cavalymen?) placed in the center with the *Spāh* generally lining up the cavalry in each unit in the first and second lines.²²⁹ As the rear of the formation was considered essential to the force’s integrity, experienced troops would also be placed in this position.²³⁰ Procopius notes that the Sasanians preferred to attack around mid-day or slightly after, despite having drafted their battle plans earlier in the dawn.²³¹ A portion of the forces were apparently kept in reserve during the battle, to be committed as the commander deemed necessary as occurred for example during the Battle of Dārā (530 CE) when the elite immortal cavalry contingent was committed to the engagement.

Like the aforementioned Immortals and *Janvespar*, elite cavalry units continue to be cited into the late Sasanian era, notably the *Khosroēgetai* and *Perozitai* during Xusrō II’s wars against Byzantium.²³² The *Gund Šāhānšāh* (army of the king of kings) may have appeared by the late 6th century CE, however the term may also be a generic one in reference to all elite royal units designated for defending the throne. Interestingly a 4000-man unit of Deylamites infantry (see below) is cited as the bodyguard of Xusrō II, but prior to this such a unit would most likely have traditionally been elite cavalry, such as the 12,000 man force led by Bahrām Čōbīn against a Turkish invasion in 588-589 CE.

²²⁶ Dīnawarī, *Uyūn al-Akḥbār*, 112.

²²⁷ *Chronicon Anonymum*, XXII.

²²⁸ INOSTRANCEV 1926: 13.

²²⁹ *Strategicon*, XI 1.

²³⁰ FARZIN 1387/2008: 21.

²³¹ Proc. *Bell.* I 14; II 18.

²³² Theophanes A.M. 6115.

Infantry

The Parthian predecessors of the Sasanians did not rely in infantry as a primary battlefield support for their cavalry.²³³ In contrast to the Parthian *Ispāδ* (army), the Sasanian *Spāh* maintained a professional infantry force. The *Paygān-Sālār* would be the commander of the Sasanian infantry unit,²³⁴ with Kolesnikoff highlighting the importance of such units for the *Spāh*.²³⁵ The *Paygān-Sālār* (commander of the infantry) is commonly identified as having been ranked second in status by the *Spāh* in comparison to the *Framādār Savārān* (commander of *Savārān* cavalry).²³⁶ Inducing from primary sources, Jalali categorizes Sasanian infantry forces into three general classifications:²³⁷ (1) the heavily armed and armored *Paygān*, with a subdivision of *Nēzak-Dārān* (spearmen) (2) lightly armed infantry or peasant levies and (3) foot archers. Another category of infantry forces whose military role became significant, especially from the 6th century CE were the Deylamites of Northern Iran. *Paygān* unit(s) were stationed in each of the empire's provinces under the authority of local regional commanders. The *Paygān-Sālār's* infantry corps' primary duty during peacetime was the provision of internal security (somewhat like policing) for cities, towns and rural regions.²³⁸ These could act as "gendarmes" or security forces on behalf of the regional commander for maintaining law and order.²³⁹ Descriptions dated to late Sasanian times with respect to the prison of Dastegerd suggest that the *Paygān-Sālār's* office was also entrusted to act as warden of prisons.²⁴⁰

²³³ MIELCZAREK 1993: 55.

²³⁴ FOSS 2002: 170.

²³⁵ KOLESNIKOFF 1357/1978: 122.

²³⁶ NAFISI 1331/1952: 277.

²³⁷ JALALI 1382/2003: 15.

²³⁸ JALALI 1383/2004: 113.

²³⁹ SAMI 1342/1964: 70.

²⁴⁰ *Die mittelpersischen Papyri* no. 12; FOSS 2002: 170; SÄNGER 2011.

Excepting the Deylamites in general, classical sources such as Procopius²⁴¹ have often provided negative assessments of Sasanian infantry combat performance. These assessments have been challenged by Howard-Johnston²⁴² who cautions against overreliance on primary sources such as Ammianus Marcellinus' dismissal of the 4th century CE Sasanian infantryman as a poorly equipped serf.²⁴³ However, as discussed below there are also descriptions of *hoplite* and even "gladiator" type infantry. While Roman infantry forces were often able to prevail against their Sasanian counterparts.²⁴⁴ Ward notes that Sasanian infantry were nevertheless a professional and well-trained force.²⁴⁵

Paygān

The term *Payg* (foot-soldier; Arm. *Payik*)²⁴⁶ has been challenging to discern as this fails to definitively ascertain if this is specifically describing the poorly trained and lightly armed peasant levies recruited at wartime in contrast to the heavily armed, armored and professionally trained combat infantry troops. This may explain the divergences in interpretation among researcher with respect to *Paygān*. Penrose²⁴⁷ for example avers that Roman sources often confused professional Sasanian infantry and the poorly armed and trained peasant levies as one single force, when in practice they were separate services.

Iranian historians also diverge with respect to the role (battlefield combat vs. support levies) and equipment (weapons, armor) of the *Paygān*. Sasanologist Daryaee describes the *Paygān* as being lightly armed with spear only and (for battlefield protection) having a shield but no armor.²⁴⁸ Diverging from Daryaee's

²⁴¹ Proc. Bell. II 14.

²⁴² HOWARD-JOHNSTON 1995: 75.

²⁴³ Amm. Marc. XXXIII 6. 8.

²⁴⁴ SIDNELL 2006: 73.

²⁴⁵ WARD 2009: 31.

²⁴⁶ TAFAZOLLI 2000: 13.

²⁴⁷ PENROSE 2008: 258.

²⁴⁸ DARYAEE 2009: 46.

analysis, Sasanian military historians Jalali²⁴⁹ and Sami²⁵⁰ define the *Paygān* as having been the *Spāh*'s standard professional heavy infantry until the recruitment of the Deylamites in the later Sasanian era (discussed below). An indication of the *Paygān*'s professional status is provided by their registration on the state's rolls allowing them to be paid (like the *Aswārān* cavalry) for their military services to the empire.²⁵¹

The *Paygān*'s tasks on the battlefield were to support the cavalry and elephants corps as well as protecting the lightly armored and armed foot archers and light infantry (often peasant levies).²⁵² Heavy professional infantry of this type was evidently in the *Spāh*'s service from the earliest times of the empire, especially during Šāpūr I's campaigns against Roman-held regions of the Middle East.²⁵³ Archaeological expeditions at Dura Europos, notably the excavations by a French-American team that discovered remains of a fallen Sasanian trooper at the site's Tower 19 allows for a reconstruction of the equipment of early Sasanian soldiers (probably infantry too) as they would have appeared the 3rd century CE. The trooper's equipment are summarized as follows: (1) a short sleeved "T-shirt" of mail reaching to the trooper's hips (2) a wickerwork shield (Achaemenid-style construction) and (3) a two piece ridge helmet which were possibly also used by cavalry. The *Paygān*'s typical close quarters combat gear, are described by Zoka²⁵⁴ and Hekmat²⁵⁵ as sword, dagger and mace (Mid. Pers. *warz*²⁵⁶). Ziapour has also proposed that the *Paygān* wore leg armor of the metal (or hardened) lamellar type that would have been worn over leather

²⁴⁹ JALALI 1382/2003: 15.

²⁵⁰ SAMI 1342/1964: 62.

²⁵¹ HOWARD-JOHNSTON 1995: 219.

²⁵² JALALI 1383/2004: 37.

²⁵³ KETTENHOFEN 1982.

²⁵⁴ ZOKA 1349/1970: 140.

²⁵⁵ HEKMAT 1342/1964: 1089.

²⁵⁶ DOOSTKHAH 2002.

trousers.²⁵⁷ The Romans held the overall advantage over the Sasanians in infantry warfare, however as noted by Lee the *Spāh* was often able to counterbalance this by deploying their highly effective *Savārān* cavalry lancers as well as their proficiency in siege warfare.²⁵⁸

Hoplites, Murmillos or Paygān?

By the time of Šāpūr II, notably by the years prior and during Emperor Julian's (reign as sole Augustus, 361-363 CE) invasion of the Sasanian Empire in 363 CE, the *Spāh* was reportedly fielding a new type of infantry described as "*hoplites*" notably at the siege of Nisibis in 350 CE.²⁵⁹ Ammianus reports of a similar reference to Sasanian infantry during Julian's invasion being: "armed like Murmillos [a type of Roman armored gladiator]".²⁶⁰ No other details are however provided with respect to these "Sasanian gladiators" in terms of their armor, shields or weaponry. One possibility is that these were a contemporary version of the earlier Dura Europos type infantry, but this assumption requires corroboration by the excavation of archaeological data. Another possible and related hypothesis is that the Sasanians may have been developing a "heavier" version of infantry in tandem with the heavier cavalry forces, notably with respect to the requirement that the trooper have exceptional physical strength. This would be consistent with the *murmillos* or "*hoplite*" concept that the warrior needing to have powerful arms, shoulders, torso and legs enabling to wield a heavy shield and powerful sword. Ammianus however does not provide specific details on the Sasanian *murmillo*, which leads to the question of whether the armaments and armor of the Sasanian *murmillos* were Roman or Sasanian? The Roman *murmillo* had his right arm protected with manica of tied linen with his left leg protected by a short grave.²⁶¹ This type of partial protection

²⁵⁷ ZIAPOUR 1349/1970: 286.

²⁵⁸ LEE 2009: 4.

²⁵⁹ Julian, *Orationes* III 11.

²⁶⁰ Amm. Marc. XXIII 6. 83.

²⁶¹ WIEDEMANN 1992: 41.

would have left the Sasanian *murmillo* highly vulnerable to the Roman infantryman (most likely aware of gladiatorial combat techniques)²⁶² who could exploit the (unprotected) left arm and right leg of his opponent. It would appear more likely that the *Spāh* would have equipped their infantry *murmillos* with armor, conceivably a mixture of mail worn over lamellar for protection of the torso, with the arms and hands possibly shielded with ring armor or gauntlet respectively. The legs in turn may have also been possibly shielded by ring armor or greaves. For shielding the Roman *murmillo* was equipped with the standard *Scutum* shield, however it is improbable that the Sasanian *murmillo* would have used this given its heavy weight (approximately 10 kilograms)²⁶³ in comparison to the lighter but stout wickerwork shield of the Dura Europos type also adopted by Europe's Germanic tribes.²⁶⁴ It is also more likely that the Sasanian *murmillos* would have been using the standard Sasanian scabbard slide swords of the 4th century CE that were on average 1-1.11 m in length in comparison to the Roman trooper's *Spatha* featuring an average length of 64-81 cm.²⁶⁵

The *Paygān* were often positioned to the rear of the *Aswārān* cavalry,²⁶⁶ with available sources reporting on two types of combined infantry-cavalry battlefield tactics. One of these is the account of the Battle of Singara (348?) by the *Chronicon Anonymum*,²⁶⁷ (1) the *Aswārān* would charge towards enemy lines followed closely behind by the infantry (or *murmillos*, *hoplites*?), however (2) as the *Aswārān* approached closer to the enemy appearing as if they were about to engage they would instead part in two groups, one moving to the left and the other to the right in order to (3) allow the infantry following from behind to now approach and engage the enemy front lines (Fig. 55). The intention of this technique was to confuse the enemy as to the types of countermeasures to use as just as they braced

²⁶² COULSTON 1998.

²⁶³ SABIN, VAN WEES, WHITBY 2007: 196.

²⁶⁴ BOSS 1993: 25, 56, 66, Fig. 14-18; BOSS 1994: 20-25.

²⁶⁵ Vegetius II 15.

²⁶⁶ SAMI 1342/1964: 62.

²⁶⁷ *Chronicon Anonymum*, XXXVI.

themselves for the anticipated armored mounted lancers they would be forced to confront an infantry assault instead.

Deylamites

By the 6th century, notably during the reign of Xusrō I, the *murmillos* or *hoplite* infantry had been replaced with the Deylamites from northern Iran. Possibly the most effective close-quarters combat Sasanian infantry force,²⁶⁸ Deylamite combat equipment included swords, shield, the *Tabarzin* (battle-axe),²⁶⁹ slings, daggers, pikes²⁷⁰, as well as two-pronged *Zhūpīn* javelins used for “thrusting and hurling”.²⁷¹ Overlaet’s comprehensive survey of archaeological excavations in northern Iran reveal Deylamites equipment as identical to prestige cavalry units with respect to *Spangenhelm* helmets, archer fingercaps and late-Sasanian swords²⁷² of the lappet-suspension type which in comparison to earlier (scabbard-slide) swords, would not drag on the ground during foot marches. Overlaet also reports of regalia such as gold ornaments, belt decorations, strap mountings etc. virtually identical to that of the *Aswārān* /cavalry corps and Sasanian nobility,²⁷³ perhaps indicative of the higher level of military prestige of the Deylamites in comparison to their earlier infantry predecessors. Xusrō II for example reportedly had a detachment of Deylamites serving as his personal bodyguard.²⁷⁴ Deylamite units militarily distinguished themselves against Romano-Byzantine forces in the Caucasus at Lazica (522 CE),²⁷⁵ the Yemen campaign of Wahriz (c.570s CE),²⁷⁶ and battles against the forces of Justin II (r. 565-578 CE)²⁷⁷ and against the Muslims at the Battle of Qadissiyah (637 CE) with

²⁶⁸ MOBBAYEN 1386/2007: 109-112, 115.

²⁶⁹ MATUFI 1378/1999: 439.

²⁷⁰ Agathias III 17.

²⁷¹ OVERLAET 1998: 268.

²⁷² OVERLAET 1998: 278-297.

²⁷³ OVERLAET 1998: 267-277.

²⁷⁴ Balādhurī 282.

²⁷⁵ Proc. Bell. VIII 14. 9-16.

²⁷⁶ Ṭabarī 958; NÖLDEKE, 1352/1973: 167; SKUPNIEWICZ 2016b.

²⁷⁷ Photius, *Bibliotheca* 64.

4000 of these then joining the Muslims following the Sasanian defeat.²⁷⁸
The Deylamites however resisted the invasions of the Caliphates into their territories in northern Iran, remaining unconquered until at least the 8th century CE.²⁷⁹

²⁷⁸ FARROKH 2007: 269.

²⁷⁹ Isfandiyār 99, 106-107, 132, 149, 164, 166-167, 169, 171-172, 177, 179, 181-185, 187-188, 190, 196, 205, 207, 213, 219, 223, 226, 229-230, 233, 238, 246, ; MATUFI 1378/1999: 303.

Archery

The skill of Parthian and Sasanian archery has been acknowledged by a number of Classical sources, such as Strabo,²⁸⁰ Herodian,²⁸¹ Ammianus Marcellinus,²⁸² Procopius²⁸³ and the *Strategicon*.²⁸⁴ Sasanian archery served four functions for the *Spāh*: (1) support of *Savārān* lance thrusts (2) repelling enemy infantry and/or cavalry assaults (3) support of siege operations against enemy fortresses and cities and (4) support of counter-siege operations against enemy besiegers attempting capture Sasanian (and/or Sasanian-held) cities and fortresses. Discussed in this section is the role of foot archers, horse archery as well as different missile (arrow and dart) and propulsion (bow, *Panjagān*, *nawak*) systems utilized by the Sasanians.

Foot archers

The *Tirbad* (arrow commander) was the leader of a contingent of archers, with the term also signifying a regional command term as *Tirbad* units often acted as government security forces in the empire's villages. Foot archer units were integral to Sasanian battle doctrine, often bombarding enemy formations from a static position²⁸⁵ with massive missile salvos in set-piece battles.²⁸⁶ Expert archers could form elite units and were evidently accorded a high status in the *Spāh*. In set-piece battles, foot archers would deliver missile barrages into the enemy ranks to weaken them prior to the attacks of armored cavalry lancers. Foot archers were also entrusted with the suppression of enemy archery as well as defending the main army against enemy cavalry and infantry attacks. Depending on the commander's tactical choices, foot archers could also advance forward to bombard the enemy with

²⁸⁰ Strabo XV 3. 18.

²⁸¹ Herodian VI 5. 1-6.

²⁸² Amm. Marc. XXV 1. 13.

²⁸³ Proc. *Bell.* I 18.

²⁸⁴ *Strategicon*, XI 1.

²⁸⁵ HEKMAT 1342/1964: 1088.

²⁸⁶ ZAKERI 1995: 51.

massive missile volleys.²⁸⁷ For shielding against enemy counter-archery, foot archers often placed large palisades to their front.²⁸⁸

Siege operations often relied heavily on foot archers with Ammianus noting of a “shower of missiles from the archers” during the siege of Amida (359 CE).²⁸⁹ Expert archers could also be used for the infiltration of besieged fortresses and cities. This occurred also at Amida when seventy royal archers infiltrated one of the city’s towers.²⁹⁰ The archers then directed their arrows into the city with accurate fire into the city’s interior in coordination with Šāpūr II’s general assaults outside of Amida. The besieged Roman forces however eliminated the small infiltration force once their arrow supplies were exhausted.

There were a number of different methods for shooting arrows²⁹¹ with the most common technique apparently having been the traditional Sasanian draw as seen with the metalwork plate at the Hermitage museum depicting Pērōz (r. 459-484 CE).²⁹² This entailed pointing the index finger in the forward position parallel to the arrow with the little finger parallel to the index finger (or pointing at an angle downwards). It is possible that the thumb was placed next to the index finger on the inside of the bow. By late Sasanian times there was the Mongolian draw having the thumb locked around the bowstring that is blocked by the index finger. This was most likely introduced to the Sasanians by their military encounters with the Hephthalites and Turkic peoples of Central Asia.

The foot archer suspended a buckler from his shoulder for the protection of his head and neck.²⁹³ Nevertheless foot archers were very vulnerable if caught at

²⁸⁷ ZAKERI 1995: 51.

²⁸⁸ JANDORA 2010: 107.

²⁸⁹ Amm. Marc. XIX 5. 1; XXIII 6. 83; XXIV 6. 18.

²⁹⁰ Amm. Marc. XIX 5. 5.

²⁹¹ MATUFI 1378/1999: 443.

²⁹² Hermitage Museum, St. Petersburg inv. no. S-216.

²⁹³ INOSTRANCEV 1926: 25, note 3.

close quarters after exhausting their supplies of arrows, as they lacked the countermeasures necessary to repel enemy infantry attacking their positions. For this reason, combat infantry would often be placed to the rear of the archers at the onset of the battle.²⁹⁴ The (arrow-less) archers would relocate to the rear of the combat infantry, who having moved to the front, would now be engaging the attacking enemy troops.²⁹⁵

Archery equipment

The (foot and horse) archer's equipment consisted of the bow and bowcase (Mid. Pers. *kamām*), a wide variety of arrows, quiver and finger guards (to reduce pressure on the fingers when drawing the heavy compound bow). The composite bow's ability to efficiently convert potential (stored) energy to kinetic (propulsion) energy facilitated the *Spāh*'s doctrine of firing missiles towards the enemy from a safe distance. The power of the compound bow was the result of its construction with different combinations of wood (i.e. cornus, mulberry, etc. at the bow's core), various types of horn, sinew and glue.²⁹⁶ Bows were conventionally held by the left hand with the right used to fire the arrows. Left-handed and ambidextrous archers were also highly valued for their efficacy in firing in both left (especially against flanking attacks) and right directions.²⁹⁷ Following the reforms of the 6th century CE, Sasanian bows acquired more Hun-Avar type features such as shorter ears, longer and (possibly) wider limbs.²⁹⁸ In practice the Sasanians appear to have built different bow types to meet different (battlefield) requirements.²⁹⁹ Bow construction also varied in accordance with raw materials available from different geographical regions.³⁰⁰

²⁹⁴ HEKMAT 1342/1964: 1088.

²⁹⁵ PENROSE 2008: 258.

²⁹⁶ PATERSON 1966: 70.

²⁹⁷ INOSTRANCEV 1926: 13, 25; INOSTRANCEV 1348/1969: 42-43.

²⁹⁸ KHORASANI 2006: 291.

²⁹⁹ MATUFI 1378/1999: 219, 443-447.

³⁰⁰ KHORASANI 2006: 293.

Sasanian arrows (approx. 80-85 cm) generally had tanged arrowheads (in reference to finds at Dura Europos) as well as socketed arrowheads. Various arrows/arrowheads were designed for different battlefield tasks,³⁰¹ with the *Mehr-Yašt* reporting on a variety of these (e.g. iron-bladed, lead-poisoned, etc.).³⁰² An example of these is seen in the 7th Century CE Sasanian metalwork plate at the Hermitage Museum ³⁰³ depicting a camel-mounted Bahrām Gōr firing an arrow with a U-shaped head for locking the limbs of his hunted prey. There were maybe also *naphtha*-tipped incendiary arrows for sieges.³⁰⁴ In general, heavier arrows for penetrating the armor of opponents were fired at shorter ranges with lighter arrows discharged over longer distances for harassment and disruptions of enemy formations, massive barrages, etc.³⁰⁵ The total number of arrows carried in the quiver (*Tirdan*) was thirty, a tradition also reported in the *Avesta* texts.³⁰⁶ Reforms implemented in the 6th century CE resulted in the adoption of the Central Asian lappet system discussed previously for sword suspension, for bows and quivers. The late Sasanian armored warrior at the *ayvān* at Tāq-e Bostān for example is depicted with his quiver suspended with lappets at his right side Bows could also be carried on the rider's shoulders as depicted at the stag hunt scene at Tāq-e Bostān (Fig. 49).

Other missile systems

In addition to the traditional (compound) bow and arrow, the *Spāh* also deployed a number of other missile systems such as Libanius' reference to dart-type weapons³⁰⁷ used by infantry. The *Savārān* cavalry used the *nawak* for launching darts (10-40 cm length), which as noted by Nicolle, was an "arrow-

³⁰¹ TAFAZZOLI 1993: 193.

³⁰² *Mehr-Yašt*, X 129.

³⁰³ Hermitage Museum, St. Petersburg inv. no. S-252.

³⁰⁴ The Iranian defenders of Petra used burning oil to destroy the battering-rams of the Roman besiegers. *Proc. Bell.* VIII 11.36.

³⁰⁵ MILLER, MCEWEN, BERGMAN 1986: 189.

³⁰⁶ *Vendīdād*, XIV 9.

³⁰⁷ Libanius LIX 69.

guide held against the bow to form a temporary crossbow".³⁰⁸ Advantages afforded by the nawak-dart were greater range than regular arrows, difficulty to detect by the enemy when nawak-propelled dart was in flight, more effective penetration and the enemy's inability to fire back the dart with regular archery. There was also a device described by the *Ā'in-nāmeḥ* as being capable of firing five arrows simultaneously,³⁰⁹ however its' exact characteristics are challenging to decipher. The term for this weapon in Arabo-Muslim sources such as Ṭabarī,³¹⁰ Jāḥiẓ,³¹¹ and Maqdisī³¹² is derived from the Persian word *panjagān*. Tafazzoli's analysis of Middle Persian military terminology leads him to conclude that the *Panjagān* was "a kind of arbalist"³¹³ for firing five arrows, raising the possibility that this may have been a cross-bow type weapon as opposed to Boss' suggestion that this was an archery technique for rapidly firing five arrows in succession.³¹⁴

Horse Archery

Professional Sasanian cavalry, notably of the late composite type, were adept at firing missiles at full gallop from either their left or right sides, enabling them to direct their arrows against enemies pursuing them and even when retreating (see Parthian Shot further below).³¹⁵ Archery was certainly critical to the *Savārān* who are reported by Ṭabarī as having had two spare bowstrings as part of their standard equipment.³¹⁶ Like the preceding Parthian dynasty, horse archery was one of the *Spāh*'s vital military assets from the outset of the Sasanian dynasty. Herodian for example attributes the destruction of Emperor Alexander Severus' invasion forces at the Battle of Ctesiphon (233 CE) to the effective horse

³⁰⁸ NICOLLE 1996: 24.

³⁰⁹ INOSTRANSEV 1926: 51.

³¹⁰ Ṭabarī 955.

³¹¹ Jāḥiẓ III 18.

³¹² Maqdisī III, 193.

³¹³ TAFAZZOLI 1993: 191.

³¹⁴ BOSS 1993: 56.

³¹⁵ MICHALAK 1987: 81.

³¹⁶ BIVAR 1972: 276.

archery forces of Ardašīr I.³¹⁷ The pivotal role of horse archery in the *Spāh* may partly explain why a large proportion of excavated Sasanian metalworks to date frequently exhibit this martial form. The classification of Sasanian horse archery falls into four broad categories: forward shot, Parthian shot, horse archery with stirrups, and shooting arrows while riding backwards.

The first category (horse archery shooting forward) is depicted by at least ten officially recognized Sasanian metalwork plates currently housed in the Freer and Sackler Galleries of the Smithsonian Institution, Washington, D.C., Hermitage Museum in St. Petersburg, Arthur M. Sackler Gallery Exhibit in Wahsington, D.C., the Metropolitan Museum of Art in New York, the Arthur M. Sackler Gallery Exhibit in Wahsington, D.C., Bibliotheque Nationale in Paris, with another recently exhibited in a Sotheby's Antiquities Auction and on the Sasanian relief at Ragi Bibi.³¹⁸ All of these pictures feature a royal figure drawing a bow against prey with his quiver suspended to his right side. As noted previously swords were suspended to the left side with (possibly) seven of these plates showing a partly visible sword (note that two out of the five plates, Arthur M. Sackler Gallery Exhibit and Sotheby's, may be depicting partly visible swords however the artistic depictions in the plates are indistinct).³¹⁹

The ability to deliver a large number of missiles within a short period of time from horseback was notable among the Sasanians.³²⁰ This martial skill was inherited from the Parthians with Heath's studies having calculated the 10,000 Parthian horse archers at the battle of Carrhae (53 BCE) having delivered 1.6-2,000,000 in 20 minutes based on each horse archer's ability to fire an average of 8-10 arrows per minute (approx. 160-200 in twenty minutes).³²¹ These rates of fire are not unlike that of foot archers in general; Miller, McEwan and Bergman have

³¹⁷ Herodian VI 5. 5-10.

³¹⁸ GRENET 2005.

³¹⁹ SKUPNIEWICZ 2015.

³²⁰ Amm. Marc. XXV 1. 13.

³²¹ HEATH 1980: 44.

calculated the pre-Islamic West Asian/Near Eastern foot archer's average rate of fire of thirty arrows within three minutes.³²² Basing his analysis on the post-Islamic Amaj unit (approximating one eighth of a mile, or 220 yards) Houtum-Schindler defines the distance of a Persian shot as having been 150 meters.³²³ Studies by the Royal Ordinance Small Arms Division in Enfield, United Kingdom calculate the average velocity of reed-shaft arrows fired from composite bows as ranging between 45-50 meters per second,³²⁴ resulting in the average arrow travelling 3-3.3 seconds along a distance of 150 meters. The battle of the battle of Angl in Armenia (542 CE) is perhaps is the best known case of a Sasanian victory attributed to archery in which a 4000 man Sasanian force destroyed 30,000 Romano-Byzantine troops.³²⁵ The Romano-Byzantine defeat in Angl is attributed to them having been caught a close quarters in an ambush by Sasanian archery.³²⁶ The Sasanians had drawn the Romano-Byzantines into Angl's narrow streets³²⁷ maximizing the speed and penetrating power of their archery at relatively close range.

The second category of horse archery is the Parthian shot in which the rider turns his torso backwards to shoot at opponents, as he rides away from them. The Parthian shot was often combined with the feigned retreat tactic from the Parthians. This tactic (Parthian-feigned retreat) was of utility in scenarios of impending defeat and the need to retreat. In this scenario the enemy could be lured into pursuit who would then be subjected to the Parthian shot. If this stratagem] succeeded in dislocating pursuing enemy troops, the *Savārān* would have the option of engaging in lance attacks or to close in with their close quarter combat weaponry (swords, axes, maces, etc.).³²⁸ Six known depictions of the Parthian shot are depicted in Sasanian metalwork plates at the Hermitage Museum in

³²² MILLER, MCEWAN, BERGMAN 1986: 188.

³²³ HOUTUM-SCHINDLER 1888: 587.

³²⁴ MILLER, MCEWAN, BERGMAN 1986: 179.

³²⁵ MAKSYMUK 2015a: 68-71.

³²⁶ STEIN 1949: 500.

³²⁷ Proc. *Bell.* I 25. 1-35.

³²⁸ MATUFI 1378/1999: 152.

St. Petersburg, the Cleveland Museum of Art, with displayed in a Sotheby's Antiquities Auction (another plate depicting the Parthian shot with stirrups is discussed further below). All six plates display a regal figure engaged in the Parthian shot on horseback. The scabbard slide sword (suspended on the rider's left side) is now fully visible (complete hilt and scabbard) as the rider is being displayed from his fully exposed left side as he pivots backwards to discharge his arrow (Parthian shot). This combat form was to endure for the entire tenure of the Sasanian dynasty.³²⁹

The contrast between the early Sasanian and the later Mongolian draw with respect to the Parthian draw is demonstrated in the aforementioned metalwork plates of Šāpūr II and Pur-i Vahman. At first glance the archery of Šāpūr II and Pur-i Vahman appear similar as both use their right hands to draw their bows and "point" with their index fingers towards the target. The two however diverge in how they draw their bows: Pur-i Vahman appears to use the Mongolian draw with Šāpūr II drawing his bow with the earlier Sasanian technique.

The third category of horse archery (and in this case cavalry in general) pertains to the question of stirrups. Stirrups significantly enhance rider stability, facilitating his delivery of more effective (horseback) arrow launches, lance charges and close-quarter combat (swords, maces, axes, etc.). Karantabias states that Sasanians cavalry did not employ stirrups based on his observation that the feet of rider (Xusrō II) inside the vault at Ṭāq-e Bostān do not rest on stirrups.³³⁰ This observation cannot be verified as the rider's feet have broken off over time. In contrast, Michalak avers that despite partial damage to the Ṭāq-e Bostān warrior's feet, his leg position and settling in the saddle would suggest the existence of stirrups.³³¹ Herrmann observes that (1) the rider's lack of back

³²⁹ ALOFS 2015.

³³⁰ KARANTABIAS 2005-2006: 30.

³³¹ MICHALAK 1987: 82.

support in his saddle support the possibility of stirrups and that (2) the hunting scene panels along the vault's ingress shows a cavalryman (Xusrō II?), whose riders' feet are positioned in a way that can only be consistent with the use of stirrups.³³² Non-stirrup riders seen in Sasanian rock reliefs such as Naqš-e Rostam and metalworks cited in this paper show riders with their feet pointed downwards (like a ballerina). There is also a Sunni Hadith citing the Prophet Muhammad's observations of the Persian usage of stirrups³³³ that is significant given its chronological context, roughly corresponding with the protracted Sasanian-Byzantine war (603-628 CE). Pertinently, the discovery of iron stirrups dated to the late 6th-early 7th centuries CE in Iran's Marlik region ³³⁴ would suggest that the Sasanians had adopted stirrups at the time of Xusrō II or possibly earlier. Also of relevance is the late 6th or early 7th century CE silver-gilt plate discovered in Russia's Perm region which has a section depicting a regal cavalryman engaged in the Parthian shot whose foot rests perpendicularly on a slight bar resembling a stirrup.³³⁵ The Pur-i Vahman metalwork plate provides a clear representation of stirrups much like a cavalryman displayed in a wall painting of a combat scene in a Sogdian palace (reception hall VI-41) at Panjikant (7th-8th centuries CE). Recall Šāpūr II's earlier plate whose horse lacks stirrups while has this technology, resulting in lesser equestrian stability than his later counterpart, Pur-i Vahman. Most recently an 8th century CE silver-gilt metalwork plate displayed at Sotheby's illustrates a nobleman with his feet positioned in a stirrup-like posture.

The fourth category of horse archery (firing arrows while riding backwards) is depicted in two Sasanian metalwork plates (dated c. 5th century CE) housed in the Iran Bastan Museum of Tehran³³⁶ and the Azerbaijan Museum of Tabriz respectively and are believed (Fig. 50). This would appear counterintuitive, as riding

³³² HERRMANN 1989: 771.

³³³ NICOLLE 2005: 21.

³³⁴ Romano-Germanic Central Museum, Mainz inv. no. 037985 and inv. no. 037986.

³³⁵ Hermitage Museum, St. Petersburg inv. no. S-13.

³³⁶ Iran Bastan Museum inv. no. 5108.

horses backwards is believed to have held a deleterious implication in Sasanian military culture. Procopius for example reports of General Pērōz Mehrān being forced to ride his horse backwards in front of Sasanian nobles and officers in a “humiliation” ceremony due to his poor military performance at the battle of Dārā (530 CE).³³⁷ If riding horses backwards was a punishment, then why would this be depicted in metalwork plates? One hypothesis requiring further research is that the riding backwards punishment ceremony may have evolved later in the history of the Sasanian military, perhaps from the 6th century CE as reported by Procopius.

³³⁷ WHITBY 1994: 241.

Elephant Corps

Battle elephants were utilized in set-piece battles, siege operations, and for logistic purposes (e.g. transport supplies).³³⁸ In battlefield arenas, elephants were generally placed to the rear of front line troops, although this was not always the case.³³⁹ In practice it would appear that a variety of tactical infantry-elephant formations did exist. Battle elephants' elevated platform allowed archers to more effectively fire arrows against enemy cavalry, infantry and troops in besieged fortresses.³⁴⁰ In the latter case, elephants could also be used as a form of "living mobile tower" for firing arrows in conjunction with siege engines. In addition, elephants provided psychological support for the infantry with these also used to psychologically intimidate enemy troops inexperienced in elephant warfare.³⁴¹ The battle elephant also had two major liabilities. First, the battle elephant could rampage within Sasanian lines if stricken with panic, which led to the howdah being equipped with a dagger to sever the vertebrae of the beast with a knife in case it went out of control. Second, the eyes of the elephant could be targeted by enemy spearmen.

Western historians such as Charles have questioned the use of elephants in the early Sasanian armies of Ardašīr I and Šāpūr I.³⁴² Post-Sasanian sources such as the *Šāhnāmeḥ* of Firdawsī however, describe the armies of Ardašīr I as having deployed battle elephants that were placed at the front lines.³⁴³ Battle elephants were certainly in operation in the armies of Šāpūr II (r.309-379 CE).³⁴⁴ Julian also describes *hoplites* being deployed in tandem with Sasanian battle elephants following the defeat of the *Savārān*'s attacks during during Šāpūr II's siege

³³⁸ NAFISI 1331/1952: 22; ZOKA 1350/1971: 144; JALALI 1382/2003: 17; DMITRIEV 2014a; DMITRIEV 2014b; DARYAEE 2016b.

³³⁹ *contra* RANCE 2003.

³⁴⁰ ZOKA 1350/1971: 144.

³⁴¹ NAFISI 1331/1952: 22; JALALI 1382/2003: 17, 39.

³⁴² CHARLES 2007: 305-306.

³⁴³ *Šāhnāmeḥ*, C. 1405.

³⁴⁴ Theodoret I 11.

of Nisibis in 350 CE.³⁴⁵ Sasanian infantry are reported as having been placed between the *Savārān* (at the front line) and the elephants (situated to the rear); this type of tactical formation failed to repel the advance of Julian during his initial stages of the (ultimately unsuccessful) invasion of the Sasanian empire.³⁴⁶ Šāpūr II's elephants are described as having had iron towers manned with archers.³⁴⁷ Possibly armored in reference to Ammianus' description of "gleaming elephants"³⁴⁸ during Julian's invasion of Persia, Sasanian elephants reportedly operated in concert with the *Savārān*'s cavalry raids against Roman forces.³⁴⁹ While battle depictions of Sasanian elephants are scant at this time, there is a metalwork plate housed at the Los Angeles County Museum of Art that displays Šāpūr II atop an elephant engaged in archery during the hunt (Fig. 51).³⁵⁰ According to Socrates Scholasticus "the king of the Persians was leading a multitude of elephants against them [the Romans]",³⁵¹ who besieged Nisibis during the war in 421-422. Another (combat) display of Sasanian elephants is provided by the medieval Armenian painting of the battle of Avarayr (451 CE)³⁵² that shows the pachyderms being ridden by archers and sword armed warriors. Sasanian battle elephants continued service to the late Sasanian era, notably at the successful battle of the Bridges (636 CE)³⁵³ and the comprehensive Sasanian defeat at Qaddisiyah (637 CE).³⁵⁴

³⁴⁵ Julian, *Orationes* III 11-13.

³⁴⁶ Amm. Marc. XXIV 6. 12.

³⁴⁷ Julian, *Orationes* III 12.

³⁴⁸ Amm. Marc. XXV 1. 14.

³⁴⁹ Amm. Marc. XXV 3. 2.

³⁵⁰ The authenticity of the plate is questionable SKUPNIEWICZ (private correspondence with Maksymiuk).

³⁵¹ Socrates Scholasticus VII 18.

³⁵² MS 1620, 295b-296a; HEWSEN 1987.

³⁵³ Mas'ūdī I: 665.

³⁵⁴ Ṭabari 2267.

Auxiliary Forces

Like the Roman and later Romano-Byzantines, the *Spāh* deployed various types of auxiliary and allied forces recruited from within the Sasanian provinces and outside the frontiers. Auxiliaries provided three benefits for the *Spāh*. The first was that these provided critical battlefield support in domains where the *Spāh* lacked sufficient personnel (light cavalry for skirmishing, slingers, etc.). Second, warriors who could otherwise join enemy armies (especially Romano-Byzantines) would instead be encouraged to enter Sasanian service.³⁵⁵ The strategy of channeling tribal warriors' marital ardor (within and outside of Iran) for the benefit of Iranian armies continues into the Islamic era as attested to in the *Siyāsat-nāmeḥ*.³⁵⁶ The third benefit of auxiliaries was in the arrival of new recruits, who by introducing new tactics and equipment could potentially enhance the *Spāh*'s overall military performance.

Central Asia

As a major crossroads between Persia, China, and India Central Asia was an important region with respect to developments in military technology (i.e. equestrian equipment, lappet suspension systems, etc.) and cavalry warfare (esp. horse archery) tactics.³⁵⁷ This made the region a valuable asset from early Sasanian times for the recruitment of high quality cavalry auxiliaries, especially light cavalry. The primary role of auxiliary light cavalry was to support the professional Sasanian armored lancers by attacking enemy lines at their flanks and exploitation, harassment and skirmishing raids behind enemy lines.³⁵⁸ These types of light auxiliary cavalry were somewhat alike the horse archers of the previous Parthian dynasty who were lightly armored and armed by highly proficient in horse archery.

³⁵⁵ JALALI 1383/2004: 58-59.

³⁵⁶ *Siyāsat-nāmeḥ*, 119.

³⁵⁷ ALOFS 2015.

³⁵⁸ JALALI 1383/2004: 36.

Auxiliary light cavalry could also utilize their horse archery to disrupt and scatter the enemy's light cavalry.³⁵⁹

Central Asian auxiliary recruits included the Iranic Kušans, and Hsiang-Nou, Turkic, Chionite, Hephthalite, etc., all of whom fielded high quality light cavalry.³⁶⁰ The armies of Ardašīr I had contingents of Kušans and even some Chionites³⁶¹ with the latter present during Šāpūr II's siege against the Romans at Amida in 359 CE and also in Yazdgerd II's campaigns during the early 440s CE.³⁶² Recruitment of Central Asian contingents however could also prove double-edged, as the same auxiliaries could turn against the Sasanians and invade their empire. Pērōz had secured the assistance of the Hephthalites to help him wrest the throne in 459 CE³⁶³ and then recruited them to help defeat the Central Asian Kidarites in 466 CE;³⁶⁴ Kurbanov proposing 468 CE.³⁶⁵ Soon after, Pērōz had to face the rising territorial ambitions of his erstwhile Hephthalite allies. The Hephthalites invaded the Sasanian Empire's northeast, defeating Pērōz in 474-475 CE and 476-477 CE,³⁶⁶ to finally slay him and destroy his army in 484 CE.³⁶⁷ Hephthalite power in Central Asia was finally broken after the implementation of a coordinated Sasanian-Turkish military campaign in 557-558 CE.³⁶⁸

The Caucasus

Armenian armored cavalry exhibited a significant Iranian influence with respect to equipment and fighting methods³⁶⁹ and like their Sasanian counterparts, Armenian *Sparapets* (Mid. Pers. *Spāhbed*) maintained a consistent martial tradition of

³⁵⁹ COULSTON 1986: 62.

³⁶⁰ JALALI 1383/2004: 36, 62.

³⁶¹ SAMI 1342/1964: 60.

³⁶² ZARRIN'KUB 1381/2002: 205.

³⁶³ SIMS-WILLIAMS 2008: 93. contra JACKSON BONNER 2015: 106.

³⁶⁴ GREATREX 1998: 46.

³⁶⁵ KURBANOV 2010: 164.

³⁶⁶ KURBANOV 2010: 104, 166.

³⁶⁷ Proc. Bell. I 4.

³⁶⁸ MAKSYMUK 2018a.

³⁶⁹ COSENTINO 2004: 253; MEKHAMADIEV 2014.

warfare.³⁷⁰ Elite Armenian cavalry from the *Naxarar* nobility³⁷¹ and their retinues that joined the *Spāh* were the most esteemed allied units of the *Spāh* and were often reviewed by the *Šāhānšāh* upon arrival to Ctesiphon.³⁷² The cavalry of the *Naxarars* were equally formidable as infantrymen or mountain warfare.³⁷³ Armenian cavalry for example were present during Kawād's campaign against the Romano-Byzantines in 502 CE³⁷⁴ and were instrumental in defeating a Turks force invading the northwest in 619 CE.³⁷⁵ The long casualty lists of Armenian armoured cavalry killed and wounded at the Battle of Qadissiya (636 CE)³⁷⁶ is indicative of the importance of these auxiliary forces to the last years of the Sasanian empire fatal battle.

In addition to Armenian *Naxarar* cavalry, other regions of the Caucasus, notably Albania provided high quality cavalry auxiliaries (armored cavalry and light cavalry) for the *Spāh*. Part of the recruitment was made possible by the presence of a number of local Caucasian princes loyal to the Sasanians.³⁷⁷ Albanian cavalry were present in the armies of Ardašīr I,³⁷⁸ fought under Šāpūr II at Amida in 359 CE³⁷⁹ with Albanian contingents offering stiff resistance Arabian invaders at the Battle of Qadissiya in 637 CE.³⁸⁰ The *Spāh* also recruited other warriors from the Caucasus further to the north such as the Alans recruited

³⁷⁰ AYVAZYAN 2012: 79-80.

³⁷¹ GARSOIAN 2005.

³⁷² CHRISTENSEN 1944: 210.

³⁷³ PASDERMAJIAN 1369/1990: 159.

³⁷⁴ PIGULEVSKAYA 1354/1975: 101.

³⁷⁵ Sebeos 28 (sic!) Hephthalite.

³⁷⁶ WHITTOW 1996: 204.

³⁷⁷ ADONTZ 1970: 8-24, 165-182.

³⁷⁸ SAMI 1342/1964: 60.

³⁷⁹ Amm. Marc. XVIII 6. 21.

³⁸⁰ Movsēs Dasxuranc'i 110-113.

for the armies of Šāpūr II,³⁸¹ the Suani and Sabirs (who fought in Kawād's armies),³⁸² the (previously cited) and the Sunitae.³⁸³

The Iranian realms

The *Spāh* often sought to recruit nomadic tribes and mountain warriors from Iran's north, west, interior and southeast into regular military service.³⁸⁴ With war imminent, leaders of tribal clans such as those of the Pārizi of modern-day Kermān province often arrived with their respective cavalry and infantry forces to join the banner of the *Spāh*.³⁸⁵ Another important region in the southeast was Sakastān. The Sakas of the region had seen military service in the armies of the Parthians, and were among the earliest contingents to join the campaigns of Ardašīr I.³⁸⁶ Especially esteemed by the *Spāh* for their martial prowess as cavalrymen, the Sakas of Sakastān are cited by Ammianus Marcellinus as having been "the fiercest warriors of all"³⁸⁷ during Šāpūr II's siege of Amida in 359 CE. Reza estimates up to twelve large contingents of these having been formed during the reign of Xusrō I.³⁸⁸

Northern Iran was an important source of warriors for the *Spāh*, as noted previously with respect to Deylamites infantry.³⁸⁹ Another important group were the Gīls of modern-day Gīlān who provided light cavalry auxiliaries for the *Spāh* from the 3rd century CE. A prominent nomadic group identified by the Middle Persian term "Kurd" resided in the west to northwest regions of the Sasanian Empire. Daryaei has noted of prominent group of nomads identified by the Middle Persian term "Kurd". The term is often correlated as an ethnonym for the broad category of modern-day Kurds in the Middle east who speak West Iranian

³⁸¹ ZARRIN'KUB 1381/2002: 196.

³⁸² PIGULEVSKAYA, 1372/1994: 203.

³⁸³ WHITBY 1994: 255.

³⁸⁴ JALALI 1383/2004: 67.

³⁸⁵ NAFISI 1331/1952: 2-3.

³⁸⁶ SAMI 1342/1964: 60.

³⁸⁷ Amm. Marc. XIX 2. 3.

³⁸⁸ REZA 1374/1995: 88.

³⁸⁹ Agathias III 17. 6-9.

languages with Daryaei noting that the term “Kurd” in Middle Persian designated nomads in a larger context.³⁹⁰ The Kurds were recruited into the *Spāh*, proving effective as slingers and javelin men (discussed below).³⁹¹

Slingers

The Parthians are believed to have recruited slingers³⁹² for propelling stones or pellets against enemy troops, with these types of auxiliaries having served in Iranian armies since Achaemenid times or possibly earlier.³⁹³ The Sasanians are believed to have recruited their slingers primarily from the Median highlands of western Iran.³⁹⁴ Sasanian slingers were utilized against Roman forces, notably at the battle of Singara (343 or 344 CE).³⁹⁵ Skilled slingers, especially with slingshots, were capable of inflicting fatal wounds with their high velocity pellets against enemy troops equipped with helmets and armor, and were also capable of disrupting cavalry attacks.³⁹⁶ In a sense, slingers could act as a “light artillery” arm and were useful in supporting the massed barrages of archers. The slinger-archer combination is reported at the siege of Amida for example whose combined barrages reportedly “never ceased for a moment”.³⁹⁷

The Middle Persian term for sling, *Pilakxān* has entered the Georgian and Armenian military lexicons but not specifically as “sling”. In Georgian *Pilagani* or *Pilak’vani* means “catapult”³⁹⁸ and in Armenian *P’ilikwan*, *P’iliwan*, *P’ilikon* signifies an arbalest or large crossbow. It is very unlikely that the sling may have acquired

³⁹⁰ DARYAEI 2009: 40.

³⁹¹ DARYAEI 2009: 41.

³⁹² MCDOWALL 1999: 9.

³⁹³ MATUFI 1378/1999: 221.

³⁹⁴ BAMBAN 1998: 117; PENROSE 2008: 258.

³⁹⁵ Libanius LIX 103.

³⁹⁶ WILCOX 1999: 46.

³⁹⁷ Amm. Marc. XIX 5. 1.

³⁹⁸ TAFAZZOLLI 1993: 191.

a high status among late Sasanian cavalry as the post-Sasanian *Ayyārān* considered this as one of their preferred weapons.³⁹⁹

Foot javeliners

In addition to the later Deylamites, the *Spāh* also recruited Kurdish mountaineers as foot javeliners.⁴⁰⁰ The Kurdish javeliners did not specifically hurl their javelins (like the Deylamites) but would use thongs to hurl and spin these in flight, resulting in increased accuracy and penetration against enemy troops.⁴⁰¹ These types of foot javeliners could prove effective in supporting professional infantry in blunting enemy cavalry or infantry assaults.

Arab auxiliaries and the Naṣrids

The importance of the Arabs to the Sasanians is perhaps indicated in their depiction in Relief IV at Bišāpūr. Arab auxiliary forces were strategically vital role for the *Spāh* in two ways.⁴⁰² First, they provided critical protection for the empire's vital trade routes and urban centers situated in the empire's southwest (roughly modern southern Iraq), notably those territories vulnerable to Arab raiders emanating from the Arabian Peninsula. The second role of Arab auxiliaries was to prevent fellow Arabs from the Arabian from invading southern Iran in order to raid the empire's Persian Gulf coastal trading ports.⁴⁰³ Arabs auxiliary forces also provided two critical assets of military importance.⁴⁰⁴ First, was their expert knowledge of the deserts. This made them valuable assets as guides and trackers for Sasanian armies during campaigns along or across the empire's southwestern regions. The second military asset of Arab auxiliaries was their proficiency as light cavalry, notably in launching rapid raids and pull back just as rapidly before

³⁹⁹ This is suggested by KHORASANI 2010: 158.

⁴⁰⁰ PENROSE 2008: 258.

⁴⁰¹ WILCOX 1999: 47.

⁴⁰² JALALI 1383/2004: 64.

⁴⁰³ PASDERMAJIAN 1369/1990: 64.

⁴⁰⁴ JALALI 1383/2004: 64-65.

the enemy was able to organize effective counterstrikes.⁴⁰⁵ The Arabs would often engage in securing plunder before making good their escape,⁴⁰⁶ an important asset when fighting on behalf of the Sasanians against Romano-Byzantine forces.

Naṣrid⁴⁰⁷ Arab cavalry based in Ḥīra (in modern Iraq) were considered as “the privileged ally of the Persians”.⁴⁰⁸ Like the Sasanians, the Naṣrids fielded a well-organized army and a mercenary elite guard based.⁴⁰⁹ Naṣrid cavalry are believed to have been equipped with armor, mail, long swords, narrow-blade spears, horse armor (*Bargostvān*) and helmets of riveted construction of the Sasanian type and trained much like the regular *Savārān*. There was also a unit known as the *Wada'i*, who were 1000 *Savārān* sent by the Sasanians on a rotational basis to support the Naṣrids at Ḥīra.⁴¹⁰ The Naṣrids proved instrumental in the ascension of Bahrām Gōr to the Sasanian throne⁴¹¹ and demonstrated their military efficacy, notably during raids against neighboring Roman territories in the 520s CE⁴¹² and were instrumental to the Sasanian victory at the battle of Callinicum (531 CE).

Perhaps one of the empire’s greatest blunders was Xusrō II’s deposing of Naṣrid king No‘mān III in 602 CE.⁴¹³ This led to a military vacuum in the empire’s critical southwest region facing potential attacks from Arabian raiders emerging from the Arabian Peninsula. Ironically, the Arab-Muslim invasion thrusting into the Sasanian Empire faced its first resistance from various Arab tribes, notably the Banū Ḥanīfa.⁴¹⁴ The empire would have greatly benefited from recruiting auxiliary light Arab cavalry whose mode of combat was more effective than the Sasanian

⁴⁰⁵ PIGULEVSKAYA 1372/1994: 253.

⁴⁰⁶ JALALI 1383/2004: 65.

⁴⁰⁷ FISHER 2011: 245-267; FISHER, WOOD 2016: 247-290; MAKSYMIUK 2017a: 91.

⁴⁰⁸ GREATREX 2005: 498.

⁴⁰⁹ NICOLLE 1996: 58.

⁴¹⁰ NICOLLE 1996: 58, 60.

⁴¹¹ MATUFI 1378/1999: 172; FRYE 1984: 319; SYVÄNNE 2015.

⁴¹² GREATREX 2005: 499.

⁴¹³ FRYE 1984: 337.

⁴¹⁴ NICOLLE 1996: 61.

cavalry's methodical armored lance warfare that proved less effective against the Arabo-Muslims' agile loose harassment and raid tactics.⁴¹⁵

Other Miscellaneous units

Chariots may have existed as a ceremonial vehicle,⁴¹⁶ but it is highly unlikely that this would have served an adaptable military function for the Sasanians on contemporary battlefields, irrespective of Alexander Severus' "victory" speech to the Roman senate, claiming the alleged destruction of "1800 scythed chariots" of the *Spāh*.⁴¹⁷ Information on Sasanian camel corps are also relatively scant, with some units of these possibly having existed, at least in the mid-6th century CE in reference to a rebel named Anōšazād supported by the "Imperial Camel Corps"⁴¹⁸ against Xusrō I. Camels afforded their riders an elevated archery platform, as seen on Sasanian metalwork plates showing Bahrām V Gōr firing arrows as he rides atop a Camel (Fig. 52).⁴¹⁹ In practice the camel corps do not appear to have been a primary combat unit in the *Spāh* as they are not described by Classical or Arabo-Islamic sources as having fought alongside the *Savārān*, battle elephants, infantry, etc. The Parthian experience with camel cataphracts against Roman forces at the 3-day battle of Nisibis in 217 CE had demonstrated the vulnerability of the camel's soft and spongy feet to injury by caltrops.⁴²⁰

⁴¹⁵ SHAHBAZI 1986: 499.

⁴¹⁶ MASHKOOR 1366/1987: Vol. II 1140.

⁴¹⁷ HA *Sev. Alex.* 55. 2.

⁴¹⁸ PIGULEVSKAYA 1377/1998: 447.

⁴¹⁹ Metropolitan Museum of Art of New York inv. no. 1994.402; Hermitage Museum, St. Petersburg inv. no. S-252.

⁴²⁰ Dio Cassius LXXIX 26; Herodian IV 14; SYVÄNNE 2017: 52.

Overview of Siege Warfare

The Sasanians were highly proficient in sieges. Maurice's *Strategicon* of the later 6th century CE reports that the Sasanians "are awesome when they lay siege, and even more awesome when they are besieged".⁴²¹ The *Ā'in-nāmeḥ* provides some interesting details of Sasanian siege warfare,⁴²² such as the importance of detailed reconnaissance to identify a targeted fortress's strong and weak points before placing it under siege. Pazoki summarizes Sasanian siege warfare for capturing cities into four distinct combative methods.⁴²³ The first was attempting to lure the enemy forces in a set-piece battle outside of the fortified city, defeating it to then capture the city. The second and often most frequent scenario (especially against the Romans) was the use of siege engines and tactics to force the submission of an enemy fortified city. Lukonin summarizes Sasanian siege tactics of this second scenario as (a) Encirclement of the enemy installation or city (b) deployment of siege equipment and (c) infantry, archery and *Savārān* assaults.⁴²⁴ The Sasanians had a very large variety of siege equipment at their disposal such as a variety (of varying sizes and power) of ballistic weapons, large bows constructed with metallic materials, a variety of engines (of varying sizes and power) for launching "stone bullets" (presumably shaped like cannon-balls).⁴²⁵ The third method for capturing the city or fortress was by mining operations and digging of tunnels underneath the enemy's fortified foundations to then create an opening into the interior of the fortifications. The fourth method was the use of pyro-techniques and setting of fires to the enemy's walls to weaken and then collapse these, leading to structural gaps allowing the *Spāh's* warriors to break into the interior of the enemy fortress. Pazoki also cites of "non-combative" methods for capture of a city or fortress such as intrigue and subterfuge as well

⁴²¹ *Strategicon*, XI 1.

⁴²² INOSTRANCEV 1926: 16.

⁴²³ PAZOKI 1374/1995: 42-55.

⁴²⁴ LUKONIN 1372/1993: 94.

⁴²⁵ MATUFI 1378/1999: 221, 444; KHORASANI 2010: 137, 225.

as negotiation, compromise and offers of friendship to the party about to be besieged.⁴²⁶ The Sasanians were equally proficient in defending their fortifications against besiegers by utilizing methods such as the pouring of hot liquids upon attackers, stone hurling catapults and pyro devices.⁴²⁷

⁴²⁶ PAZOKI 1374/1995: 43.

⁴²⁷ Amm. Marc. XX 6-7. 11.

Conclusion

Modern scholarship in the domain of classical military studies increasingly acknowledges the efficacy and professional nature of the Sasanian military machine, or *Spāh* in antiquity. More specifically, scholars now acknowledge that the Sasanians matched the Romans (later Romano-Byzantines) in military sophistication. Howard-Johnston for example states that “the Sassanian Empire was, from the first, the military equal of the Roman Empire, and second that, after a delay for mental adjustment, its parity was recognized and accepted by the Romans.”⁴²⁸ As expostulated in this book and in a 2017 text,⁴²⁹ the Sasanian army was (like its Roman counterpart) a professional organization composed primarily of armored cavalry, infantry, foot and horse archers as well as elephant corps. The *Spāh* was often supported by auxiliary troops (esp. slingers and javeliners) as well as highly effective allied forces notably Albanian, Armenian and Naşrids cavalry.

Western scholarship and Iranian military historians have significantly enhanced the breadth of research and academic maturity of the field of Sasanian military studies. This has resulted in a paradigm shift with respect to a previous generation of Western academics who have tended to minimize, downplay or even ignore the Sasanian military machine (especially the *Savārān*) with respect to influence on the Roman and Western military traditions. An example of this type of bias can be seen with Keegan, who in reference to the possibility of Iranian influence on western European cavalry asserted “True, the Persians ... had fielded squadrons of armored horsemen and even armored horses at an earlier date [than the western Europeans]...to ascribe the origin of heavy cavalry warfare to them is risky.”⁴³⁰ The notion that the Sasanian military machine, especially its *Savārān* cavalry corps, had no influence upon the military traditions of the Romans and Europe in general is now questioned by a new generation of Western scholars.

⁴²⁸ HOWARD-JOHNSTON 1995: 165.

⁴²⁹ FARROKH 2017.

⁴³⁰ KEEGAN 1993: 286.

As noted by Mitterauer and Chapple “clibanarii under the late Roman emperors were all mercenaries, which cannot be said of...the Sasanid armored cavalry”.⁴³¹

More specifically, the Roman army did recruit non-Roman cavalry, notably Sasanians, into their professional ranks. The *Notitia Dignitatum* in particular cites a certain *Equites Persae Clibanarii* which was a *Vexillatio Palatina* commanded by the *Magister Equitum Praesentalis* of Constantinople.⁴³² Macdowall cites the *Scola Scutariorum Clibanariorum* in the 350s CE, during the reign of Constantius II (r. 324-361 CE) as having been composed of armored cavalymen of Iranian origins whose equipment were also of Iranian [or Sasanian] origin.⁴³³ Julian’s description of the armor of the “Roman” cavalry of Constantius II⁴³⁴ is virtually identical to that of Ammianus Marcellinus’s description of the armored *Savārān* elites of Šāpūr II.⁴³⁵ Cedrenus reports that after the defeat and capture of Emperor Valerian (r. 253–260 CE) by the Sasanians, the Romans under his son Gallienus “established the first cavalry cohorts for the majority of the Roman soldiers till then were infantry”.⁴³⁶ Cedrenus makes clear that Sasanian military performance, notably by the *Savārān*, made a profound impression on the Roman military. The Romans appear to have also adopted aspects of Sasanian-type military equipment, especially by the late 200s and/or early 300s CE. Another Roman military unit of Iranian origins was the *Numerus Persoiustiniani* of the 6th century CE. A number of these may have been *Savārān* units who had capitulated to the Romans after the capture of Sisauranon fortress in 541 CE.⁴³⁷ Procopius describes these troops as “Persians” who were sent to Italy to assist the Roman war effort in against the invading Goths.⁴³⁸ Boss notes that these troops would have equipment standard to *Savārān*

⁴³¹ MITTERAUER 2010: 108.

⁴³² Polemios Silvius, *Notitia Dignitatum, Partibus Orientis*, VI 32.

⁴³³ MACDOWALL 1995: 19.

⁴³⁴ Julian, *Orationes* I 37C-38A.

⁴³⁵ Amm. Marc. XXV 1. 12.

⁴³⁶ Cedrenus, I: 454.

⁴³⁷ COSENTINO 2004: 252.

⁴³⁸ Proc. *Bell.* II 19.

warriors at the time, such as a 3.5 meter lance, small shield, two-piece helmets with mail protecting the face, mail shirt with lamellar possibly worn underneath, and a Sasanian-type *Kamandan* (bowcase).⁴³⁹

The Sasanians also matched the Romans in another domain of militaria: intelligence warfare. More specifically, as noted by Lee, the Sasanians, like their Roman counterparts, had a highly developed system of intelligence gathering by way of dedicated spies, diplomatic envoys, fifth column personnel and subterfuge.⁴⁴⁰ A high level of regard was accorded into attempting to recruit important and influential enemy officials as pro-Sasanian spies.⁴⁴¹ Spies were of critical importance for intelligence gathering before and during sieges of enemy towns, cities and fortresses.⁴⁴²

Sasanian military influences are of course seen in Central Asia and in the later Arabo-Islamic military tradition. The Sasanian military legacy reverberated significantly in the succeeding Islamic Caliphates,⁴⁴³ notably with respect to Sasanian military theory and terminology, tactics, logistics and (military) organization.⁴⁴⁴ As noted by Newark “Sasanid Persian weaponry and armour influenced steppe warriors such as the Huns and Turks, and later influenced the Arabs”.⁴⁴⁵ One example of Sasanian martial influence in Central Asia can be seen with the Hephthalite bowl in the British Museum of a Hephthalite rider engaged in the Parthian shot (d. 460-479 CE).⁴⁴⁶ The posture of the rider’s feet pointing downwards, the Sasanian-like “regal-ribbons” tied to the feet, manner of Parthian shot and even the coiffure of the horse’s mane is strikingly parallel to Parthian shot depictions on Sasanian metalworks. Central Asian and Steppe traditions strongly

⁴³⁹ FARROKH 2017: 344-350.

⁴⁴⁰ LEE 1986: 455-461.

⁴⁴¹ PAZOKI (1374/1995) 48.

⁴⁴² SYVÄNNE 2016; DMITRIEV 2017a; FARROKH, GRACIA-SANCHEZ 2018.

⁴⁴³ INOSTRANSEV 1926: 11.

⁴⁴⁴ HAMBLIN 1986: 99-106; ZAKERI 1995.

⁴⁴⁵ NEWARK 1985: 87.

⁴⁴⁶ British Museum inv. no. 1963,1210.1.

influenced the Sasanians in turn notably with respect to lappet-suspension systems for swords and archery gear and possibly stirrups.⁴⁴⁷ By the post-Sasanian era, a combined Turco-Iranian type of military had emerged with one prominent being in horse archery.⁴⁴⁸

Finally it is noted that the naval arm is a key aspect that is has been rarely addressed in the academic sense with respect to the Sasanian military. During the Sasanian period the Persians controlled the shores and strands of the Persian Gulf.⁴⁴⁹ Primary sources allow for the confirmation of the existence of a significant Iranian navy during the Sasanian era, a force that provided combat support for the *Spāh*'s land forces.⁴⁵⁰ The most dynamic phase of the Persian navy's activities occurred during the reign of Xusrō I Anōšīrvān.⁴⁵¹ The necessity for further studies on the case of the Sasanian naval arm highlights a greater requirement of research into the history, equipment, tactics, military culture and legacy of the Sasanian military.

⁴⁴⁷ FARROKH 2005: 12, 18; FARROKH 2007: 218; FARROKH 2017: 100-103, 107-109, 209-211.

⁴⁴⁸ LATHAM, PATTERSON 1970: xxiii.

⁴⁴⁹ DARYAEE 2016c: 42.

⁴⁵⁰ DMITRIEV 2017b:38-39.

⁴⁵¹ Proc. *Bell.* II 15. 27.

Appendix Select passages from sources

The Parallel Lives by Plutarch, Vol. III with an English translation by B. PERRIN, Cambridge, MA, 1916, *The Life of Crassus* 23-25:

It is said that on that day Crassus did not make his appearance in a purple robe, as is the custom with Roman generals, but in a black one, and that he changed it as soon as he noticed his mistake; also that some of the standard-bearers had great difficulty in raising their standards, which seemed to be imbedded, as it were, in the earth. Crassus made light of these things and hurried on the march, compelling the men-at-arms to keep up with the cavalry, until a few of those who had been sent out as scouts came riding up and announced that the rest of their number had been slain by the enemy, that they themselves had with difficulty escaped, and that their foes were coming up to fight with a large force and great confidence. All were greatly disturbed, of course, but Crassus was altogether frightened out of his senses, and began to draw up his forces in haste and with no great consistency. At first, as Cassius recommended, he extended the line of his men-at-arms as far as possible along the plain, with little depth, to prevent the enemy from surrounding them, and divided all his cavalry between the two wings. Then he changed his mind and concentrated his men, forming them in a hollow square of four fronts, with twelve cohorts on each side. With each cohort he placed a squadron of horse, that no part of the line might lack cavalry support, but that the whole body might advance to the attack with equal protection everywhere. He gave one of the wings to Cassius, and one to the young Crassus, and took his own position in the centre.

Advancing in this formation, they came to a stream called Balissus, which was not large, to be sure, nor plentiful, but by this time the soldiers were delighted to see it in the midst of the drought and heat and after their previous toilsome march without water. Most of the officers, accordingly, thought they

ought to bivouac and spend the night there, and after learning as much as they could of the number and disposition of the enemy, to advance against them at day-break. But Crassus was carried away by the eagerness of his son and the cavalry with him, who urged him to advance and give battle, and he therefore ordered that the men who needed it should eat and drink as they stood in the ranks. And before they were all well done with this, he led them on, not slowly, nor halting from time to time, as is usual on the way to battle, but with a quick and sustained pace until the enemy came in sight, who, to the surprise of the Romans, appeared to be neither numerous nor formidable. For Surena had veiled his main force behind his advance guard, and concealed the gleam of their armour by ordering them to cover themselves with robes and skins. But when they were near the Romans and the signal was raised by their commander, first of all they filled the plain with the sound of a deep and terrifying roar. For the Parthians do not incite themselves to battle with horns or trumpets, but they have hollow drums of distended hide, covered with bronze bells, and on these they beat all at once in many quarters, and the instruments give forth a low and dismal tone, a blend of wild beast's roar and harsh thunder peal. They had rightly judged that, of all the senses, hearing is the one most apt to confound the soul, soonest rouses its emotions, and most effectively unseats the judgment.

While the Romans were in consternation at this din, suddenly their enemies dropped the coverings of their armour, and were seen to be themselves blazing in helmets and breastplates, their Margianian steel glittering keen and bright, and their horses clad in plates of bronze and steel. Surena himself, however, was the tallest and fairest of them all, although his effeminate beauty did not well correspond to his reputation for valour, but he was dressed more in the Median fashion, with painted face and parted hair, while the rest of the Parthians still wore their hair long and bunched over their foreheads, in Scythian fashion, to make themselves look formidable. And at first they

purposed to charge upon the Romans with their long spears, and throw their front ranks into confusion; but when they saw the depth of their formation, where shield was locked with shield, and the firmness and composure of the men, they drew back, and while seeming to break their ranks and disperse, they surrounded the hollow square in which their enemy stood before he was aware of the manoeuvre. And when Crassus ordered his light-armed troops to make a charge, they did not advance far, but encountering a multitude of arrows, abandoned their undertaking and ran back for shelter among the men-at-arms, among whom they caused the beginning of disorder and fear, for these now saw the velocity and force of the arrows, which fractured armour, and tore their way through every covering alike, whether hard or soft.

But the Parthians now stood at long intervals from one another and began to shoot their arrows from all sides at once, not with any accurate aim (for the dense formation of the Romans would not suffer an archer to miss even if he wished it), but making vigorous and powerful shots from bows which were large and mighty and curved so as to discharge their missiles with great force. At once, then, the plight of the Romans was a grievous one; for if they kept their ranks, they were wounded in great numbers, and if they tried to come to close quarters with the enemy, they were just as far from effecting anything and suffered just as much. For the Parthians shot as they fled, and next to the Scythians, they do this most effectively; and it is a very clever thing to seek safety while still fighting, and to take away the shame of flight.

Now as long as they had hopes that the enemy would exhaust their missiles and desist from battle or fight at close quarters, the Romans held out; but when they perceived that many camels laden with arrows were at hand, from which the Parthians who first encircled them took a fresh supply, then Crassus, seeing no end to this, began to lose heart, and sent messengers to his son with orders to force an engagement with the enemy before he was

surrounded; for it was his wing especially which the enemy were attacking and surrounding with their cavalry, in the hope of getting in his rear. Accordingly, the young man took thirteen hundred horsemen, of whom a thousand had come from Caesar, five hundred archers, and eight cohorts of the men-at-arms who were nearest him, and led them all to the charge. But the Parthians who were trying to envelop him, either because, as some say, they encountered marshes, or because they were manoeuvring to attack Publius as far as possible from his father, wheeled about and made off. Then Publius, shouting that the men did not stand their ground, rode after them, and with him Censorinus and Megabacchus, the latter distinguished for his courage and strength, Censorinus a man of senatorial dignity and a powerful speaker, and both of them comrades of Publius and nearly of the same age. The cavalry followed after Publius, and even the infantry kept pace with them in the zeal and joy which their hopes inspired; for they thought they were victorious and in pursuit of the enemy, until, after they had gone forward a long distance, they perceived the ruse. For the seeming fugitives wheeled about and were joined at the same time by others more numerous still. Then the Romans halted, supposing that the enemy would come to close quarters with them, since they were so few in number. But the Parthians stationed their mail-clad horsemen in front of the Romans, and then with the rest of their cavalry in loose array rode round them, tearing up the surface of the ground, and raising from the depths great heaps of sand which fell in limitless showers of dust, so that the Romans could neither see clearly nor speak plainly, but, being crowded into a narrow compass and falling upon one another, were shot, and died no easy nor even speedy death. For, in the agonies of convulsive pain, and writhing about the arrows, they would break them off in their wounds, and then in trying to pull out by force the barbed heads which had pierced their veins and sinews, they tore and disfigured themselves the more.

Thus many died, and the survivors also were incapacitated for fighting. And when Publius urged them to charge the enemy's mail-clad horsemen, they showed him that their hands were riveted to their shields and their feet nailed through and through to the ground, so that they were helpless either for flight or for self-defence. Publius himself, accordingly, cheered on his cavalry, made a vigorous charge with them, and closed with the enemy. But his struggle was an unequal one both offensively and defensively, for his thrusting was done with small and feeble spears against breastplates of raw hide and steel, whereas the thrusts of the enemy were made with pikes against the lightly equipped and unprotected bodies of the Gauls, since it was upon these that Publius chiefly relied, and with these he did indeed work wonders. For they laid hold of the long spears of the Parthians, and grappling with the men, pushed them from their horses, hard as it was to move them owing to the weight of their armour; and many of the Gauls forsook their own horses, and crawling under those of the enemy, stabbed them in the belly. These would rear up in their anguish, and die trampling on riders and foemen indiscriminately mingled. But the Gauls were distressed above all things by the heat and their thirst, to both of which they were unused; and most of their horses had perished by being driven against the long spears. They were therefore compelled to retire upon the men-at-arms, taking with them Publius, who was severely wounded. And seeing a sandy hillock near by, they all retired to it, and fastened their horses in the centre; then locking their shields together on the outside, they thought they could more easily defend themselves against the Barbarians. But it turned out just the other way. For on level ground, the front ranks do, to some extent, afford relief to those who are behind them. But here, where the inequality of the ground raised one man above another, and lifted every man who was behind another into greater prominence, there was no such thing as escape, but they were all alike hit with arrows, bewailing their inglorious and ineffectual death.

Now there were with Publius two Greeks, of those who dwelt near by in Carrhae, Hieronymus and Nicomachus. These joined in trying to persuade him to slip away with them and make their escape to Ichnae, a city which had espoused the Roman cause and was not far off. But Publius, declaring that no death could have such terrors for him as to make him desert those who were perishing on his account, ordered them to save their own lives, bade them farewell, and dismissed them. Then he himself, being unable to use his hand, which had been pierced through with an arrow, presented his side to his shield-bearer and ordered him to strike home with his sword. In like manner also Censorinus is said to have died; but Megabacchus took his own life, and so did the other most notable men. The survivors fought on until the Parthians mounted the hill and transfixed them with their long spears, and they say that not more than five hundred were taken alive. Then the Parthians cut off the head of Publius, and rode off at once to attack Crassus.

Ammianus Marcellinus, with an English translation by John C. ROLFE, Cambridge, MA 1935: XXV 12-18:

Moreover, all the companies were clad in iron, and all parts of their bodies were covered with thick plates, so fitted that the stiff joints conformed with those of their limbs; and the forms of human faces were so skilfully fitted to their heads, that, since their entire bodies were plated with metal, arrows that fell upon them could lodge only where they could see a little through tiny openings fitted to the circle of the eye, or where through the tips of their noses they were able to get a little breath. Of these some, who were armed with pikes, stood so motionless that you would think them held fast by clamps of bronze. Hard by, the archers (for that nation has especially trusted in this art from the very cradle) were bending their flexible bows with such wide-stretched arms that the strings touched their right breasts, while the arrow-points were close to their left hands;

and by a highly skilful stroke of the fingers the arrows flew hissing forth and brought with them deadly wounds. Behind them the gleaming elephants, with their awful figures and savage, gaping mouths could scarcely be endured by the faint-hearted; and their trumpeting, their odour, and their strange aspect alarmed the horses still more. Seated upon these, their drivers carried knives with handles bound to their right hands, remembering the disaster suffered at Nisibis; and if the strength of the driver proved no match for the excited brute, that he might not turn upon his own people (as happened then) and crush masses of them to the ground, he would with a mighty stroke cut through the vertebra which separates the head from the neck. For long ago Hasdrubal, brother of Hannibal, discovered that in that way brutes of this kind could quickly be killed. Although these sights caused no little fear, the emperor, guarded by troops of armed men and with his trustworthy generals, full of confidence, as the great and dangerous power of the enemy demanded, drew up his soldiers in the form of a crescent with curving wings to meet the enemy. And in order that the onset of the bowmen might not throw our ranks into confusion, he advanced at a swift pace, and so ruined the effectiveness of the arrows. Then the usual signal for battle was given, and the Roman infantry in close order with mighty effort drove the serried ranks of the enemy before them. And in the heat of the combat that followed, the clash of shields, the shouts of the men, and the doleful sound of the whirring arrows continued without intermission. The plains were covered with blood and dead bodies, but the Persian losses were greater; for they often lacked endurance in battle and could with difficulty maintain a close contest man to man, since they were accustomed to fight bravely at long range, but if they perceived that their forces were giving way, as they retreated they would shoot their arrows back like a shower of rain and keep the enemy from a bold pursuit. So by the weight of great strength the Parthians were driven back, and when the signal for retreat was given in the usual manner, our soldiers, long wearied

by the fiery course of the sun, returned to their tents, encouraged to dare greater deeds of valour in the future.

Heliodorus, *An Aethiopian Romance*, translated by T. UNDERDOWNE (Anno 1587), revised and partly rewritten by F. A. WRIGHT, London-New York, pp. 272-273:

By this time his army could be seen drawn up for battle, taking the eye with its Persian bravery and glistening in silver and gilt armour, as if all the place had been on fire. For the sun just rising shone upon the Persians and gave such a wonderful brightness to their panoplies that it rebounded upon those who were a great way off. On the right wing stood the native Persians and Medes, the men-at-arms in front and the archers who were lightly harnessed behind, that they might shoot the better being defended by them. On the left the Egyptians and Libyans were placed, and slingers and archers with them, and he bade them break out often and assail the side of their enemies' battle. He himself took the centre, sitting in a brave scythed chariot and for safety surrounded by troops of spearmen on either hand, while in front of him were posted the mailed horsemen, upon trust of whom he ventured to join issue with his enemies. For these men are the most valiant of all the Persian fighters and are set before the others as it were an invincible wall.

The manner of their armament is thus. A picked fellow of great strength putteth upon him a close helmet made in one piece fitting as tightly as a mask. This covereth his head down to his shoulders, saving that there be holes left for him to look out of. In his right hand is a great staff, bigger than a spear; with his left hand he holds the horse's reins; by his side hangeth a sword; and all his body is covered with a coat of mail. The mail is made thus. With pieces of brass and iron, as big as the palm of a man's hand, they make a coat, as it were, of scales, laying the end and sides of each piece upon another — so that the nether

part of one goeth over the top of the other — and then they sew them together, and this coat lieth upon every part of the body without any ado. It covers every limb, and gives this way and that easily at each movement; for it hath sleeves and reacheth from the neck down to the knees, saving that necessity compels it to be cut between the thighs, that the man may sit upon his horse. Such is their coat of mail, which beateth off all darts and keepeth off all manner of blows. Over their legs to their knees they pull on a boot which is tied to their jacket. They arm their horses also in the same fashion. About his legs they tie greaves and cover his head with a frontal of iron, while from his back down beneath his belly there hangeth a cloth with metal rings which doth both [p. 273] protect him and by reason of its looseness hindereth not his course at all. Being thus appointed and in a manner forced into his armour the man sitteth upon his horse: marry he leapeth not up himself, but others help him, so encumbered is he with the weight of his arms. When the time of battle comes, he gives his horse the reins and spurs him with his heels and rides upon his enemies at full speed like a man made of iron or a statue fashioned with hammers. His great staff at its pointed end is tied with a cord to the horse's neck and the hinder end is made fast to its buttocks, so that in the conflict it does not yield but helps the horseman's hand, who does but guide the same aright. Thus it gives the greater blow and runs through every man it hits, and often carries away two men together pierced by one stroke.

History of the Wars. Procopius, with an English translation
by H.B. DEWING, London-New York 1914, I XVIII:

This man's suggestion at that time therefore pleased Cabades, and he chose out fifteen thousand men, putting in command of them Azarethes, a Persian, who was an exceptionally able warrior, and he bade Alamoundaras lead the expedition. So they crossed the River Euphrates in Assyria, and, after

passing over some uninhabited country, they suddenly and unexpectedly threw their forces into the land of the so-called Commagenae. [...] Now the Roman army amounted to about twenty thousand foot and horse, and among them not less than two thousand were Isaurians. The commanders of cavalry were all the same ones who had previously fought the battle at Daras with Mirranes and the Persians, while the infantry were commanded by one of the body-guards of the Emperor Justinian, Peter by name. The Isaurians, however, were under the command of Longinus and Stephanacius. Arethas also came there to join them with the Saracen army. [...] Finally the Persians made their bivouac on the bank of the Euphrates just opposite the city of Callinicus. [...] He [Belisarius] then formed the phalanx with a single front, disposing his men as follows: on the left wing by the river he stationed all the infantry, while on the right where the ground rose sharply he placed Arethas and all his Saracens; he himself with the cavalry took his position in the centre. After Azarethes also had uttered these words of exhortation, he stationed the phalanx opposite his opponents, assigning the Persians the right wing and the Saracens the left. Straightway both sides began the fight, and the battle was exceedingly fierce. For the arrows, shot from either side in very great numbers, caused great loss of life in both armies, while some placed themselves in the interval between the armies and made a display of valorous deeds against each other, and especially among the Persians they were falling by the arrows in great numbers. For while their missiles were incomparably more frequent, since the Persians are almost all bowmen and they learn to make their shots much more rapidly than any other men, still the bows which sent the arrows were weak and not very tightly strung, so that their missiles, hitting a corselet, perhaps, or helmet or shield of a Roman warrior, were broken off and had no power to hurt the man who was hit. The Roman bowmen are always slower indeed, but inasmuch as their bows are extremely stiff and very tightly strung, and one might add that they are handled by stronger men, they easily slay much greater numbers of those they hit than

do the Persians, for no armour proves an obstacle to the force of their arrows. Now already two-thirds of the day had passed, and the battle was still even. Then by mutual agreement all the best of the Persian army advanced to attack the Roman right wing, where Arethas and the Saracens had been stationed. But they broke their formation and moved apart, so that they got the reputation of having betrayed the Romans to the Persians. For without awaiting the oncoming enemy they all straightway beat a hasty retreat. So the Persians in this way broke through the enemy's line and immediately got in the rear of the Roman cavalry. Thus the Romans, who were already exhausted both by the march and the labour of the battle,--and besides this they were all fasting so far on in the day,--now that they were assailed by the enemy on both sides, held out no longer, but the most of them in full flight made their way to the islands in the river which were close by, while some also remained there and performed deeds both amazing and remarkable against the enemy

Among these was Ascan who, after killing many of the notables among the Persians, was gradually hacked to pieces and finally fell, leaving to the enemy abundant reason to remember him. And with him eight hundred others perished after shewing themselves brave men in this struggle, and almost all the Isaurians fell with their leaders, without even daring to lift their weapons against the enemy. For they were thoroughly inexperienced in this business, since they had recently left off farming and entered into the perils of warfare, which before that time were unknown to them. And yet just before these very men had been most furious of all for battle because of their ignorance of warfare, and were then reproaching Belisarius with cowardice. They were not in fact all Isaurians but the majority of them were Lycaones.

Belisarius with some few men remained there, and as long as he saw Ascan and his men holding out, he also in company with those who were with him held back the enemy; but when some of Ascan's troops had fallen, and

the others had turned to flee wherever they could, then at length he too fled with his men and came to the phalanx of infantry, who with Peter were still fighting, although not many in number now, since the most of them too had fled. There he himself gave up his horse and commanded all his men to do the same thing and on foot with the others to fight off the oncoming enemy. And those of the Persians who were following the fugitives, after pursuing for only a short distance, straightway returned and rushed upon the infantry and Belisarius with all the others. Then the Romans turned their backs to the river so that no movement to surround them might be executed by the enemy, and as best they could under the circumstances were defending themselves against their assailants. And again the battle became fierce, although the two sides were not evenly matched in strength; for foot-soldiers, and a very few of them, were fighting against the whole Persian cavalry. Nevertheless the enemy were not able either to rout them or in any other way to overpower them. For standing shoulder to shoulder they kept themselves constantly massed in a small space, and they formed with their shields a rigid, unyielding barricade, so that they shot at the Persians more conveniently than they were shot at by them. Many a time after giving up, the Persians would advance against them determined to break up and destroy their line, but they always retired again from the assault unsuccessful. For their horses, annoyed by the clashing of the shields, reared up and made confusion for themselves and their riders. Thus both sides continued the struggle until it had become late in the day. And when night had already come on, the Persians withdrew to their camp, and Belisarius accompanied by some few men found a freight-boat and crossed over to the island in the river, while the other Romans reached the same place by swimming. On the following day many freight-boats were brought to the Romans from the city of Callinicus and they were conveyed thither in them, and the Persians, after despoiling the dead, all departed homeward. However they did not find their own dead less numerous than the enemy's.

Vendīdād, Sacred Books of the East, vol. 4, translated
by J. DARMESTETER, Oxford 1880, XIV 9:

He shall godly and piously give to godly man a set of all the war implements of which the warriors make use, to redeem his own soul; The first being a javelin, the second a sword, the third a club, the fourth a bow, the fifth a saddle with a quiver and thirty brass-headed arows, the sixth a sling with arm-string and with thirty sling stones. The seventh a cuirass, the eighth a hauberk [going from the helm to the cuirass - J.D.], the ninth a tunic [under the cuirass - J.D.], the tenth a helmet, the eleventh a girdle, the twelfth a pair of greaves.

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Figures

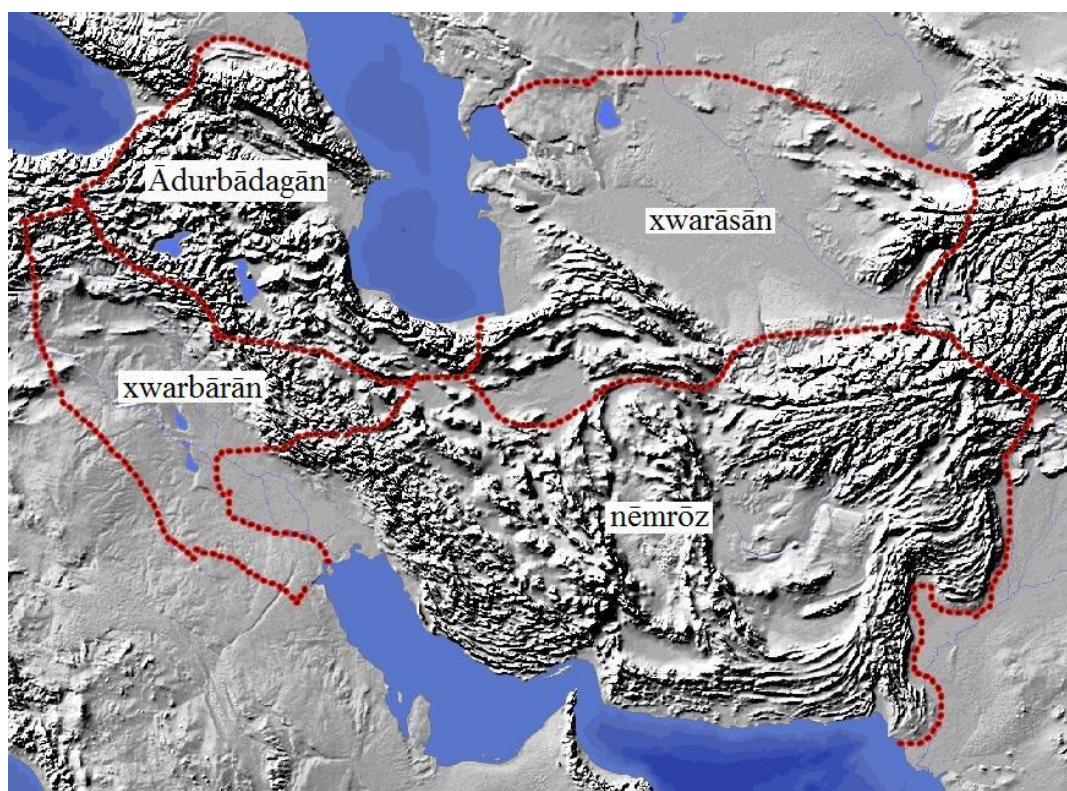


Fig. 1. The quadripartition based on DARYAEE 2002a, (drawing by K. Maksymiuk).



Fig. 2. A Bulla of the *Ērān-Spāhbed* of Nēmrōz, K. Safdari's collection, (photo courtesy T. Daryae).



Fig. 3. A Bulla of the Bahrām, the son of Ādurmāhān, The Barakat Collection, (photo courtesy T. Daryaei).



Fig. 4. A Bulla of the Bahrām, the son of Ādurmāhān, The Barakat Collection, (drawing by K. Maksymiuk).

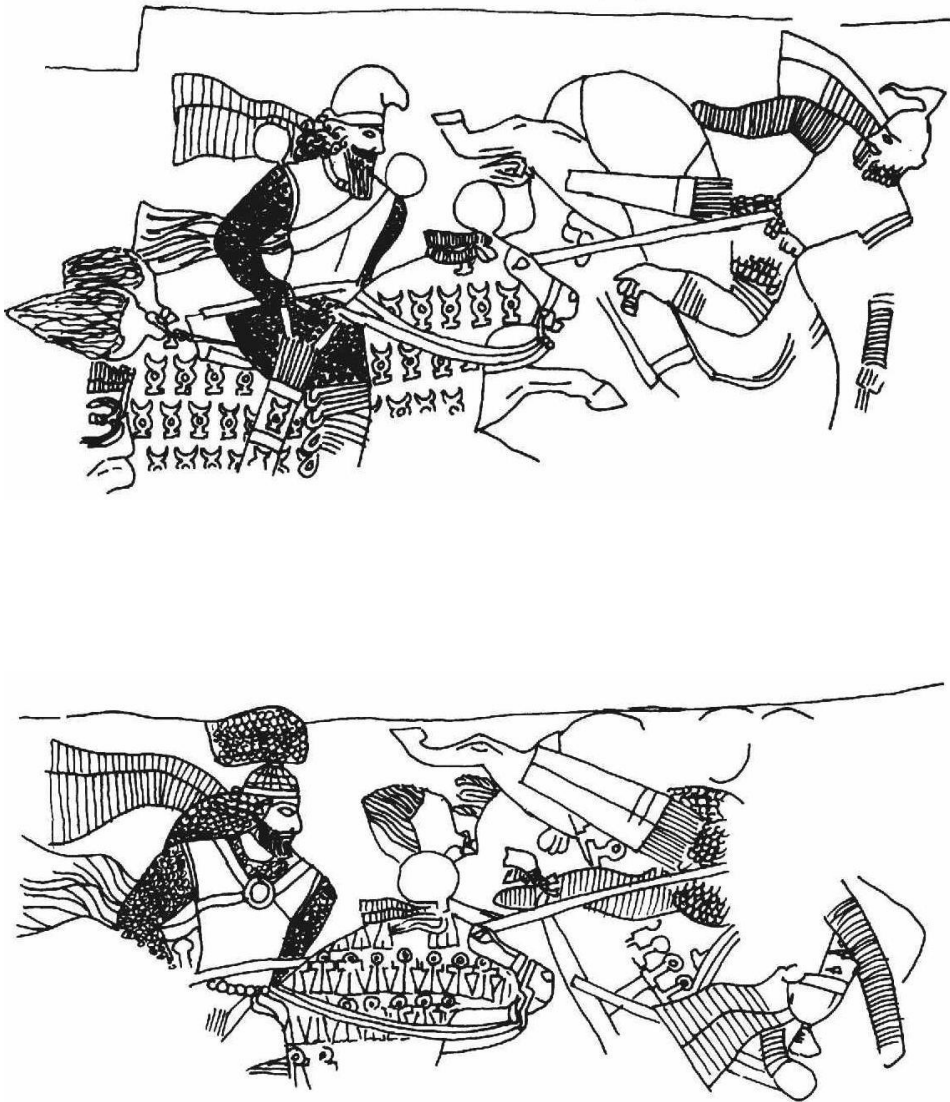


Fig. 5. Fīrūzābād, the relief of Ardašīr I (r. 224-242), (drawing by P. Skupniewicz).



Fig. 6. Naqš-e Rostam, the relief of Bahrām II (r. 276-293), (photo by M. Moradi).



Fig. 7. Naqš-e Rostam, the relief of Bahrām II (r. 276-293), (drawing by P. Skupniewicz).



Fig. 8. Naqš-e Rostam, the relief of Bahrām II (r. 276-293), (photo by M. Moradi).

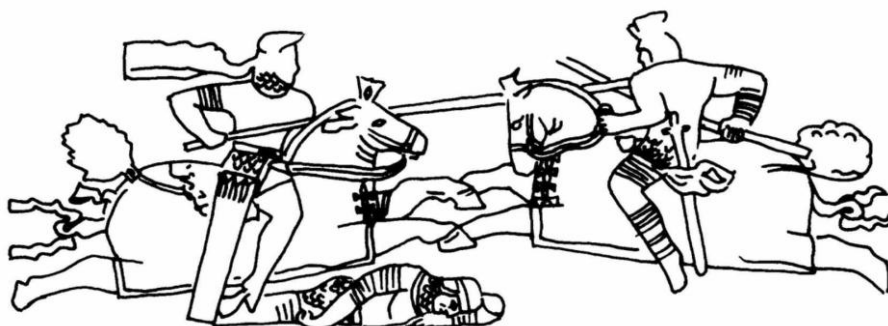


Fig. 9. Naqš-e Rostam, the relief of Bahrām II (r. 276-293), (drawing by P. Skupniewicz).



Fig. 10. Naqš-e Rostam, the relief of Hormozd II (r. 303-309), (photo by M. Moradi).



Fig. 11. Naqš-e Rostam, the relief of Hormozd II (r. 303-309), (drawing by P. Skupniewicz).

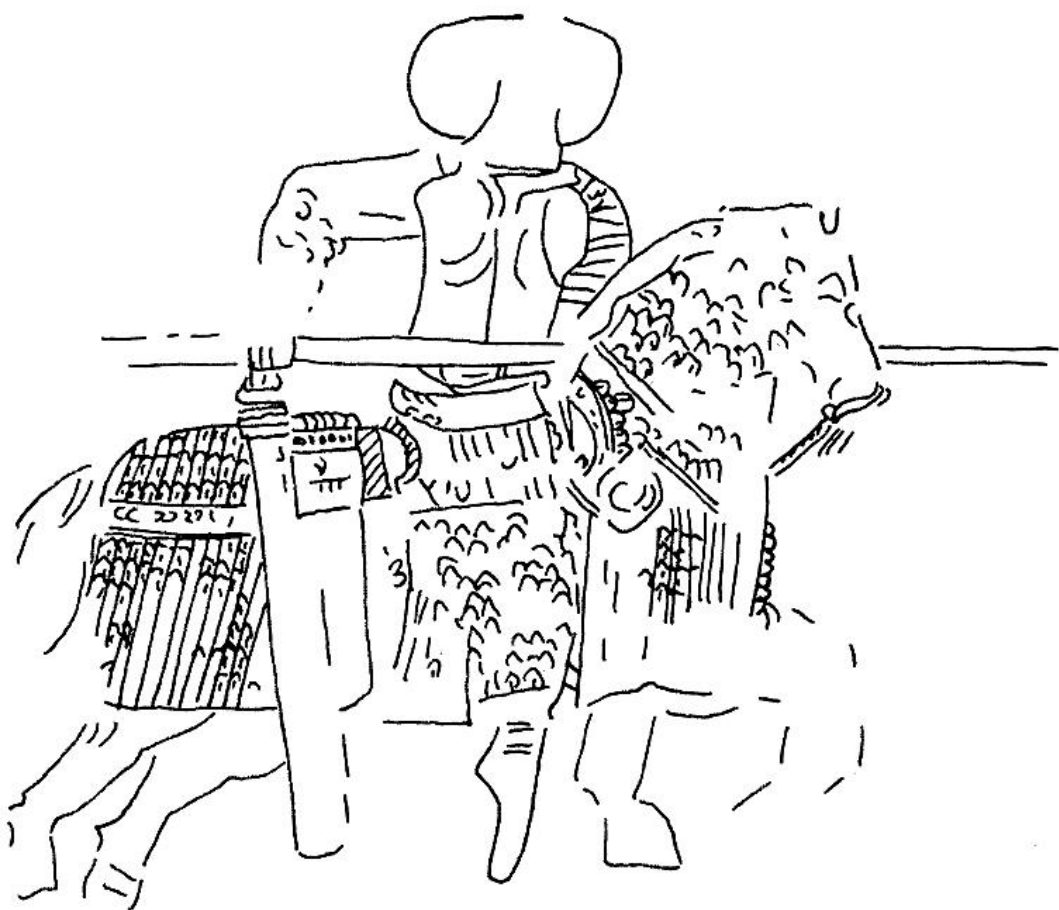


Fig. 12. Tang-e Sarvak frezie (the first quarter of the 3rd century), (drawing by D. Nicolle).



Fig. 13. Silver boss of Sasanian shield with lion's head, (4th centuries), British Museum inv. no. 134358, © The Trustees of the British Museum.

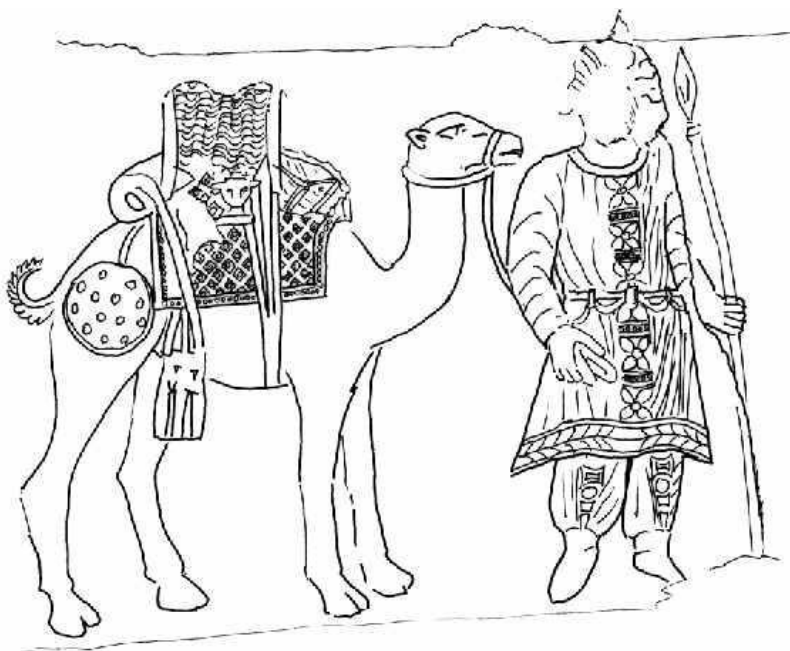


Fig. 14. Palmyra, funerary relief of a laden camel, from the Valley of the Tombs, (2nd-3rd centuries), (drawing by P. Skupniewicz).

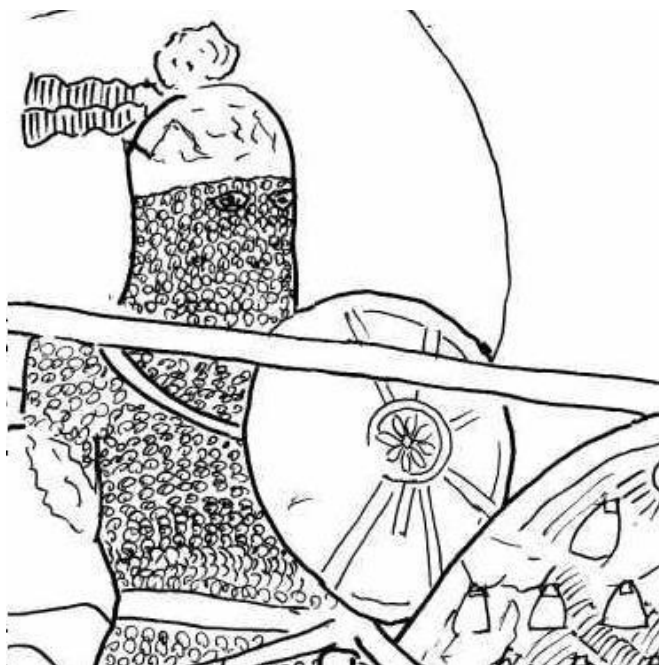


Fig. 15. Late Sasanian armored horseman in the interior of the vault or *ayvān* at Tāq-e Bostān, (6th century), (drawing by P. Skupniewicz).



Fig. 16. Horse armour of bronze scales, Syro-Roman or Parthian, from Dura Europos, (3rd century) National Museum, Damascus, (photo by D. Nicolle).



Fig. 17. Rawhide lamellar armour, either for a horse's neck or a rider's legs, Syro-Roman or Parthian, from Dura Europos, (3rd century) Yale University Art Gallery Store, New Haven, (photo by D. Nicolle).



Fig. 18. Graffito from Dura-Europos, (3rd century), (drawing by P. Skupniewicz).



Fig. 19. Relief in Panj-e Ali, (3rd century), (photo by G. Karamian).

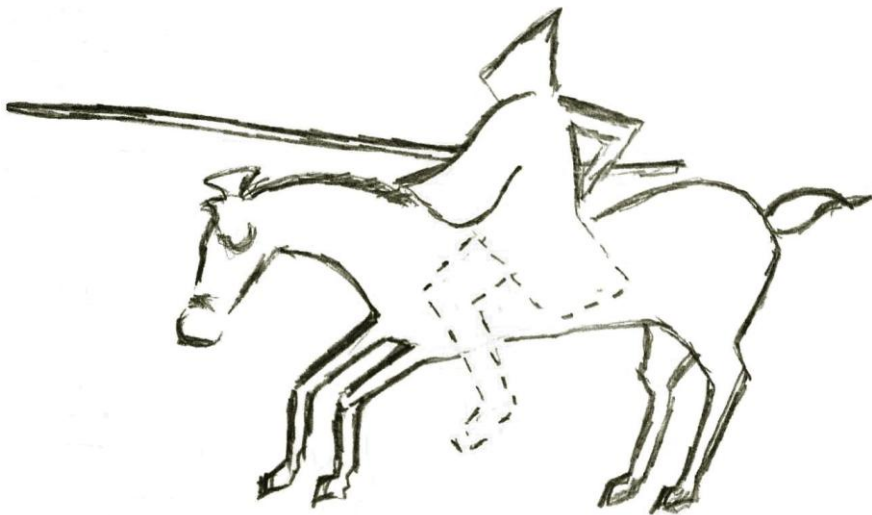


Fig. 20. Relief in Panj-e Ali, (3rd century), (drawing by G. Karamian).



Fig. 21. Sasanian *cross-band* helmet, discovered in Iraq's Nineveh region, (6th -7th century), British Museum inv. no. 22497, © The Trustees of the British Museum.



Fig. 22. Sasanian *cross-band* helmet, discovered in Iraq's Nineveh region, (6th-7th century), British Museum inv. no. 22498, © The Trustees of the British Museum.



Fig. 23. Sword, (3rd-5th centuries), Iran Bastan Museum inv. no. 1603/18028, (photo by R. Karamian & R. Esfandiari).



Fig. 24. Sword, (3rd-5th centuries), Iran Bastan Museum inv. no. 3628/19196, (photo by R. Karamian & R. Esfandiari).



Fig. 25. Bišāpūr the relief of Šāpūr I (r. 242-272), (photo by E. Shavarebi).

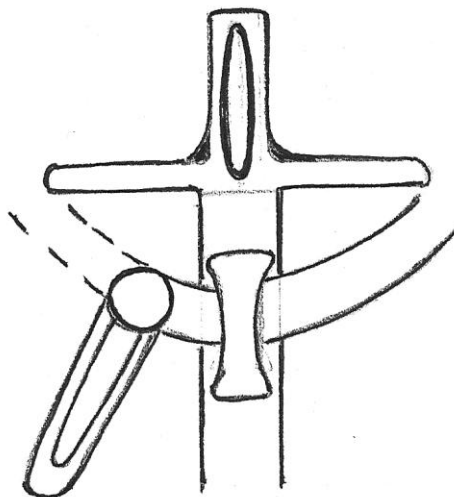


Fig. 26. Scabbard-Slide Swords, Bišāpūr the relief of Šāpūr I (r. 242-272), (drawing by K. Farrokh).

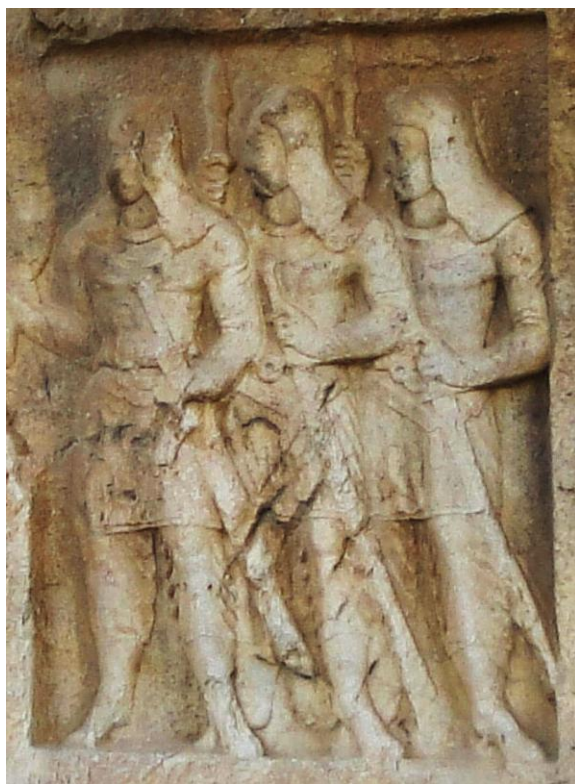


Fig. 27. Three Sasanian warriors, Bišāpūr the relief of Šāpūr I (r. 242-272), (photo by M. Moradi).

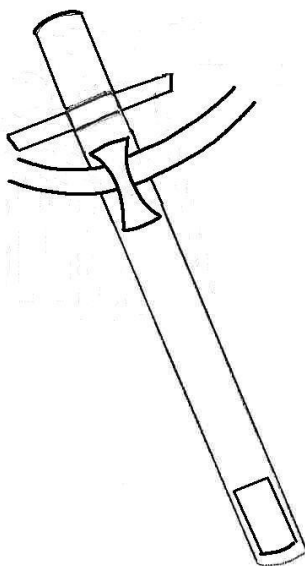


Fig. 28. Scabbard-Slide Swords, Bišāpūr the relief of Šāpūr I (r. 242-272), (drawing by K. Farrokh).



Fig. 29. Naqš-e Rostam the relief of Šāpūr I (r. 242-272), (photo by E. Shavarebi).

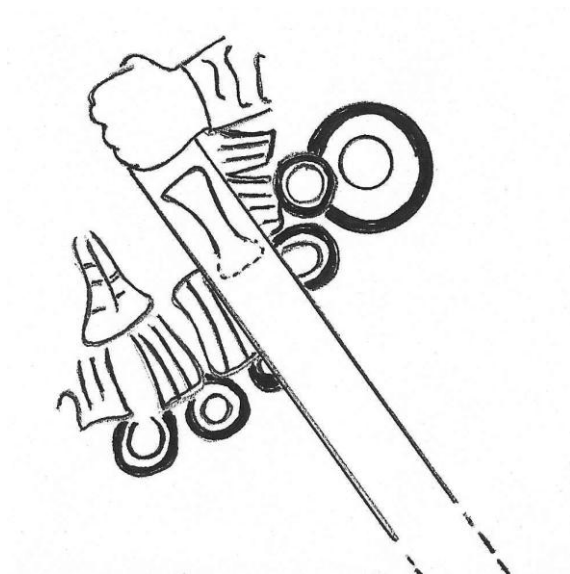


Fig. 30. Scabbard-Slide Swords, Naqš-e Rostam the relief of Šāpūr I (r. 242-272), (drawing by K. Farrokh).

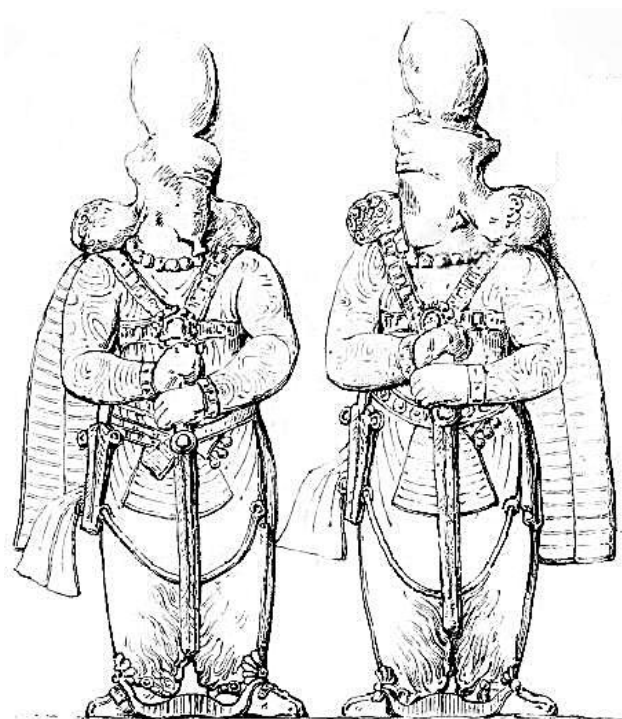


Fig. 31. Tāq-e Bostān the relief of Šāpūr II (r. 309-379) and Ardašīr II (r. 379-383), (after: Ker Porter 1822: pl. LXV).



Fig. 32. Dish "Boar Hunt of Kušānšāh Bahrām II" (late 4th-early 5th centuries), Hermitage Museum, St. Petersburg inv. no. S-24, (drawing by P. Skupniewicz).



Fig. 33. Plate “Šāpūr I (r. 242-272) slaying a deer”, (4th CE), British Museum inv. no. 124091, © The Trustees of the British Museum.



Fig. 34. Plate “a king hunting lions” (5th-7th centuries), British Museum inv. no. 124092, © The Trustees of the British Museum.





Fig. 35. Sasanian sword (6th-7th centuries), British Museum inv. no. 135158, © The Trustees of the British Museum.





Fig. 36. Sasanian sword with gold hilt and scabbard; pair of P-shaped mounts on left side (6th-7th centuries), British Museum inv. no. 135738, © The Trustees of the British Museum.

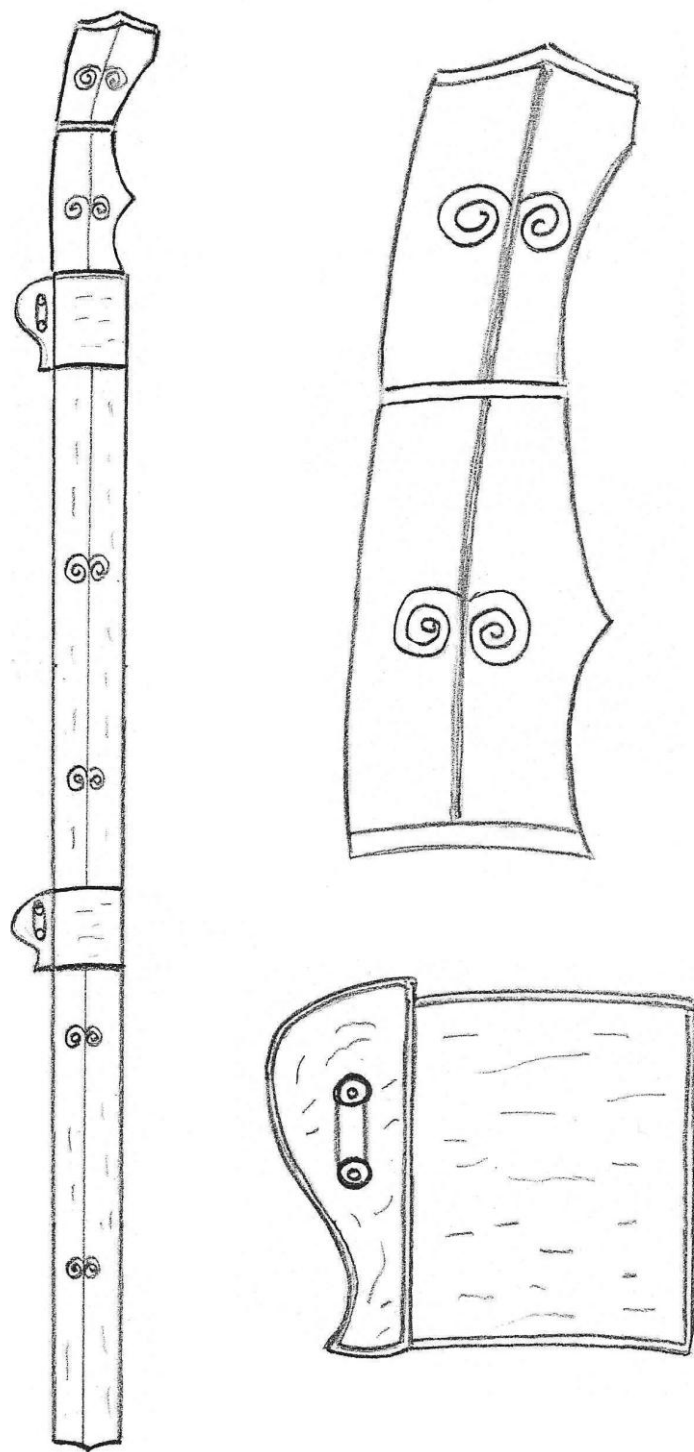


Fig. 37. Sasanian sword (6th-7th centuries), British Museum inv. no. 135158, (drawing by K. Farrokh).

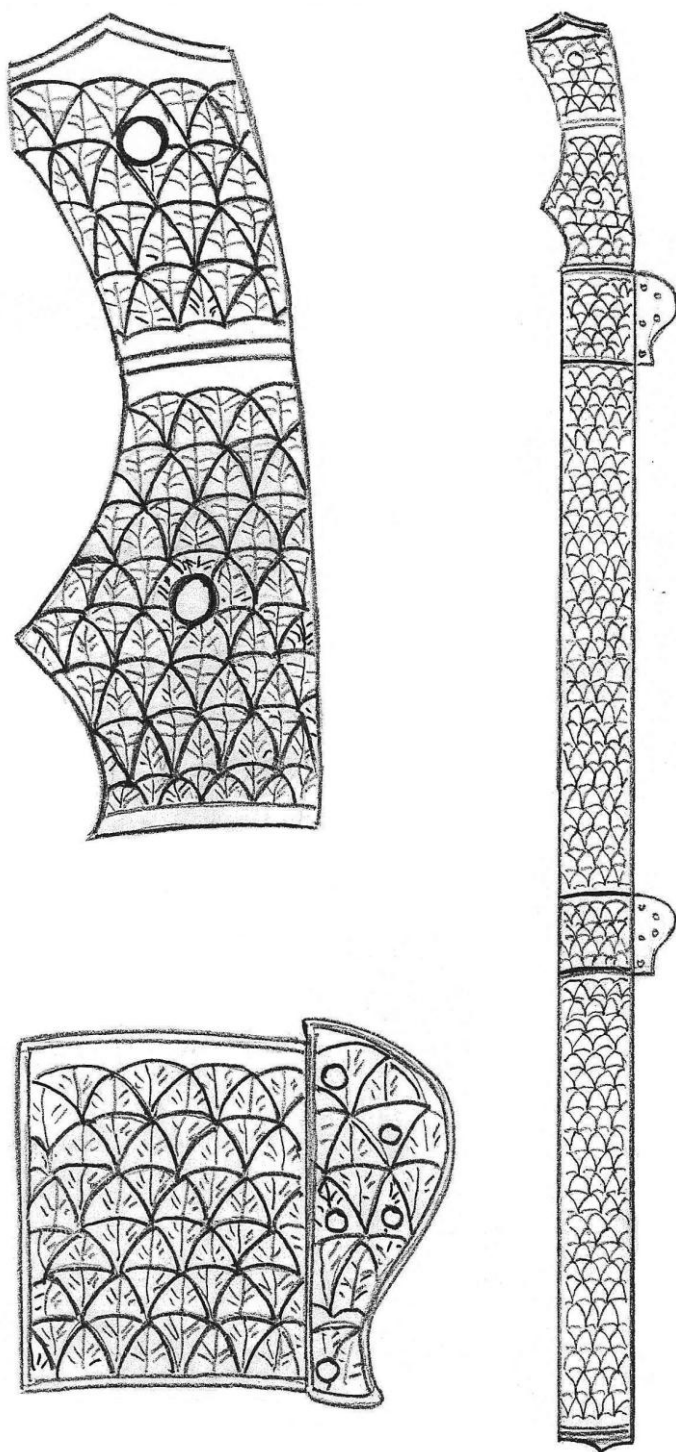


Fig. 38. Sasanian sword (6th-7th centuries), British Museum inv. no. 135738, (drawing by K. Farrokh).



Fig. 39. Late Sasanian armored horseman in the interior of the vault or *ayvān* at Tāq-e Bostān, (6th century), (photo by J. Yousefi).

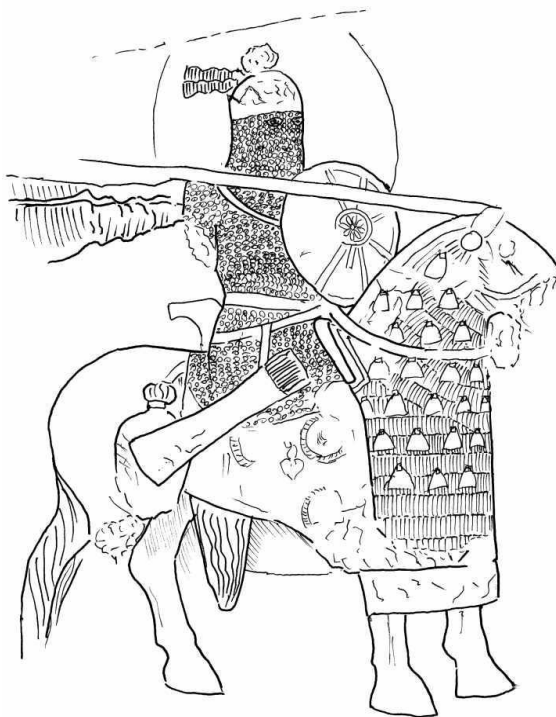


Fig. 40. Late Sasanian armored horseman in the interior of the vault or *ayvān* at Tāq-e Bostān, (6th century), (drawing by P. Skupniewicz).



Fig. 41. Rock-cut statue of a late Sasanian ruler, (6th century), *In situ* Tāq-e Bostān, (photo by D. Nicolle).



Fig. 42. Carved Sasanian capital, originally from Bisetūn, (late 6th or early 7th century), Archaeological Park, Tāq-e Bostān, (photo by J. Yousefi).



Fig. 43. Carved Sasanian capital, originally from Bisetūn, (late 6th or early 7th century), Archaeological Park, Tāq-e Bostān, (drawing by P. Skupniewicz).



Fig. 44. Sasanian *cross-band* helmet, (6th-7th century), Romano-Germanic Central Museum, Mainz inv. no. 38823, (after: Kubik 2017: 117, Fig. 63).



Fig. 45. Dish with Šāpūr II (r. 309-379) hunting lions, (4th centuries), Hermitage Museum, St. Petersburg inv. no. S-253, (drawing by K. Maksymiuk).



Fig. 46. Dish with hunting scene, (8th centuries), Hermitage Museum, St. Petersburg inv. no. S-247, (drawing by K. Maksymiuk).



Fig. 47. Plate from Kulagysh, (7th centuries), Hermitage Museum, St. Petersburg, Smirnov 1909: no. 50, (drawing by K. Maksymiuk).

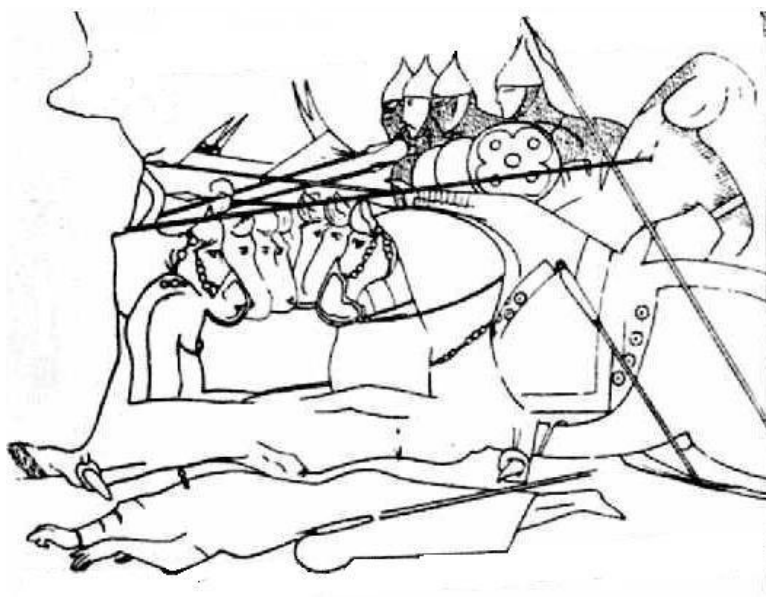


Fig. 48. The hall (VI-41) in the Palace of Panjikant, (7th-8th centuries), (drawing by P. Skupniewicz).

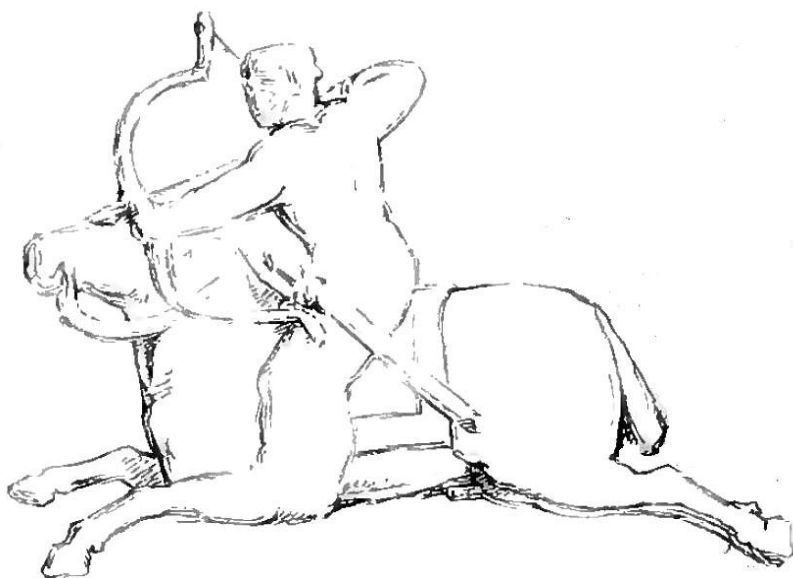


Fig. 49. The rider's shoulders as depicted at the stag hunt scene at Tāq-e Bostān (after: Ker Porter 1822: pl. LXIV).



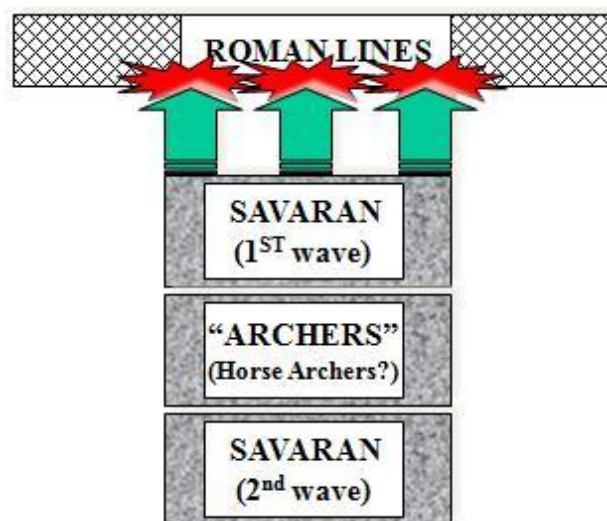
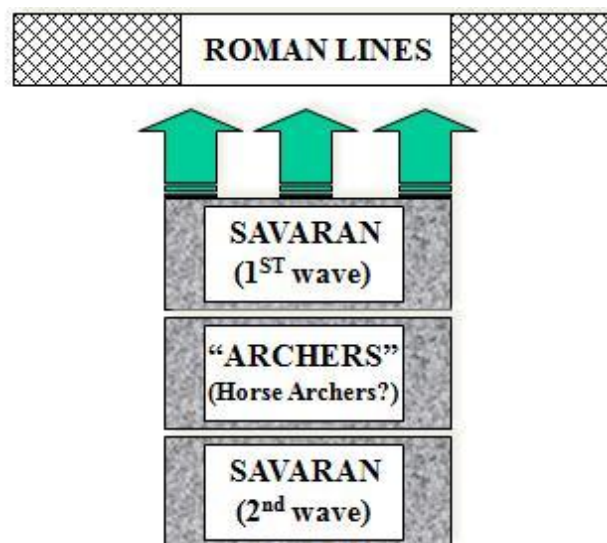
Fig. 50. Plate from the Azerbaijan Museum of Tabriz, (drawing by K. Maksymiuk).



Fig. 51. Plate Šāpūr II (r. 309-379) atop an Elephant (4th-7th centuries), Los Angeles County Museum of Art inv. no. M.76.174.18, (drawing by K. Maksymiuk).



Fig. 52. Dish depicting Bahrām V Gōr (r. 420-439) atop a Camel (6th-7th centuries), Hermitage Museum, St. Petersburg inv. no. S-252, (drawing by K. Maksymiuk).



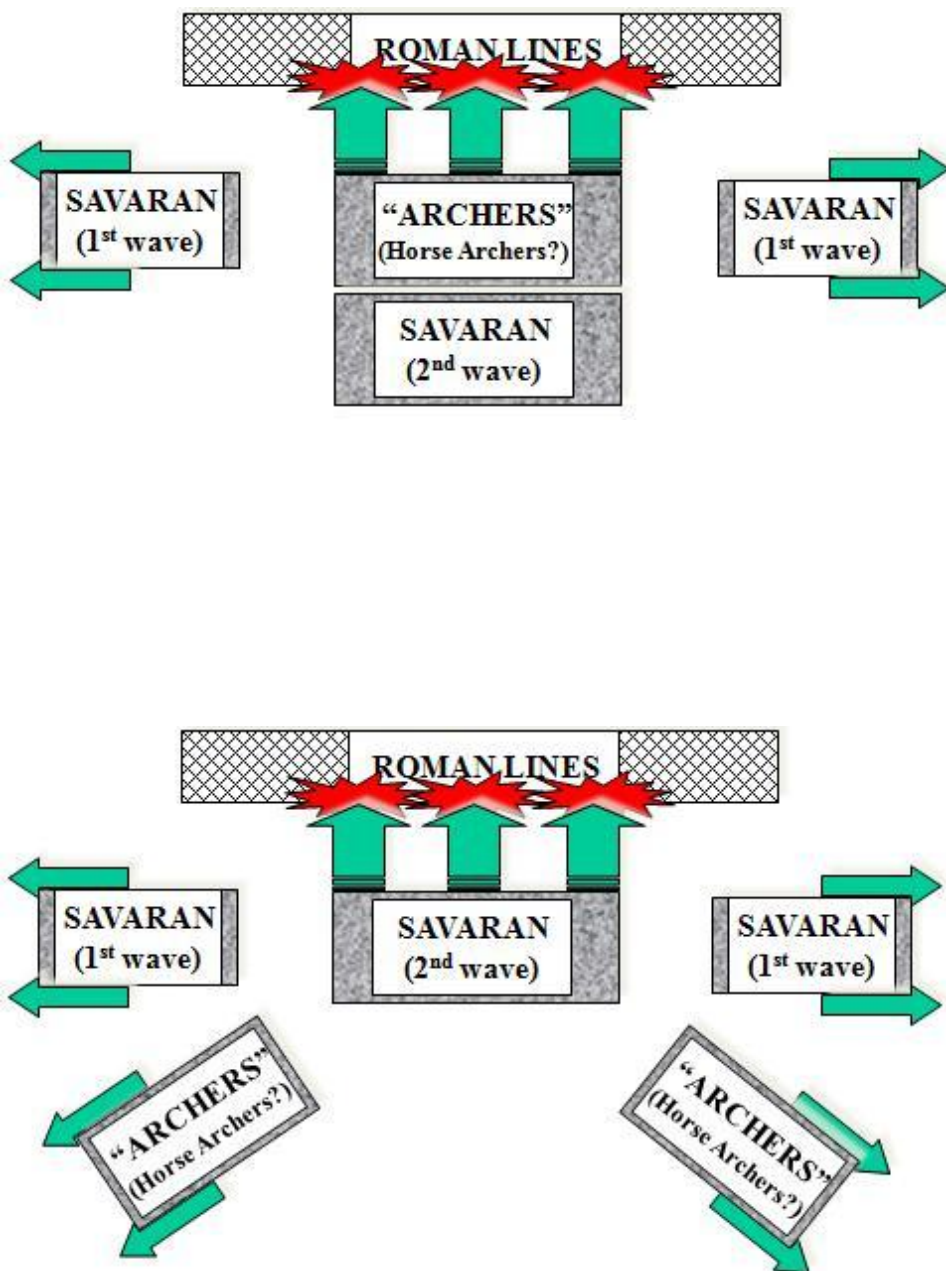


Fig. 53. The Battle of Nisibis in 350 CE based on Julian's, *Orationes*, III 11-13. 30, (drawing by K. Farrokh).

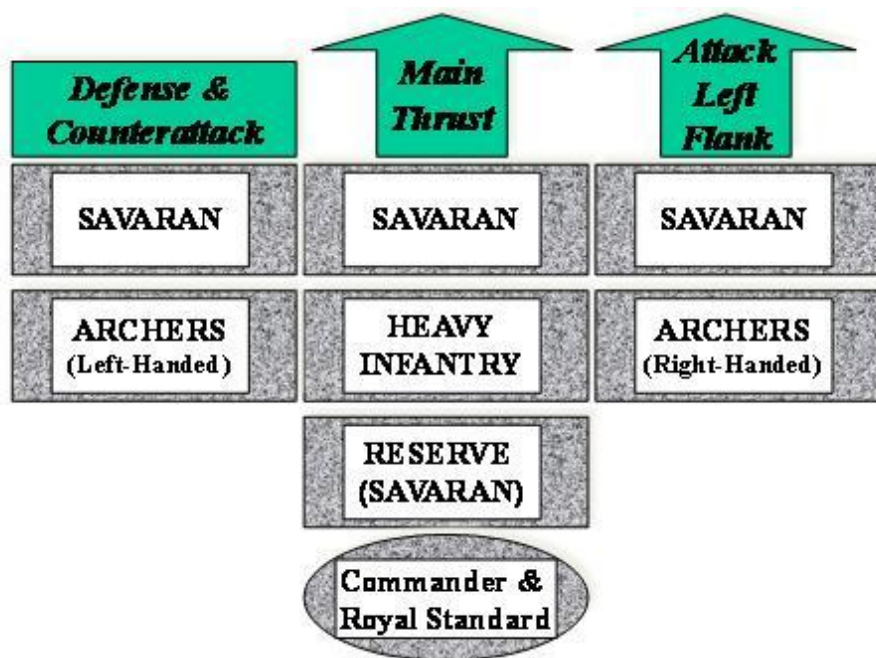


Fig. 54. One form of *Spāh* Battle Organization in the late Sasanian era, (drawing by K. Farrokh).

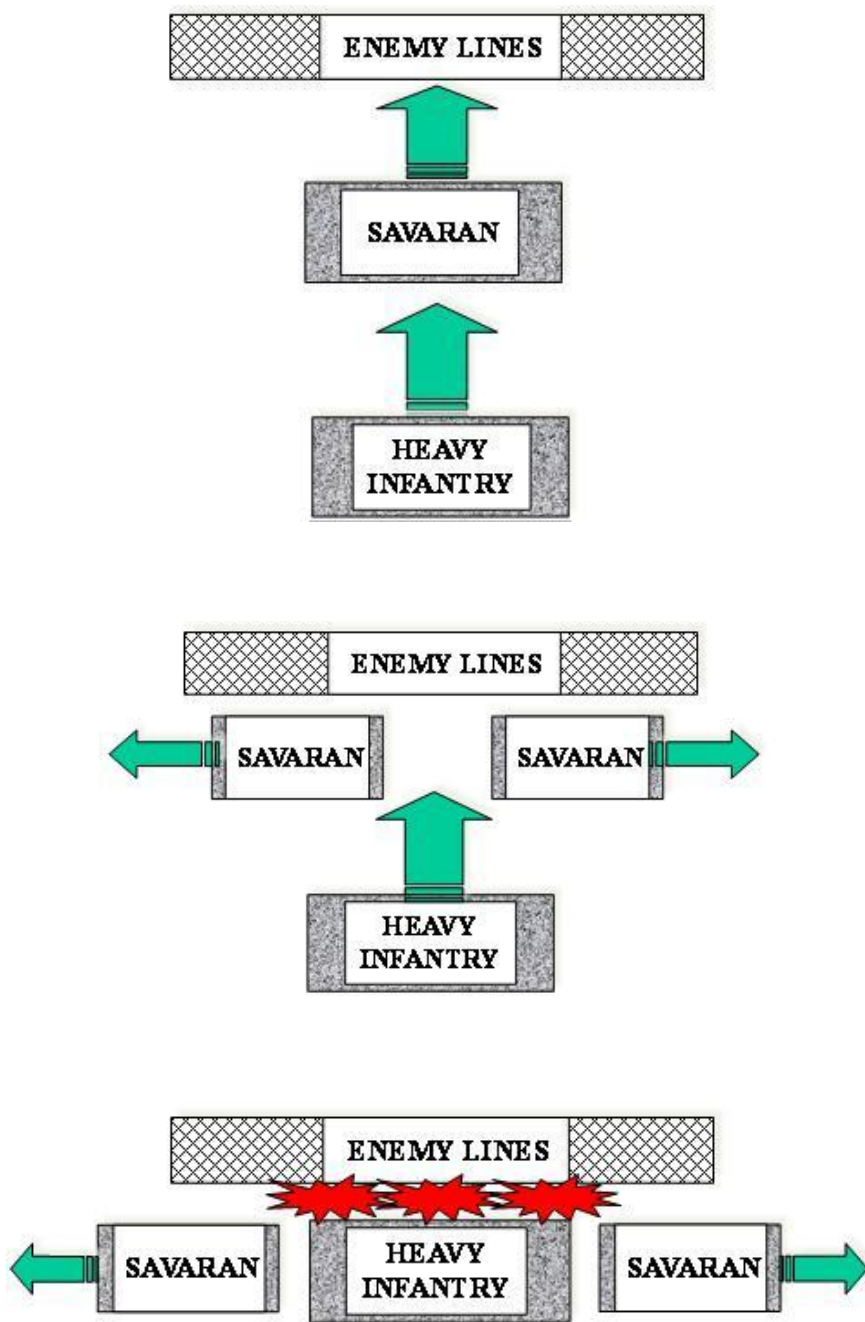


Fig. 55. The Battle of Singara (348?) by the *Chronicum Anonymum*, (drawing by K. Farrokh).



Fig. 56. Dismounted *Savārān* officer with battle gear. Recreations by Ardashir Radpour (courtesy A. Radpour & H. Martin).



Fig. 57. *Savārān* warrior engaged in horse archery. Recreations by Ardashir Radpour (courtesy A. Radpour & H. Martin).



Fig. 58. Dismounted warrior engaged in archery. Recreations by Ardashir Radpour (courtesy A. Radpour & H. Martin).



Fig. 59. Dismounted *Savārān* officer with battle gear. Recreations by Ardashir Radpour (courtesy A. Radpour & H. Martin).

