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ELEPHANTS IN WARFARE IN LATE ANTIQUITY

Summary: The presence of war elephants in the Near East between the late third and early seventh centuries, and especially in Romano-Sasanian conflicts, is frequently reported in a wide variety of contemporary sources. The purpose of this paper is to examine the evidence for the military use of elephants over this period. This study gives particular attention to the literary concerns of individual authors, whether writing in Latin, Greek, Armenian, or Arabic, which might have influenced their inclusion of vivid depictions of war elephants. Informed by comparative evidence from Indian sources, this assessment also identifies a more diverse range of military applications and capabilities of elephants than in the 'classic' age of elephant warfare in the Hellenistic period.

Key words: elephants, warfare, Sasanian, Roman, Late Antiquity.

Although modern sensibilities might baulk at the notion of elephants as merely part of the apparatus of war, it cannot be denied that at different periods of antiquity elephants were a significant item of military equipment for ancient armies, albeit an animate one. While the use of elephants in ancient warfare has attracted considerable attention, scholarship has naturally tended to concentrate on the Hellenistic period, and few studies have extended beyond the Punic Wars, fewer still beyond the very 'final' appearance of elephants on the battlefield at Thapsus in 46 BC. Scullard's standard work on the elephant in the Greco-Roman world concludes with a professedly cursory treatment of late antiquity.[1] This is despite the fact, recently asserted, that there is 'plenty of evidence' for the regular deployment of war elephants at least up to

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[1] H. H. SCULLARD, *The Elephant in the Greek and Roman World* (London 1974), 201–207 briefly treats the third to seventh centuries. Still useful is P. ARMANDI, *Histoire Militaire des Éléphants depuis les temps les plus reculés jusqu'à l'introduction des armes à feu* (Paris 1843), for all aspects and periods, but especially 398–429 for late antiquity. W. KREBS, 'Elefanten in den Heeren der Antike', *Wissenschaftliche Zeitschrift der Universität Rostock* 13 (1964), *Reihe Gesellschafts- und Sprachwissenschaften*, Heft 2–3, 205–220 barely touches upon the fourth century. There are two useful additions to Scullard's comprehensive treatment, both dealing with the Hellenistic period: J. SEIBERT, 'Der Einsatz von Kriegselefanten: Ein militärgeschichliches Problem der antiken Welt', *Gymnasium* 26 (1973), 348–62; E. A. Vranopoulos, '*ΠΟΛΕΜΙΚΟΙ ΕΛΕΦΑΝΤΕΣ ΕΙΣ ΕΛΛΗΝΙΚΟΥΣ ΣΤΡΑΤΟΥΣ*: War Elephants of the Hellenistic Period' (Greek with English resume), *Platon* 27 (1975), 130–146. There are also some useful comments in R. E. GAEBEL, *Cavalry operations in the ancient Greek world* (Norman, Okla. 2002), 295–299.

the late sixth century.[2] The purpose of this paper is to examine the evidence for the use of elephants in warfare between the late third and early seventh centuries. Certainly a considerable number of references can be amassed from a wide variety of contemporary texts for the presence of elephants in the long series of campaigns fought between the Roman and Sasanian empires over this period, but that quantity alone says little about the specific roles of elephants in contemporary warfare. In particular, it is necessary to establish whether elephants were used in the same way as in the 'classic' age of elephant warfare in the Hellenistic period. If so, this would certainly strengthen Scullard's tentative suggestion of a Sasanian third-century 'revival' of war elephants, four hundred years after their disappearance from the battlefield in the second century BC. In this assessment particular attention is given to the literary concerns of individual historians – whether writing in Latin, Greek, Armenian or Arabic – to identify factors which might have determined the inclusion of graphic depictions of war elephants over and above their actual deployment in the field. For example, vivid descriptions of war elephants, replete with their hideous appearance, repulsive stench and terrifying bellowing, loom large in Ammianus' account of the Roman army's difficult withdrawal from Mesopotamia in 363, but the tone and frequency of these passages reflect in part a contemporary readership's literary expectations of a historical narrative, and perhaps also the author's desire to mask the Romans' defeat, and subsequent acceptance of humiliating peace terms, by emphasising the army's endurance in great adversity. Similarly, it is certainly the case that the narratives of contemporary Armenian historians, which supply a disproportionately large number of the references to war elephants in this period, are conditioned by both the epic formulae of their genre and a long-standing and explicit comparison between the Armenian struggle against Sasanian religious and political oppression in the fourth, fifth and sixth centuries and the Maccabeean revolt against Seleucid tyranny, a biblical model in which elephants feature prominently.[3] This is not to dismiss these references to war elephants out of hand, merely to underline that the appearance of elephants in itself explains little about their contemporary military applications, and, moreover, leaves open the possibility of anachronistic assumptions based upon the evidence for the Hellenistic period. There follows a survey of the relevant sources for the period, more comprehensive than Scullard's, which seeks to establish conclusions to these questions, and present a clearer picture of the uses and abuses of elephants in warfare during late antiquity.

ELEPHANTS IN GREEK AND ROMAN MILITARY THEORY AND PRACTICE

A convenient *point d'appui* for this section is a recent examination of the military treatise bearing the modern title *Περὶ Στρατηγικῆς* or *de Re Strategica*, for long ascribed to the so-called 'Sixth-Century Anonymous'.[4] As evidence for the date

[2] B. BALDWIN, 'On the Date of the Anonymous *ΠΕΡΙ ΣΤΡΑΤΗΓΙΚΗΣ*', *BZ* 81 (1988), 290–293 at 292–293.
[3] R. W. THOMSON, 'The Maccabees in Early Armenian Historiography', *JTS* n.s. 26 (1975), 329–341.
[4] BALDWIN (n. 2) 290–293.

of this treatise Baldwin cited a particular reference in the text, which had not been discussed in previous studies, and which, he argued, strongly favours authorship significantly later than the traditional sixth-century date. In this introductory passage the author of the treatise writes that of the four traditional branches of 'tactics' (ἡ Τακτική) – infantry, cavalry, chariots and elephants – he does not intend to discuss the last two, since even the relevant terminology is now obsolete.[5] Seizing on this comment, Baldwin argued that since there is 'plenty of evidence' for the regular use of elephants in warfare at least up to the late sixth century, the obsolescence noted by the author must either post-date the sixth century, and thus require the work to be redated, or, alternatively, cast doubt on the author's reliability as a commentator on contemporary warfare.[6] This treatise has attracted some important scholarship since Baldwin's discussion of its date, most significantly Zuckerman's complete reappraisal of the text, which convincingly assigned it, along with two other substantial 'fragments', to a much larger 'Compendium' by an otherwise unknown Syrianus Magister (whose authorship is accepted hereafter).[7] Although Zuckerman accepted the traditional sixth-century date for the treatise, he passed over Baldwin's objections in silence, and the reference to elephants has therefore been allowed to stand unchallenged as a dating criterion. Indeed, in their examination of a different section of Syrianus' work, Lee and Shepard registered agreement with Baldwin concerning the author's 'anomalous dismissal' of elephants.[8]

Baldwin has established a false dichotomy, however, and one that is resolved by placing Syrianus in the broader context of Greek and Roman technical military literature or *tactica*. In this context an assessment of the historical realities is less important than the traditions of the genre, among which Syrianus' comment on elephants (and chariots) was a well-established *topos*. Baldwin himself notes that Asclepiodotus (c. 130–c. 70 BC) makes the same remark, stating that elephants and chariots are hardly ever found and that he only includes their terminology 'for the sake of the completeness of the work' (πρὸς τὸ τέλειον τῆς γραφῆς).[9] Unfortunately, Baldwin did not pursue this line of enquiry further. In the passage in question Syrianus closely follows his principal literary model, the *Tactica Theoria* of Aelian (written c. AD 106–113), whose work was itself related to that of Asclepiodotus.[10] Aelian repeats

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[5] For text see G. T. DENNIS, *Three Byzantine Military Treatises* (Dumbarton Oaks 1985) The passage in question is *de Re Strat*, 14.20–23, ὁ μὲν περὶ ἐλεφάντων καὶ ἁρμάτων τρόπος ἐν τῷ παρόντι ἀφείσθω. τί γὰρ ἂν καὶ περὶ τούτων ἐροῦμεν, ὁπότε μηδὲ μέχρι ῥημάτων τὰ τῆς τακτικῆς σώζεται.

[6] BALDWIN (n. 2) 292–293.

[7] C. ZUCKERMAN, 'The *Compendium* of Syrianus Magister', *JÖB* 40 (1990), 209–224. The unity of the separate sections was first suggested by Lucas Holste in the eighteenth century and restated periodically thereafter, notably by F. LAMMERT, 'Die älteste erhaltene Schrift über Seetaktik und ihre Beziehungen zum Anonymus Byzantinus des 6. Jahrhunderts, zu Vegetius und zu Aineias' Strategica', *Klio* 33 (1941), 271–288. Dennis, while citing some of this literature, still chose to publish a separate edition of *de Re Strategica*.

[8] A. D. LEE and J. SHEPARD, 'A Double Life: Placing the *Peri Presbeon*", *Byscl*. 52 (1991), 15–39. The comment comes in an appended note, as Baldwin's article was unavailable to the authors before submission.

[9] Asclep. *Tact*. 8–11.

[10] For the relationship between Syrianus and Aelian see ZUCKERMAN op. cit. 217–219; P. RANCE, *Tactics and Tactica in the Sixth Century: Tradition and Originality* (Ph.D. thesis, St. Andrews 1994)

the traditional quadripartite division of armies and likewise dismisses elephants and chariots in very similar language to Asclepiodotus, again listing the antiquarian terminology only 'for the sake of completeness' (ὅμως πρὸς τὸ τέλειον τῆς γραφῆς).[11] In the same tradition, Arrian's *Ars Tactica* (written c. AD 138) also dismisses elephants as irrelevant; indeed Arrian does not even bother to list the names of the various elephant formations, but chooses to replace this antiquarian section with a series of historical or mythical *exempla* of the use of chariots and elephants.[12] In short, not one author of *tactica* in Greek before Syrianus, including his model Aelian, viewed elephants as worthy of attention, other than to repeat a self-consciously outmoded terminology that was itself probably at no time applicable.[13]

Since Syrianus' comment on war elephants is no more than a standard *topos* of this essentially late Hellenistic tactical genre, it not only has no real value as a dating criterion for Syrianus' work, but also has little if any bearing on the roles of elephants in contemporary warfare. Furthermore, the focus of this particular type of *tactica* was battlefield deployments and manoeuvres. I shall argue below that in the sixth century elephants were neither important nor common features of the battlefield, and that their primary application lay in logistical and poliorcetic operations. It is important to note that Maurice's *Strategicon*, the date of which has been convincingly placed in 590s, does not mention elephants at any point, even in its detailed assessment of Persian military tactics. Surely if elephants were important on the late antique battlefield this is a glaring omission by an author whose practical understanding of contemporary warfare is widely commended by modern scholarship.[14] Furthermore, for what it is worth, there also is no mention of elephants in the, admittedly fragmentary, Persian military treatises that survive in Arabic translation.[15]

65–79. On the vexed question of the relationship between the *tactica* of Asclepiodotus, Aelian and Arrian see A. DAIN, *L'Histoire du texte d'Élien le Tacticien des origines à la Fin du Moyen Âge* (Paris 1946), 26–40; P. A. STADTER, 'The *Ars Tactica* of Arrian: Tradition and Originality', *CP* 73 (1978), 117–128.

[11] Aelian, *Tact.* 22–23.

[12] Arrian, *Ars Tactica* 19. The only conceivably 'contemporary' instance Arrian cites of either type of warfare is the deployment of chariots by οἱ βάρβαροι ἐν ταῖς νήσοις ταῖς Βρεττανικοῖς καλουμέναις (19.2).

[13] It is worth noting here that even in the detailed discussions of Sanskrit military texts, the treatment of both elephants and chariots is surprisingly cursory. This is the case with the *Arthaśāstra* ascribed to Kautilya, which probably reflects the conditions of the third century BC. See *The Kautilīya Arthaśāstra*, ed. and tr. R. P. Kangle, 3 vols. (Bombay 1965–1972), vol. 2: *Translation*, 2.31–32 (pp. 174–179); 10.4.14 (= p. 444); 10.5.54 (= p. 449). This should perhaps modify our impression of the importance of elephants that might otherwise be suggested by their numbers alone; Chandragupta (reigned 323–297 BC) reputedly maintained a force of 9,000 elephants.

[14] The arguments for date and authorship are summarised by G. T. DENNIS (ed.), *Das Strategikon des Maurikios* (CFHB 17, Vienna 1981), 15–18; P. RANCE, *Tactics and Tactica in the Sixth Century: Tradition and Originality* (Ph.D. thesis, St. Andrews 1994), 28–42. See Maurice, *Strat.* xi.1 for a study of contemporary Persian military methods.

[15] C. A. INOSTRANCEV, 'The Sasanian Military Theory', trans. L. Bogdanov, *Journal of the K.R. Cama Oriental Institute* 7 (1926), 7–52; A. KOLLAUTZ, 'Das militärwissenschaftliche Werk des sog. Maurikios', *BYZANTIAKA* 5 (1985), 87–136, at 120–132.

The only other late Roman tactical treatise to mention elephants is Vegetius' *Epitoma Rei Militaris*, for which a late fourth-century date is accepted here.[16] Vegetius devotes a largely antiquarian chapter to how elephants and scythed chariots might be resisted in battle (*Quomodo quadrigis falcatis vel elefantis in acie possit obsisti*).[17] He cites historical *exempla* of commanders who have successfully employed either device – in the case of elephants Pyrrhus, Hannibal, Antiochus the Great and Jugurtha – and then lists seven methods of dealing with an attack by enemy elephants. The first six are expedients expressly employed by *antiqui*. The last, however, appears to be a contemporary recommendation, and indeed only here does Vegetius employ the present tense. He writes that it is advisable to station extra large *carroballistae*, wagon-mounted, torsion-powered bolt-projectors, behind the battle line to fire missiles (*sagittae ballistariae*) with broader- and stronger-than-usual heads, to inflict substantial wounds on the pachyderms.[18] While *carroballistae* were occasionally positioned behind and on the flanks of the battle line, this additional provision is attested nowhere else in a Roman battlefield deployment.[19] The early seventh-century *Chronicon Paschale*, however, specifically reports the anti-elephant application of Roman artillery (ὀνάγροις) at the third siege of Nisibis in 350, seemingly on the basis of an eyewitness account, and therefore roughly contemporary with the date of Vegetius' work accepted here.[20] It is possible, therefore, that Vegetius has included contemporary poliorcetic contexts in a broad discussion of elephants, though they are not mentioned again in his subsequent book devoted to siege warfare. Despite the apparently contemporary reference here, Vegetius equally recommends all seven methods, just in case the 'the need ever should arise' (*si quando necessitas postulaverit*), and he does not appear to regard elephants as a serious or regular military problem.

Before examining the late antique sources, it is necessary to outline briefly what roles war elephants had previously played, namely in periods in which elephants were a regular feature of warfare. Tactical roles can only be properly understood through a knowledge of the characteristics of the 'weapon' concerned, and of what a war elephant could achieve in favourable circumstances. In short, precisely what applications should we expect to find? As already noted, the earlier periods of antiquity have clearly received a greater degree of attention. The classic age of ele-

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[16] For a convenient summary of the dating evidence see N. MILNER, *Vegetius: Epitome of Military Science*, 2nd ed. (Liverpool 1996), xxxvii–xli.

[17] Veg. *Epit.* 3.24.

[18] *Carroballistas aliquanto maiores, hae enim longius et vehementius spicula dirigunt ... post aciem convenit ordinari, et, cum sub ictum teli accesserint, bestiae sagittis ballistariis transfiguntur. Latius tamen contra eas et firmius praefigitur ferrum, ut in magnis corporibus maiora sint vulnera.*

[19] On *carroballistae*: Anon. *DRB* 7; Veg. 2.25; 3.14; Maurice 12.B.18.9–11. See E. W. MARSDEN, *Greek and Roman Artillery: Historical Development* (Oxford 1969) 190–191; P. E. CHEVEDDEN, 'Artillery in late Antiquity: Prelude to the Middle Ages' in I. A. CORFIS and M. WOLFE (eds.), *The Medieval City under Siege* (Woodbridge 1995), 131–173 at 141–142, 154–160; D. BAATZ, 'Katapulte und mechanische Handwaffen des spätrömischen Heeres' *JRMES* 10 (1999), 5–19 at 5–7.

[20] See below n. 38. With ὀνάγροις the *CP* appears to describe the *onager*, the late Roman torsion-powered stone-thrower, rather than *ballistae*, though terminology is often confused, especially in late and non-technical works such as this. In the same account the author refers to μηχαναῖς and μαγγανικά τε παντοῖα. Nevertheless, the *onager* certainly was used to destroy enemy siege engines; cf. e.g., Amm. Marc. 19.7.6–7; 23.4.4–7; 24.4.28.

phant warfare was the Hellenistic period, following on immediately from the contacts established with northern India by Alexander and his successors, and including the campaigns of Pyrrhus and Hannibal. In this period elephants were most conspicuous on the battlefield, where their systematic deployment was often a decisive factor and important contribution to victory. In modern literature they are frequently compared to 'tanks', but their value in this context was often psychological rather than physical.[21] An elephant charge could quickly rout infantry formations unfamiliar with the requisite evasive tactics, or especially when deployed in loose order.[22] In particular, the terror that elephants inspired among horses unaccustomed to their appearance, noise and apparently smell is a persistently noted characteristic, which made them useful weapons in disconcerting and scattering enemy cavalry formations.[23] Nevertheless, elephants were widely recognised as a 'two-edged weapon', and the wounded and enraged beast ploughing back through its own ranks was a *topos* of military narratives.[24] Elephants were also used to storm lines of fieldworks, and the defences and entrenchments of camps, probably through a combination of dismantling and overtopping them.[25] The presence of elephants is also occasionally reported at sieges, though with minimal success and this role was always very much subordinate to their operations in the field.[26]

Finally, for comparative purposes it is interesting to note that the third-century BC Sanskrit treatise on politics and warfare, the *Arthaśāstra* of Kautilya, lists the military circumstances in which elephants might be useful. Some of these are vague and generic, but where specific they indicate a much wider range of applications than Greco-Roman sources usually indicate:

> 'marching in the van; making new roads, halting places and fords; repel-
> ling as with arms; crossing and descending into water; remaining stead-
> fast, marching forward and descending; entering difficult and crowded
> places; setting fire and extinguishing it; securing victory single-handed;

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[21] SCULLARD (n. 1) 245–250; VRANOPOULOS (n. 1); GAEBEL (n. 1), 295–299 for difficulties in assessing the reasons behind their deployment. For 'tanks' see, e.g., J. PEDDIE, *The Roman War Machine* (Stroud 1994), 86–87.

[22] E.g., Hannibal' s elephants against the Roman's Gallic auxiliaries at Trebia 218 BC (Polyb. 3.74; Livy 21.56.1).

[23] E.g., Alexander's horses fearing the appearance and noise of Porus' elephants at the Hydaspes (Arrian *Anab*. 5.10.2); Roman cavalry fleeing at the very sight of Pyrrhus' elephants at Heracleia in 280 (Plut. *Pyr*. 17.3); the Roman cavalry at the Bagradas River in 255 (Zonaras, *Epit. Hist*. 8.13); Caesar familiarising his men and horses with elephants (*Bell. Afr*. 72.4–5), where he specifically notes the fear inspired in the horses by the elephants' 'smell, sound and appearance' (*bestiarum odorem, stridorem, speciem*).

[24] E.g., Livy 27.14.6-12; App. *Hisp*. 46; *Han*. 43; Diod. 18.71.5.6; Pliny, *NH* 8. 9.27

[25] E.g., Hanno against the camp of the rebel mercenaries at Utica (Polyb. 1.73.3–5); Hannibal against the Roman *vallum* at Capua in 211BC (Livy 26.5.11-6.13, though not mentioned in Polyb. 9.3; see SCULLARD (n. 1) 162–163); Perdiccas, unsuccessfully, at the Castellum Camelorum in 321 BC (Diod. 18.34).

[26] E.g., Polyperchon, unsuccessfully, at Megalopolis in 318 BC (Diod. 18.70–71); Antiochus at Larissa in 191BC (Livy 36.10.4), though they are not mentioned in the assault, merely to intimidate the defenders; Nobilior employed ten at Numantia in 153 BC (App. *Hisp*. 46), a rare Roman usage with adverse consequences.

reuniting broken ranks, breaking up unbroken ranks; protecting in a calamity; setting free; breaking ramparts, gates and towers; bringing in and carrying away [the] treasury, these are the functions of elephants.' (10.4.14.)[27]

It is also worth noting that the few classical (pre-Hellenistic) Greek writers who refer to the use of war elephants in India emphasise above all their poliorcetic role.[28] This certainly suited their qualities of height, strength and imposing appearance, which made them valuable tools in battering down or dismantling fortifications, preventing sorties by intimidating the morale of men and horses, and undertaking construction work, including siege ramps, mounds and towers. The greater variety of applications suggested by these Indian sources and contexts, and especially their focus on logistical and poliorcetic roles, in some measure provides additional insights into the potential uses of elephants in military operations, and provides a balance to the battlefield-orientated references of the Hellenistic period.

THE USES OF WAR ELEPHANTS
IN LATE ANTIQUE HISTORICAL SOURCES

As an approach to this subject a chronological summary has much to recommend, especially as an accurate characterisation of the nature of elephant warfare in late antiquity depends in large part on an overview of diverse sources concerning specific periods and locations. From the late Republic until the third century the Roman experience of elephants was, with very few exceptions, restricted to games and triumphs.[29] Indeed, throughout late antiquity public perceptions of the role and importance of elephants in warfare on distant frontiers continued to be conditioned by their carefully choreographed appearance in imperial triumphs. Scullard identifies a Sasanian third-century 'revival' in the use of war elephants, which are nowhere reported in Parthian armies.[30] Certainly Roman sources begin to mention elephants more frequently from the reign of the first Sasanid Ardashir I (224–241), implying that

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[27] *The Kautilīya Arthaśāstra*, ed. and tr. R. P. KANGLE, 3 vols. (Bombay 1965-72), vol. 2: *Translation*, 444. cf. other lists at 2.31–32 (tr. 174–179); 10.5.54 (tr. 449). See also B. P. SINHA, 'The Art of War in Ancient India 600 B.C.–300 A.D.', *Cahiers d'Histoire Mondiale* 6 (1957), 132–136.

[28] The ultimate source appears to be Ctesias, who according to Photius *Bibl.* 72.7 wrote περὶ τῶν τειχοκαταλυτῶν ἐλεφάντων (= Ctesias frg. 45b in JACOBY *FGH* III.C.(688), 487). Ctesias also underlies the similar accounts of Arist. *HA* 1.610.a.15–16; Aelian *NA* 17.29. For Ctesias see J. M. BIGWOOD, 'Ctesias' *Indica* and Photius', *Phoenix* 43 (1989), 302–316; idem, 'Aristotle and the Elephant again', *AJPh* 114.4 (1993), 537–555. The similar statement of Onesicritus (JACOBY 134 frg. 14) *apud* Strabo 15.1.34 is seemingly independent.

[29] SCULLARD (n. 1) 198–201.

[30] SCULLARD *ibid.* Followed by J. den BOEFT, J. W. DRIJVERS, D. den HENGST and H. C. TEITLER, *Philological and Historical Commentary on Ammianus Marcellinus XXIV* (Leiden 2002), 185–186. Vieillefond suggests that the chapter on elephant warfare at Julius Africanus, *Cesti* frg. I.18, written during the reign of Severus Alexander, demonstrates a renewed interest, though the section is explicitly antiquarian and compiled from classical *topoi*; see J.-R. VIEILLEFOND, *Les Cestes de Julius Africanus* (Florence–Paris 1970), 63–64, 166–171, 346–347.

they had again become a military issue. The *Historia Augusta* mentions Persian elephants in the context of Severus Alexander's eastern campaign of 231. However, the figures reported for elephants are undoubtedly fantastic – of the 700 beasts fielded by the Persians the Romans slew 200, captured 30, and lead 18 in triumph in Rome. The inclusion of 1800 scythed chariots among the immense Persian host is an obvious anachronism.[31] The whole account is indeed dubious, especially given Herodian's assertion that this campaign on the contrary ended in Roman defeat.[32] Scullard also cites the *Historia Augusta* as evidence for the capture of Persian elephants at the battle of Resaina, during Gordian III's eastern campaign of 242–244. In fact the text makes no mention of captured elephants nor of Resaina, but merely records, in the context of a fictional report to the Senate, Gordian's decree that an elephant-drawn chariot should participate in the 'Persian triumph' he *planned* to celebrate on his return to Rome; in consequence of his death on the campaign this event never actually occurred.[33] In both cases deliberate *imitatio Alexandri* by the imperial regime may have distorted a civilian author's perspective of events. It is clear that throughout the period in question elephants were a *de rigueur* feature of imperial triumphs celebrating distant eastern victories before an urban public, among whom elephants were popularly considered the standard paraphernalia of a Persian army, though the actual beasts employed in these displays were probably locally-held 'circus' examples. Furthermore, the *Historia Augusta* is not a contemporary source for third-century events. Particularly relevant in this respect is Scullard's suggestion that Julian's well-known expedition of 363, in the latter stages of which elephants certainly did feature, coloured the imagination of the late fourth-century author of the *Historia Augusta* when he came to write about mid third-century events.[34]

References become more regular from the middle decades of the fourth century, but at first explicitly, and exclusively, in the context of the Sasanian siege train. It is in this context that elephants are reported in a number of sources at the siege of Nisibis in 338, albeit primarily in an unhistorical tale of Bishop Jacob driving them away with a heaven-sent swarm of gnats.[35] Sozomen records that Shapur II (309–

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[31] *SHA Sev. Alex*. 55.2; 56.4

[32] Herodian 6.4–5.

[33] *SHA Gord*. 27.9: *quadrigae elephantorum Gordiano decretae sunt, utpote qui Persas vicesset, ut triumpho Persico triumpharet*. On the sources for this campaign see M. H. DODGEON and S. N. C. LIEU, *The Roman Eastern Frontier and the Persian Wars AD 226–363* (London 1991), 34–45.

[34] SCULLARD (n. 1) 201–202. The only other reference in *SHA* to elephants is in the context of a diplomatic gift in *Aurel.* 5.

[35] The account is preserved in several Syriac or ultimately Syriac-derived sources: Theodoret, *HE* 2.30.11–14; see *Theodoret Kirchegeschichte*, ed. L. PARMENTIER and rev. F. SCHEIDWEILER, 2nd ed. (*Die griechischen christlichen Schriftsteller* 44, Berlin 1954), 169–170; THEODORET, *Historia Religiosa* 1.11, ed. and tr. P. CANIVET and A. LEROY-MOLINGHEN, *Histoires des Moines de Syrie* (Paris 1977) probably used Syriac *Lives* of Ephraem, but certainly conflating the sieges of 338 and 350. For other Syriac sources: T. J. LAMY (ed.), *S. Ephraemi syri hymni et sermones* (Malines 1882–1902), 2: cols. 15–19; Mich. Syr. *Chron.* 7.4, ed. and tr. J. B. Chabot (Paris 1899–1905) I, fsc. 2, 266). See also P. PEETERS, 'La Légende de S. Jacques de Nisibe', *Analecta Bollandiana* 38 (1920), 285–346, at 297–300; M. MARÓTH, 'Le Siège de Nisibe en 350 ap. J.-Ch. d'après des sources syriennes', *Acta Antiqua* 27 (1979), 239–243.

379) invested the rebellious city of Susa with three hundred elephants in c. 350.[36] Julian describes their disastrous failure before the walls of Nisibis in 350, in what he regards more as a spectacle designed to frighten the defenders than as a serious attempt on the fortifications. Accepting the rhetorical character of the text, Julian implies that the very novelty of the elephants was meant to overawe the defenders (καταπλήξεσθαι μᾶλλον οἰόμενοι τῷ ξένῳ τῆς μάχης, 2.66.B). It is worth noting that in another account of the same siege Julian makes no mention of elephants, an important reminder of the potential caprice of some sources.[37] Elephants feature in the other sources for this event, however, including, as noted above, the eyewitness report of Bishop Vologaeses preserved in the early-seventh-century *Chronicon Paschale*.[38] Similarly, Ammianus notes their impressive array and terrifying appearance at the siege of Amida in 359. The theme of their physical horror was one to which Ammianus frequently returned, and indeed his phrase *ut rettulimus saepe* here perhaps suggests that he had already elaborated upon this subject in an earlier, now lost book.[39] While Ammianus' direct testimony to the presence of elephants cannot be disputed, his interest in them clearly also reflects his rhetorical and stylistic concerns. Nevertheless, it is interesting to note that the wording of Ammianus' text suggests an origin for the elephants he saw at Amida, which he appears to link with the 'Segestani', that is Sasanian troops from Sistan or Sakastān, one of the easternmost provinces of the Sasanian empire, roughly equating to the Achaemenid satrapy of Drangiana.[40] Modern Sistan, being arid, windswept and insect-infested, is an unlikely location for elephant herds, but in antiquity extensive irrigation made the region densely populated and well-cultivated, producing sufficient quantities of fodder for large-scale cattle- and horse-breeding.[41] Furthermore, the elephant's habitat was more extensive

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[36] Soz. *HE* 2.14, παραγενομένη στρατιὰ μετὰ τριακοσίων ἐλεφάντων, τὴν πόλιν κατέστρεψαν … Sozomen does not actually name the city, but see Hamza al-Isfahānī, *Kitab ta'rikh sinī mulūk al-ard wa'l-anbiyā* (Berlin 1922), 37, who also notes that Shapur had elephants trample the remains of Susa after the revolt's suppression.

[37] Julian's first account of the siege at *Or.* 1.27A–29A makes no mention of elephants. Jul. *Or.* 2.63 B, 64B, 65B–66A, ὅθεν οὐκ εἰκος εἰς μάχην ἰέναι, ἀλλὰ ἐς κατάπληξιν τῶν ἔνδον παρασκευάζεσθαι. The stampede of the elephants at Nisibis in 350 is also mentioned in retrospect by Amm. Marc. 25.1.14 in relation to events in 363; see below n. 48.

[38] *CP* 536.18–539.3 (= Whitby tr. 27–28), καὶ ὀνάγροις τοὺς πλείονας ἐλέφαντας ἀπέκτειναν, οἱ δὲ λοιποὶ ἐν τοῖς κατατέλμασι τῶν τάφρων ἐνέπεσαν. This cites the first-hand testimony of Bishop Vologaeses of Nisibis (c. 350–361/2). This account is repeated almost verbatim Theoph. *Chron.* 39.13.–40.13. Zonaras *Epit. Hist.* 13.7.1–14 is very similar, omitting only the elephants, perhaps too anachronistic for him to understand. For Syriac sources see M. MARÓTH, 'Le Siège de Nisibe en 350 ap. J.-Ch. d'après des sources syriennes', *Acta Antiqua* 27 (1979), 239–243; and generally C. S. LIGHTFOOT, 'Facts and Fiction – The Third Siege of Nisibis AD 350', *Historia* 37 (1988), 105–125, esp. 120–121.

[39] Amm. Marc. 19.2.3, … *ultra omnem diritatem taetri spectaculi formidanda, ut rettulimus saepe*; 7.6–7. Ammianus returns to the 'horror' of elephants at 19.7.6; 25.1.14, 3.11, 6.2. For the possibility of earlier 'lost books', perhaps treating mid third-century campaigns, see P. de JONGE, *Philological and Historical Commentary on Ammianus Marcellinus XIX* (Groningen 1982), 30–31; J. MATTHEWS, *The Roman Empire of Ammianus* (London 1989), 63–64.

[40] Amm. Marc. 19.2.3, … *Segestani, acerrimi omnium bellatores, cum quibus elata in arduum specie elephantorum agmina* …

[41] See *Encyclopaedia of Islam* (1st ed.) IV, 456–457, s.v. Sistan; D. W. ENGELS, *Alexander the Great and the Logistics of the Macedonian Army* (Berkeley 1978), 91–93.

than the restricted tropical regions of today; certainly elephants were obtainable in neighbouring Arachosia to the east, bordering on the Indus valley.[42] While classical literary convention maintained that mahouts and 'Indians' were synonymous, Ammianus' comment is too specific to be a naïve stereotype, and may reflect the realities of the location and supply of elephants and elephantine expertise within the Sasanian empire, given the extreme difficulties of breeding captive elephants in Iraq.[43]

It seems clear that by the middle of the fourth century elephants were a standard element in the Sasanian siege train, though no author of this period explains precisely what these beasts could achieve and the specific circumstances for their deployment. By far the most conspicuous use of elephants in the warfare of late antiquity, however, was undoubtedly Julian's Persian campaign of 363 and the subsequent Roman withdrawal, as described by Ammianus and, more cursorily, by Zosimus. The account is important as a rare fourth-century instance of the deployment of elephants on the battlefield, rather than in a strictly poliorcetic context. Nevertheless, it should be borne in mind that this Roman offensive campaign was itself unusual, and there are good grounds for regarding some aspects of it as unrepresentative of the general military trend. In his detailed narrative of the campaign Ammianus does not record the deployment of elephants at all until the Romans were actually outside the Sasanian capital, the first and only major field encounter of the campaign. Sozomen confirms the appearance of elephants at this point.[44] In the engagement near Ctesiphon Ammianus again comments on their grisly aspect, 'dreaded from past experience' (*documentis praeteritis formidati*), though this purple passage is primarily designed to impress upon the reader the frightening and rather exotic appearance of the Persian army as a whole, not just its elephants. Ammianus reports that the elephants were arrayed to the rear of the Persian battle line, behind the *cataphracti* and infantry, but he is silent on both their intended function and their role, if any, in the actual battle, on which he appears to have possessed reasonably detailed information.[45]

Thereafter, Ammianus mentions attacks involving elephants on a number of occasions during his description of the Roman retreat, often merely to repeat his earlier comment on their awful appearance.[46] The only other source to describe these events in any detail is Zosimus, who mentions the use of elephants once, in an engagement near Samara, in an account which corresponds significantly to that of Am-

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[42] F. de BLOIS, *Encyclopaedia Iranica* VIII, 360, s.v. Elephant; noting Arachosia (Harauvati) as a source for ivory in the Achaemenid period, with additional comments of C. E. BOSWORTH, *Encyclopaedia of Islam* (2nd ed.) II, 893, s.v. *fīl*; on the later importation of elephants into Caliphal lands from Kābul, Makrān and Sind.

[43] P. de JONGE, *Philological and Historical Commentary on Ammianus Marcellinus XIX* (Groningen 1982), 30–31, 'brought along by Eastern allies of Sapor'. cf. 'Indians' in Julian *Or.* 2.63.B, 64B. For 'Indian' drivers see comments of Scullard (n. 1) 131. For broader comparative purposes, native trainers similarly accompanied elephants sent to the Chinese court on regular tribute missions from Annam, Champa and Cambodia; see E. H. SCHÄFER, 'War Elephants in Ancient and Medieval China', *Oriens* X (1957), 289–291.

[44] Soz. *HE* 6.1, Σὺν πολλῇ δὲ παρασκευῇ ἱππέων, καὶ ὁπλιτῶν, καὶ ἐλεφάντων τῶν Περσῶν φανέντων ἐπὶ τῆς ὄχθης τοῦ Τίγρητος. Sozomen's source is unknown. Note that elephants are not mentioned in Zosimus' or Libanius' accounts of this engagement.

[45] Amm. Marc. 24.6.8. For the battle before Ctesiphon and its aftermath, see 24.6.10–16.

[46] Amm. Marc. 25.3.5. 11, 6.2–3.

mianus.[47] This specific incident will be discussed in the following section in the context of elephant battle tactics; there follow here some general comments on the character of the evidence Ammianus provides. Incidental details of regimental names and precise casualty figures underline the essential veracity to these passages, but Ammianus' purpose is to emphasis (or exaggerate) the immense bravery of the retreating Roman army in the face of desperate and seemingly overwhelming difficulties, and in this respect the traditional twin Persian menaces of sky-darkening archery and ornately-armoured *cataphracti* in fact loom larger in his narrative. The reality of an almost unopposed advance, a harried retreat and a shameful peace was less palatable. Ammianus' literary concerns are also significant. Aside from his repetitive descriptions of the elephants' horrific appearance and smell, Ammianus also reports that the Persians, mindful of the elephants' stampede at the siege of Nisibis in 350, had introduced an innovation, whereby the mahouts now carried knives in order to kill their mounts if they panicked and threatened the Persian ranks. Although the wounded and maddened elephant trampling its own side was doubtless a genuine threat, it was also a well-established *topos* of the historical genre. More specifically, Ammianus explicitly recalls the well-known passage of Livy referring to a very similar expedient introduced by Hasdrubal before the battle of Metaurus; parallelisms in the wording of the two passages hints that Ammianus is consciously classicizing here.[48] Certainly the so-called 'innovation' reported by Ammianus does not recur in his narrative, or in any later work, even where apparently relevant.

Interestingly, given the unusual character of this Roman offensive into Mesopotamia, Ammianus states that at the conclusion of the campaign Shapur II (309–379) learned that 'a greater number of elephants had been lost in these engagements than he had ever known in his reign'.[49] The very late appearance of elephants in the campaign, and their unprecedentedly high casualty figures (and, if true, the application of new techniques for handling elephants) combine to suggest that the campaign of 363 was in fact atypical. Aside from Ammianus' literary concerns, and the exculpatory tone of the 'Roman version' in general, it is probable that the relatively frequent reference to elephants in the field in 363 was due to Sasanian desperation in the face of so deep a penetration of their empire. This at least seems more likely than a more general 'revival' or 'rediscovery' of the effectiveness of war elephants on the battlefield. Their apparent prominence in this campaign may also be responsible for a wider, if perhaps distorted Roman awareness of the Persians' military use of elephants. It

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[47] Zos. 3.30.2–3 cf. Amm. Marc. 25.6.2–4.

[48] Amm. Marc. 25.1.14–15, *Quibus insidentes <u>magistri</u>, manubriatos cultros dexteris manibus illigatos gestabant, acceptae apud Nisibin <u>memores</u> cladis, et <u>si ferociens animal</u>, vires exsuperasset regentis, ne <u>reversum per suos</u> (ut tunc acciderat) collisam sterneret plebem, venam quae <u>caput a cervice</u> disterminat, <u>ictu maximo</u> terebrabant. Exploratorum est enim aliquando ab <u>Hasdrubale</u> Hannibalis fratre, <u>ita citius vitam huius modi adimi beluarum</u>*; Livy 27.49.1–2, *Elephanti plures ab ipsis rectoribus quam ab hoste interfecti. Fabrile scalprum cum malleo habebant; id, <u>ubi saevire beluae ac ruere in suos</u> coeperant, <u>magister</u> inter aures positum ipsa in compage qua iungitur <u>capiti cervix</u> quanto maximo poterat <u>ictu</u> adigebat. <u>Ea celerrima via mortis in tantae molis belua</u> inventa erat ubi regendi spem vi vicissent, primusque id <u>Hasdrubal</u> instituerat, dux cum saepe alias memorabilis tum illa praecipue pugna*. Polyb. 11.1.8–12, on the same events, does not mention this expedient.

[49] Amm. Marc. 25.7.1, …*et elephantos, quot numquam se regnante meminerat, interfectos*.

was suggested above that the late fourth-century author of the *Historia Augusta* may have had in mind these near-contemporary events when he wrote about third-century warfare, and this is also evinced by the vivid, if naïve, picture Ambrose presents in the early 390s of these irresistible 'moving towers'.[50]

The period between the detailed military narratives of Ammianus and Procopius is of course relatively poorly covered. The only Roman source of this period to mention elephants is the church historian Socrates, who notes that in 421 the Persian king Bahram V (421–434) gathered 'a multitude of elephants', but the campaign of that year was uneventful and the phrase itself is formulaic and uninformative.[51] Armenian accounts of Persian campaigns in Armenia in the fourth and fifth centuries go some way to filling this lacuna, and they do indeed refer to large numbers of elephants, but these references are problematic. The *Epic History* attributed to P'awstos Buzand is an important source for the Persian invasions of Armenia during the second half of the fourth century, and occasionally reports the presence of elephants in Persian armies.[52] P'awstos was writing at some remove from these events, however, probably in the 470s, and in light of more recent warfare, notably the revolt led by Vardan Mamikonean in 450–451. His work is a 'semi historical, semi fictional account', observing the earlier period through a filter of legend and folk memory, and replete with epic *topoi* and historical anachronisms.[53] The 'innumerable elephants' he reports in fantastically-sized armies are stock descriptions of the invader's overwhelming forces, which, unremarkably, the Armenians utterly destroy without sustaining a single casualty.[54] The only seemingly specific reference to elephants in combat records the death of the Armenian commander Bagos, apparently the sole Armenian casualty in the 'triple victory', who was crushed beneath an elephant as he attempted to hamstring the beast. This tale manifestly derives from the fate of Eleazar as reported in the *Book of Maccabees*, which for most Armenian historians was the model account of a brave revolt against a cruel foreign oppressor.[55] Elephants elsewhere feature in generic descriptions of Persian atrocities, which routinely depict 'men trampled by elephants and women impaled'. The phraseology is standard among the Armenian historical writers of this period, though doubtless records a genuine punishment and perhaps one deliberately magnified in Sasanian imperial propaganda to deter rebellion.[56]

[50] Ambrose, *Hexamer*. 6.5.

[51] Soc. *HE* 7.18, πυθόμενος ὡς ὁ βασιλεὺς Περσῶν πλῆθος ἐλεφάντων ἐπάγοιτο.

[52] *The Epic History attributed to P'awstos Buzand (Buzandaran Patmut'iwnk')*, tr. and comm. by N. G. GARSOIAN (Cambridge, Mass. 1989).

[53] GARSOIAN (n. 52) 6–11.

[54] See 3.8 (GARSOIAN, 76) set in reign of Xosrov II of Armenia (c. 330–338/9): a Persian army destroyed and elephants captured; 4.21–23 (GARSOIAN, 154–156 with n. 292) set during Shapur II's invasion of Armenia post 363 (=Amm. Marc. 25.7.12; Movsés Xorenac'i 3.34–35), describes three simultaneous battles, 'a multitude of elephants that were beyond reckoning' seized after the victory. At 4.33 (Garsoian, 161) the Persians 'made ready many military contingents – a strong and warlike host – as well as innumerable elephants' under Suren Pahlaw.

[55] 4.22. cf. GARSOIAN, 155, n.7 with reference to I. *Macc*. 6:43–46.

[56] 4.23 (GARSOIAN, 156). GARSOIAN, 56, n.6, indicates that this is a formulaic description of cruel devastation cf. 4.24. For other Armenian references see *The History of Łazar P'arpetc'i*, tr. R. W. THOMSON, Columbia University Program in Armenian Studies 4 (Atlanta, Ga. 1991), 72–73; Ełishē,

It is also to be noted that throughout these Armenian accounts the presence or absence of elephants in Persian armies appears to be author-specific. While elephants are a regular element of Persian forces in P'awstos' *Epic History*, they appear nowhere in Łazar P'arpets'i's *History of the Armenians*, written in the late fifth/early sixth century, and describing the Armenian-Persian wars between 387–484, other than a single instance of the aforementioned atrocity *topos*. Elephants 're-appear' in Ełishē's *History of Vardan and the Armenian War*, but only in a single battle sequence, where Ełishē appears to give very specific details of their deployment at the epic battle of Avarayr in 451. Łazar P'arpets'i's account of the same important engagement makes no reference to elephants. I shall return to this rare account of the field operations of war elephants in the next section.[57] In the later *History* ascribed to Bishop Sebeos, narrating events of the later sixth century, elephants are a regular feature of Persian armies campaigning in Armenia. Once again the language is very formulaic and the author, narrating events from a mid-seventh-century perspective, never describes any military action in detail.[58] These differences are not, of course, grounds for assuming a periodic or fluctuating usage of elephants by Persian commanders in Armenia, but reflect rather the literary conventions favoured by individual authors.

These references to elephants in Armenian histories therefore tell us very little about their real numbers and purpose in Persian armies. While elephants certainly featured in these campaigns, this strange military paraphernalia naturally evoked a degree of wonder that obscures its precise function, but, as noted above, a battlefield role should not necessarily be assumed. Other than Ełishē's problematic account of the battle of Avarayr, the only specific reference to the use of elephants is in fact rather mundane. Almost certainly reflecting contemporary late-fifth-century circumstances, P'awstos Buzand describes a campaign in (probably) 297, when King Narses (293–302) himself led an expedition to ravaged Armenia: 'he collected his entire army together with his own baggage, the entire great *karawan* and a multitude of elephants; he came – with innumerable supplies, his own royal pavilion, all his women

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History of Vardan and the Armenian War, tr. and comm. R. W. THOMSON (Cambridge, Mass. 1982), 99; ps.-Sebeos, *Hist.* 80 (tr. 23). This well-known standard method of punishing rebels and traitors appears also in Roman sources, see e.g., Theoph. Sim. 3.8.11; 4.14.14; 5.11.2. For an earlier comparison, see Polyb. 1 84. 8 for Hamilcar making similar good use of elephants as morale-destroying propaganda in the Libyan War in 238 BC.

[57] Ełishē, *History of Vardan and the Armenian War*, tr. and comm. R. W. THOMSON (Cambridge, Mass. 1982); *The History of Łazar P'arpetc'i*, tr. R. W. THOMSON, Columbia University Program in Armenian Studies 4 (Atlanta, Ga. 1991).

[58] *The Armenian History attributed to Sebeos*, tr. R. W. THOMSON, comm. J. HOWARD-JOHNSTON and T. GREENWOOD (Liverpool 1999). At 68 (tr. 7), the author records that Mihran Mihrewandak was dispatched to quell the Armenian revolt with '20,000 troops and many elephants' (in 574). He was defeated on the unidentified plain of Khałamakhik' in Iberia, where all the elephants were captured. At 70 (tr. 10), the same commander (though here called Gołon Mihran) invades Armenia (probably in 575) with again '20,000 fully armed men and many elephants'. At 68 (tr. 7–8) Khusrau I undertakes his last campaign (in 576, but chronologically misplaced) with 'a host of fully armed troops and many elephants', being defeated at Melitene (see below). On elephants at the battle of Gandzak (591) see below.

and with the queen of queens, to the confines of Armenia.'[59] The most obvious explanation for the presence of 'multitude of elephants' in this passage is their employment as beasts of burden. The climate and mountainous terrain of Armenia might seem especially unsuited to the deployment of elephants, but on the contrary these animals appear to have served above all a logistical function, transporting men and equipment over great distances. I would suggest that the formulaic references in Armenian historians to 'innumerable elephants' refer not to large numbers of 'war elephants', but primarily to pack animals employed in a baggage train, perhaps in addition to camels and mules. Frequent references to the capture of large numbers of Persian elephants *after* Armenian victories, rather than their destruction during combat, tends to support this characterisation.[60] For comparative purposes, it was noted above that Kautilya's *Arthaśāstra* regarded 'bringing in and carrying away [the] treasury' as a significant function of elephants in warfare.

A survey of sixth-century Roman sources reinforces the conclusion that the primary applications of elephants in this period were off the battlefield. For the sixth century the narrative sources are more extensive, though there is little evidence of changed circumstances. Scullard concludes, 'elephants are mentioned, but Procopius' account of the Persian Wars does not suggest that they were used in great numbers.'[61] With very few exceptions, throughout the entire century elephants are mentioned in two specific contexts, either as part of the baggage train or, as in the fourth and fifth centuries, as siege engines. The *Chronicle* of ps.-Joshua the Stylite notes that in 503 Kavad, having decided to recommence the siege of Edessa, 'readied for action the elephants he had with him.'[62] Scullard states that elephants were also present at the siege of Amida in 502, though, while this is likely, none of the narrative accounts of this relatively well-attested event appears to mention them.[63] Elsewhere Procopius digresses on the theme that the Romans 'knew well by what means they ought to repel an attack by enemy elephants'.[64] He records that at the siege of Edessa in 544 Khusrau I (531–579) brought his elephants right up to the city wall to the point where the mounted Persian soldiers were able to shoot down on to the defenders, 'for it seemed in fact that this was a machine for capturing cities' (ἐδόκει γὰρ τις μηχανὴ τὸ τοιοῦτον ἑλέπολις εἶναι).[65] The Edessenes removed this threat by the faintly comic expedient of attaching a live pig to the end of a pole and dangling it

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[59] P'awstos Buzand 3.21 (GARSOIAN, 98). See GARSOIAN's notes at 264–267 for dating and probable conflation of different late third- and fourth-century events, with strong epic overtones and folkloric elements.

[60] P'awstos Buzand 3.8; 4.21–23; ps.-Sebeos, *Hist.* 68 (tr.7). Cf. below n. 79 for the 'battle of Melitene' of 576.

[61] SCULLARD (n. 1) 205.

[62] See *The Chronicle of Pseudo-Joshua the Stylite*, trans. F. R. TROMLEY and J. W. WATT (Liverpool 2000), ch. 62 (tr.80).

[63] SCULLARD (n. 1) 206, n. 149. See Proc. 1.7; ps.-Joshua Style, chs. 50, 53 (tr. 53–55, 59–60); Zach. *HE* 7.3.

[64] Proc. 8.14.34, … ἐξεπιστάμενοι καθ'ὅ τι χρὴ ἀποκρούσασθαι τῶν πολεμίων τὴν διὰ τῶν ἐλεφάντων ἐπίθεσις.

[65] Proc. 8.14.36.

over the wall. Fearing its squeals, the elephants refused to approach the walls.[66] The use of elephants as mobile shooting platforms necessitated structural improvements in city defences; Procopius records that Justinian raised the wall of Dara by thirty feet specifically to preclude assault by elephants.[67]

This general pattern for the military application of elephants is confirmed by Procopius' account of slightly later Persian campaigns in the Caucasus, and in particular Lazica, which presents a quite different picture of their employment devoid of the historiographic problems of the Armenian sources. Procopius writes that in 551 the Persian general Mermeroes took just eight elephants into Lazica – hardly the 'innumerable' force familiar in Armenian narratives of earlier Persian campaigns in this region – 'upon which the Persians were to stand and shoot down upon the heads of their enemy just as if from towers.'[68] The explanation of their function is vague, but the only combat role these elephants see subsequently is in siege warfare. Later that year during the siege of Archaeopolis, Mermeroes brought up 'rams and elephants' against the lower gate of the city, though one elephant was panicked by the garrison's unexpected sortie and caused havoc in the Persian ranks.[69] Subsequently Khusrau sent 'many elephants' to Mermoroes as reinforcements, and on receipt of these he immediately 'moved against the strongholds of the Laz, taking the elephants with him'; again their application in siegecraft is implied.[70] Later still, Procopius' continuator Agathias reports elephants in Lazica under the command of Nachoragan. These appear only at the siege of Phasis in 555, into his account of which Agathias inserts the rhetorical set-piece of the wounding and stampeding of one of these beasts.[71]

It is interesting to note that the difficult terrain of this region inhibited the usual methods of besieging fortifications. In particular the steep gradient immediately outside circuit walls often prevented the approach of conventional machinery such as rams and towers. At the siege of Petra in 550, for example, the Romans were unable to employ rams 'since they were attacking a wall on a slope (ἐπεὶ ἐν μὲν τῷ ἀνάτει ἐτειχομάχουν)'. They therefore improvised a type of light portable ram for this very reason, which was carried on the shoulders of the men operating it, a device suggested by their Sabiri allies who were used to such difficulties.[72] More to the point, Procopius notes that Archaeopolis, against which Mermeroes deployed his elephants in 551, was 'situated on an extremely rugged hill', its lower gate being preceded by an ascent that was 'not smooth', while its upper gate was 'extremely difficult of ap-

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[66] Ibid. 36–38. For similar stratagems see Aelian *NA* 1.38; 16.36; Polyaenus. *Strat.* 4.6.3. For elephants' fear of pigs see Plut. *de Sollert. Animal.* 32; *Quaest. Conviv.* 2.7.3; Pliny *HN* 8.9 (27); Seneca, *de Ira* 2.11.5.

[67] Proc. *Aed.* 2.1.11–16.

[68] Proc. 8.13.4, ἐφ'ὧν δὴ ἔμελλον ἱστάμενοι Πέρσαι τοὺς πολεμίους ὥσπερ ἐκ πύργων κατὰ κορυφῆς ἐνθένδε βάλλειν. Procopius' statement that the Persian force was almost entirely cavalry is slightly misleading; certainly there were expert infantry forces present (cf. 8.14.5–9), but also the Persians' Sabiri allies appear to have provided the infantry crucial to siege warfare (8.13.6–7, 14.4–5, 11).

[69] Proc. 8.14.10, 32–33.

[70] Proc. 8.17.10–11, ἀναστὰς ἐπὶ τὰ Λαζῶν ὀχυρώματα ᾔει, τοὺς ἐλέφαντας ἐπαγόμενος.

[71] Agath. *Hist.* 3.26.8–27.5.

[72] Proc. 8.11.19–34.

proach'.[73] Mermeroes, specifically 'because he was quite unable to bring up the customary engines against the circuit-wall' (ἐπεὶ μηχανὰς μὲν τὰς συνειθισμένας τρόπῳ οὐδενὶ ἐς ... τὸν περίβολον ἐπάγεσθαι εἶχε, Proc. 8.14.4), thus deployed the Sabiri's portable rams and his elephants against the lower gate. As noted above, the mountainous landscape of Armenia and Lazica might superficially appear wholly inappropriate for the deployment of elephants (a view perhaps in part conditioned by our continued astonishment at Hannibal's transalpine passage), but it seems probable that the Persian war elephant acquired an importance in this Caucasian theatre precisely because it served as a 'machine' which could provided access to enemy battlements without the restrictions imposed by local conditions.[74] Perhaps this application recalls the passage of the *Arthaśāstra* on the military applications of elephants: '… marching forward and descending; entering difficult and crowded places'.

Finally, Procopius and Agathias also provide hints that elephants served a crucial logistical role, as suggested by P'awstos' report of an 'elephant train'. With regard to Mermeroes first campaign in Lazica in 551, Procopius marvels at the engineering abilities of the Persians and their achievement in constructing a wide road over precipitous and densely forested terrain, a road passable even to elephants. It is far more likely that these animals were actually brought on campaign to do just this sort of heavy work.[75] Similarly, Agathias notes the employment of elephants as a barrier across the River Phasis in 555, serving as an obstacle to Roman navigation. While this very specific deployment is attested nowhere else, it relates closely to the potential utility of elephants in river crossings, despite the long-standing and completely false belief throughout classical literature that elephants cannot swim.[76] It was certainly one function of war elephants in antiquity to form such barriers across wa-

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[73] Proc. 8.14.1–2, Κεῖται δὲ Ἀρχαιόπολις ἐπὶ λόφου τινὸς σκληροῦ ἐσάγαν... ἀλλ'ὅσον ἄνοδον ἐκ τοῦ πεδίου τινὰ ἐς αὐτὰς οὐχ ὁμαλῆ εἶναι ... δυσπρόσοδοι ἐσάγαν εἰσί ...

[74] See also the fortresses at Scanda and Sarapanis, φρούρια δύο ... ἅπερ ἐν δυσχωρίαις κείμενα χαλεπαῖς τισὶ καὶ ὅλως δυσκόλοις δυσπρόσοδα ὑπερφυῶς ὄντα ἐτύγχανε (Proc. 8.13.15). It is worth bearing in mind that Hannibal lost none of his 37 elephants in the Alps, nor is there much indication that they were a particular problem, certainly in comparison to the mules and horses. The only point they are mentioned during the ascent (Polyb. 3.53.8) they are noted as a positive asset in deterring the Alpine tribes. Scullard even suggests they may have been useful in clearing the track. The only problem appears to have occurred during the descent in circumstances that Polybius (3.54.6–55.9) is at pains to explain were exceptional and due to a recent landslide. Cf. the similar difficulties of Q. Marcus Philippus in 169 BC in descending the Olympus range with elephants after an apparently uneventful ascent; see Livy 44.5, with comments of W. K. PRITCHETT, *Studies in Ancient Greek Topography*, vol. II (*Battlefields*) (Berkeley 1969), 170–176.

[75] Proc. 8.13.5. cf. J. Eph. *HE* 6.9 for similar Persian road-building through the heavily forested 'mountains of Carkh' (or Carduchia; the modern Hakkari) in Arzanene in 576.

[76] Agath. *Hist*. 3.20.5–7. Despite the explicit testimony of Nearchus (Jacoby 133 frg. 22) *ap*. Strabo 15.1.43, the comments of Aristotle, *HA* 9.46.630b25–30; *PA* 2.16.659a13, were influential in propagating the misconception that elephants were poor swimmers, but managed to traverse rivers so long as their trunks remained above water (repeated Pliny *HN* 8.28); see to the contrary S. SIKES, *The Natural History of the African Elephant* (New York 1971), 273–274. According to Polyb. 3.46 and Livy 21.28.5–29.1, Hannibal experienced great difficulties in 218 BC in getting his few elephants across the Rhône, probably during the autumn flood, though even here Livy 21.28.5 preserves an alternative version that the elephants were encouraged to cross by themselves, which is repeated with additional detail by Frontinus, *Strat*. 1.7.2. For the misunderstandings that underlie the 'Polybian' version, see S. O'BRYHIM, 'Hannibal's elephants and the Crossing of the Rhône', *CQ* 41 (1991), 121–125.

terways, usually to assist in the transfer of men and equipment to the opposite bank.[77] Again the *Arthaśāstra* outlines the important functions of, 'marching in the van; making new roads, halting places and fords; … crossing and descending into water'. These would be very apposite capabilities for Persian armies operating in Armenia and Lazica, with their frequent unnavigable waterways, floodstreams and mud-choked roads.[78] It seems, therefore, that, contrary to the roles suggested by Armenian sources, for campaigning in this region the Persians considered elephants important primarily for besieging isolated strongholds, especially where inaccessible to other 'machines', and for the transportation of men and matériel over topographical obstacles and over great distances.

Throughout the more varied sources for the later sixth and early seventh centuries the general trend in the roles and deployment of elephants continues as outlined above. In fact, with the exception of two possible instances of their deployment in the field, which shall be examined below, subsequent references to elephants in Persian armies all appear to be in logistical contexts. Certainly in his last campaign, in 576, Khusrau I employed a large number of elephants in his baggage train, which the Romans managed to capture along with the royal household and treasury in the Armenian mountains. The large number of elephants seized on this occasion is reported in diverse sources, and was broadly advertised to the Constantinopolitan populace through their appearance in the circus. Indeed, this display itself probably played a part in distorting the events of this campaign, synthesising a major victory at the 'battle of Melitene' from what were in fact broader tactical successes, the most important of which was the capture of the Persian train.[79] One notable incident in these events was apparently Khusrau's escape across the Euphrates 'on an elephant', which, if genuine, is perhaps another instance of their utility in this role.[80] Elephants

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[77] E.g., Diod. 18.34.6–35.6 (and possibly the same at 33.6) for Perdiccas using elephants as a barrier in the Nile to break the force of the water to allow a crossing. See also the story preserved by Polyaenus, *Strat*. 8.23.5, of Caesar's use of an elephant to cross a river in Britain, seemingly the Thames, in the face of opposition. If the story has any veracity perhaps Claudius' invasion of AD 43 is meant. For comparison, the fifth-century AD Sanskrit poet Kālidāsa in the *Raghuvamsa* 4.38 has Raghu cross the river Kapiśā on a bridge of elephants (later in the poem Kusa uses the same stratagem to cross the Rewa); for Eng. tr. see Kālidāsa, *The Dynasty of Raghu*, tr. R. ANTOINE (Calcutta 1972).

[78] For Persian logistically problems and terrain see e.g., Proc. 8.13.3–5.

[79] The sources are complex and contradictory. Theoph. Sim. 3.14.10, τῶν τε ἐλεφάντων κρατήσαντες ἅμα τοῖς σκύλοις τοῖς Περσικοῖς παραπέμπουσι πρὸς τὸν Καίσαρα. John of Ephesus provides the best account, though the precise context of the elephants' capture has to be surmised; at 6.8 he reports the loss of Khusrau's baggage and equipment as the most notable aspect of the campaign, then at 6.10, in a list of Roman successes up to 577, and immediately following the 'action' at Melitene, he notes the most conspicuous Roman achievement as 'especially carrying off the elephants, until they filled Constantinople with these animals'. This is the only reference to elephants in his work. The captured elephants are even mentioned by Gregory of Tours, *HF* 5.30. Ps.-Sebeos, *Hist.* 68–69 (tr.8), implies that at least some elephants escaped with Khusrau, but certainly the Persian camp and everything it contained, including members of the royal household and immense treasure, fell into Roman hands. See L. M. WHITBY, *Emperor Maurice*, 262–267 for dating and reconstruction of the campaign.

[80] Again the sources conflict somewhat. Evag. *HE* 5.14, records that Khusrau escaped across the river on an elephant (αὐτὸς μὲν ἐλεφάντι ἐπιβὰς, τὸν ποταμὸν ἐπεραιώθη). J. Eph. *HE* 6.9, says the king escaped across the river on horseback, accompanied by the cavalry. Ps.-Sebeos, *Hist.* 68 (tr.8), says that Khusrau 'escaped by a hair, taking refuge in the elephants and cavalry.'

appear again as pack animals during Heraclius' campaigns against the Persians in the 620s. In 627 and 628, Khusrau II (591–628) was accompanied by elephants, most clearly in the context of his evacuation of the palace at Dastagerd, and specifically alongside trains of camels and mules.[81] These appear to be the same animals as the two hundred elephants later mentioned in the Persian camp on the River Narbus.[82] There is no evidence to suggest that Heraclius' forces encountered elephants on the battlefield, and if he had it is unlikely that his panegyrist George of Pisidia would have missed the opportunity to exploit them. The emperor nevertheless appears to have regarded these animals as an essential element in the triumph celebrating his distant eastern victories before the populace of the capital.[83]

ELEPHANTS ON THE BATTLEFIELD

The foregoing examination has established that the presence of elephants in Sasanian armies can in large measure be explain by their importance in siegecraft and their broad logistical application. It remains to assess the evidence for the presence of elephants on the battlefield and to determine their tactics and deployment in this period.

The only fourth-century instance of elephants deployed in battle to be reported in any detail is the engagement near *Sumere* or Σοῦμα (later Samara, near Baghdad), during the Roman retreat from Ctesiphon in 363. This incident is described by both Ammianus and Zosimus, in accounts so similar in incidental detail that they can only derive from a common source.[84] Ammianus narrates that as the Romans departed their camp the Persians attacked with elephants to the front (*adoriuntur nos elephantis praeviis*), whereas elsewhere he describes them deployed to the rear.[85] Both men and horses in the Roman force were terrified by the frightful stench. The last point is clearly rhetorical and classicizing, recalling similar comments by Caesar, Livy and others, but nevertheless accurately summarises the tactical function of the elephants.[86] He continues that two infantry units, the Joviani and Herculiani, 'after killing a few of the beasts, stoutly resisted the mail-clad horsemen', though no cavalry have been

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[81] Theoph. *Chron*. 320, 28; 321, 17–18.

[82] *ibid*. 325, 1–2.

[83] See Heraclius' display of four elephants in the Hippodrome in Nicephorus, *Breviarium*, ed. and tr. C. MANGO (1990), 19.3.

[84] Amm. Marc. 25.6.2–4; Zos. 3.30.2–3. Apart from the same location, both authors list the same two regiments most involved; the same three named centurions who perished in the action; and that the body of the *magister officiorum* Anatolius was found after the engagement. See F. PASCHOUD, *Zosime, Histoire Nouvelle* (Paris 1971–1989) II.2 (=Bk III), 212–213 for comparison of the texts.

[85] Elephants to the rear, see Amm. Marc. 24.6.8. A. E. CHRISTENSEN, *L'Iran sous les Sassanides* (Copenhagen 1944; repr. Osnabrück 1971), 208 suggests that 'derrière la cavalerie' was the only deployment of elephants.

[86] The standard text reads *faetorem inaccessum terribilemque*, of which *faetorem* is GÜNTHER's emendation. MS V has the meaningless *fraetum*; EBG have *fremitum*. Zosimus 3.30.3 …ὑπὸ τῆς τῶν ἐλεφάντων ἀλκῆς ἐβιάζοντο. Ammianus notes the alarming smell of the beasts again at 25.1.14 (*odoremque*), 3.4 (*faetorem*). Cf. note 23 for earlier examples of this *topos*.

previously mentioned.[87] These units were subsequently supported by the Jovii and Victores, who slew a further two elephants, and the engagement concludes. Zosimus gives a similar account with additional details, some of which clarify Ammianus' text. Zosimus states that it was specifically the Persian cavalry that attacked the Roman army, which explains Ammianus' reference to *cataphracti*; indeed, in strict grammatical terms, it was the cavalry who brought up the elephants (ἡ Περσῶν ἵππος … ἐλέφαντάς τε οὐκ ὀλίγους ἐπαγαγοῦσα). A considerable number of elephants were then led against the Roman right wing, where the Joviani and Herculiani were stationed, and who fell back with casualties. Zosimus explains the Persian success as the result of the combined cavalry and elephant tactics (ἐπελαυνόντων δὲ αὐτοῖς τῶν Περσῶν πρὸς τῇ ἵππῳ καὶ τοὺς ἐλέφαντας). In Zosimus' version the two regiments re-treat to the Roman baggage, where the 'sutlers' (σκευοφόροι) assisted in driving back the elephants with javelin fire.[88] The wounded elephants were butchered in retreat and disrupted the Persian cavalry. The tactical role of the elephants appears to have been to frighten the Roman men and horses, pressuring them into breaking formation and creating opportunities for the Persian cavalry. This assessment offers a clearer picture of other passages in Ammianus' narrative; for example, the Persians appear to have employed the same combined cavalry-elephant tactics earlier at Maranga.[89]

The single instance of the battlefield deployment of elephants attested in the fifth century is Ełishē's account of the great Armenian defeat at the battle of Avarayr in 451.[90] Before reviewing this narrative it is important to bear in mind the general comments on Armenian sources made earlier, and also that the other account of this important engagement by Łazar P'arpetc'i makes no mention of elephants except in the standard post-defeat *topos* of the trampling of prisoners.[91] Ełishē writes that the Persian commander,

> 'summoned many generals under his authority and ordered them to bring forward the companies of elephants. These he divided into various groups and assigned to each elephant three thousand armed men in addition to all the other troops… He set in order the whole army and extended the battle line all the way across the great plain. He disposed the three thou-sand armed men to the right and left of each elephant, and surrounded

[87] Amm. Marc. 25.6.2, … *Ioviani et Herculiani, occisis beluis paucis, cataphracti equitibus acriter resistebant.*

[88] Reconciling the two versions is difficult. It is possible that the Jovii and Victores mentioned by Ammianus as saving the day were stationed in a second line to the rear, and in transmission became confused with 'baggage troops'. Certainly this deployment is discernible in Ammianus' account of the battle of Strasburg in 357, see Amm. Marc. 16.12.42–49, of which Lib. *Or.* 18.58–59 (οἱ τῶν σκευοφόρων … φύλακες) appears to give a confused version; cf. Amm. Marc. 14.6.17; 27.10.10–15; 31.7.12, 8.1. According to Cassius Dio 75.7.3, however, at the battle of Issus in 194 Niger placed the baggage train behind his lines specifically to prevent flight. It should also be noted that baggage drivers were expected to be proficient with missiles, cf. Maurice, *Strat.* 7.B.9.3–5; 12.B.18.11–12.

[89] Amm. Marc. 25.3.4, … *ex alia parte cataphractorum Parthicus globus centurias adoritur me-dias, ac sinistro cornu inclinato acriter superfusus, faetorum stridoremque elephantorum impatienter tolerantibus nostris ... decernebat.* Their psychological function is again mention at ibid. 3.11.

[90] Ełishē (Thomson tr.), 166–173.

[91] For Łazar P'arpetc'i's account see 2.39 [72-3] (= Thomson tr. 115–116).

himself with the elite of his warriors. In this fashion he strengthened the centre like a powerful tower or an impregnable castle.'[92]

If this description is at all an accurate representation of what occurred, and comparison with later Arabic sources (see below) suggests that it is, it appears that elephants were deployed singularly with supporting detachments of other troops, though whether these were infantry or cavalry in this instance is not clear. As in Ammianus' and Zosimus' narratives, the tactical function of the elephants at Avarayr appears to have been to disrupt the opposing formations, either by their psychological impact or, where possible, by physically thrusting into the Armenian lines, providing the supporting troops with important tactical opportunities. The rest of Ełishē's account is less clear; after elite Persian forces had dislodged the Armenian left flank, Vardan counterattacked vigorously, breaking the Persian right and 'throwing it back on the elephants', which suggests that at least some elephants were stationed to the rear, possibly pack animals rather than 'war elephants'.[93] This is also implied by Ełishē's claim that during the battle the characteristically cowardly Armenian traitor Vasak, who was serving with the Persian army, 'had survived by hiding himself among the elephants'.[94] Vardan's counterattack was not supported by the rest of the Armenian army, however, resulting in a fatal gap developing between the advancing left flank and the rest of the Armenian battle line. The Persian commander 'waited for the elephants of Ardashir, who was sitting on [one of] them in a high watchtower as if in a fortified city. At the sound of the great trumpets he urged on his troops and surrounded him (Vardan) with the troops of the front line.'[95] There follows Vardan's death and general carnage. The final passage is particularly obscure. This Ardashir is not otherwise mentioned, and the 'fortified city' simile is drawn from *Maccabees*, but this senior Persian officer was apparently himself mounted on an elephant and commanded several others.[96] It is perhaps best to admit that little more can be done with this passage, while noting that it generally accords with the tactical deployment of elephants in other late antique sources.

As outlined above, in Procopius' detailed narrative of Romano-Persian conflicts during the reign of Justinian there is not a single instance of war elephants making an appearance on the battlefield. His continuator Agathias does describe elephants deployed for the battle on one occasion, though even here the context is the Persian siege of Phasis of 555.[97] Agathias notes that as the Persians began to withdraw

'those on the other [right] wing, still in formation, resisted most vigorously. For the elephants, thrusting themselves forward in the place of a rampart (ἀντ᾽ἐρύματος προβεβλημένοι) and charging forth immediately routed the shield-wall of the Romans wherever it formed, and the archers riding

[92] Ełishē (Thomson tr.), 166–167.
[93] Ibid. 169–170.
[94] Ibid. 173.
[95] Ibid. 170.
[96] Cf. I *Macc*. 6:37.
[97] Agath. *Hist*. 3.26.8–27.5.

upon these beasts dealt great harm to their attackers, since mounted in such an elevated position they were shooting with the greatest accuracy.'[98]

It is into this narrative that Agathias inserts a standard topological account of a enraged wounded elephant turning upon its own masters. The Roman hero responsible for this reversal of fortune is one Ognaris, a *bucellarius* of the general Martinus, and very likely Agathias' principal, and quite probably only, source for the events at Phasis, which poses many problems of perspective and interpretation, as well as genre. Indeed, Cameron dismisses this highly rhetorical, classicizing account as largely Agathias' literary fabrication.[99] If there is any historical veracity at all in Agathias' narrative, the elephants appear to have served the tactical function of a rearguard on this occasion, though it is worth noting that again they were probably only present at all because of the poliorcetic context.

Roman sources provide only two further instances of the possible deployment of elephants in pitched battle, the first at the battle of Gandzak in 591, between the rebel Persian commander Bahram Chobin and the recently deposed Khusrau II, supported by his Roman allies. The second is an engagement on or near the river Arzamon (modern Zergan) in 604, where the now-restored Khusrau II defeated the Romans.[100] Taking the latter instance first, as the less detailed; in his early nine-century *Chronographia* Theophanes Confessor reports that in 604, ὁ δὲ Χοσρόης σὺν τοῖς Ῥωμαίοις γίνεται εἰς τὸ Ἀρξαμοῦν, καὶ φρούριον ἀπὸ ἐλεφάντων συστησάμενος τοῦ πολέμου ἀπήρξατο καὶ νίκην μεγάλην ἤρατο, πολλοὺς τῶν Ῥωμαίων ζωγρήσας, οὓς καὶ ἀπέτεμεν.[101] Mango and Scott translate the phrase καὶ φρούριον ἀπὸ ἐλεφάντων συστησάμενος as 'and setting his elephants in a fort-like formation'.[102] Such a formation is mentioned explicitly by no other source of any period, and the wording is so cryptic as to suggest possible corruption.[103] By φρούριον, Theophanes (or his source) might have meant no more than a 'defensive screen', and as such the phrase equates loosely to Agathias' ἀντ'ἐρύματος and Theophylact's προβόλους τινὰς (see below).[104] One possible alterna-

[98] Agath. *Hist.* 3.26.8, …οἱ δὲ ἐπὶ τῷ ἑτέρῳ ξυντεταγμένοι καρτερώτατα ἀπεμάχοντο. οἵ τε γὰρ ἐλέφαντες ἀντ'ἐρύματος προβεβλημένοι καὶ ἐπεισπηδῶντες διετάραττον αὐτίκα τὸν ξυνασπισμὸν τῶν Ῥωμαίων εἴ που ξυσταίη· οἵ τε ὑπὲρ τούτων ὀχούμενοι τοξόται λίαν ἐσίνοντο τοὺς ἐπιόντας, οἷα ἐς ὕψος ἠρμένοι καὶ τῷ ὑπερανέχειν εὐσκοπώτατα βάλλοντες.

[99] A. CAMERON, *Agathias* (Oxford 1970), 48-8. For a very similar one-man victory over a fierce elephant, cf. Caesar, *Bell. Afr.* 84.

[100] The R. Arzamon was the location of another Roman-Persian engagement in 586 and a similar encounter is assumed here. The small ancient settlement now called Tell-Hartzem is less likely, for which see L. DILLEMAN, *Haute Mésopotamie Orientale* (Paris 1962), 55–56, 82.

[101] Theoph. *Chron.* 292, 16–21.

[102] C. MANGO and R. SCOTT with G. GREATREX, *The Chronicle of Theophanes Confessor. Byzantine and Near Eastern History, AD 284–813.* (Oxford 1997), 420 with n. 5. Cf. the Latin trans. of J. GOAR, *Theophanis Chronographia …* (GBH), 195, 'Tum vero Chosroes ad Arzamum Romanis occurit & elephantis castrorum in morem ordinatis, belli dat exordia…'. The text is corrupt in mss x, y read: ἀπὸ ἐλέφαντος; zA: ἐλεφάντων.

[103] Given the location of the engagement beside the river Arzamon, it is tempting, for example, to emend φρούριον to γέφυραν, in parallel to the previously cited references to 'elephant bridges', see n. 77.

[104] cf. also the similar phrase in Theoph. Sim. 5.10.6, ὁ μὲν οὖν Χοσρόης πεντακοσίοις ἐς φρουρὰν ἀνδράσι περιφραξάμενος, describing a bodyguard.

tive, however, especially given Theophanes' tendency to condense and thereby distort his source material for this otherwise poorly attested period, is that the φρούριον in question was an unnamed Roman stronghold on or near the Arzamon, which Khusrau 'engaged with his elephants'. Theophanes possibly conflates the protracted Persian siege of nearby Dara (603–604) with the defeat of a Roman relief attempt.[105] Not only does this interpretation correspond to this very frequently-attested role of elephants in late antiquity, but also offers a better context for the subsequent massacre of the Roman captives, a regular atrocity after the gruelling ordeal of a siege, but otherwise unprecedented in a field action.[106] Certainly the only other source for warfare in this period suggests a series of successful Persian sieges followed by the massacre of Roman garrisons.[107] Ultimately it has to be admitted that the evidence supports no firm conclusion in either case.

The battle of Gandzak in 591 is a more interesting and important event, and a clear instance of war elephants deployed in battle, as was noted by Scullard and highlighted by Baldwin. The battle of Gandzak in Atrpatakan (Atropatene) was rather irregular in other respects also. Not just another Romano-Persian clash, the engagement pitched a Persian army commanded by the usurper Bahram Chobin against a combined Romano-Persian force jointly commanded by the *Magister Militum* Narses and the recently deposed Khusrau II.[108] Theophylact records that Bahram, greatly outnumbered, arrayed his elephants, apparently an elite force, in the battle line: ναὶ μὴν καὶ ἐλέφασι τοῖς Ἰνδικοῖς θηρίοις καθάπερ προβόλους τινὰς ἱππέων ἡγεῖσθαι κατέταττεν, τούς τε ἀνδρειοτέρους τῆς μαχίμου δυνάμεως ἐπὶ τῶν θηρίων ἀναβιβάσας παρεσκεύαζε μά-χεσθαι. He adds rather cryptically οὐκ ἠμοίρει δὲ καὶ τὸ ἑκάτερον τούτων δὴ τῶν συμμά-χων θηρίων.[109] Scullard, advised by Cameron, argued that on grammatical grounds 'the other army' must be meant, indicating that Narses and Khusrau had elephants at their disposal.[110] It suited Baldwin's wider case to accept the interpretation that the 'Roman' army employed elephants at Canzak.[111] Adopting a strictly grammatical approach, it is therefore possible that Khusrau's Persian forces included elephants, and certainly Theophylact suggests that the presence of Persian troops in both armies

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[105] On Theophanes distortion of this period see A. N. STRATOS, *Byzantium in the Seventh Century*, vol. 1 (602–634), tr. M. OGILVIE-GRANT (Amsterdam 1968), 61–62. For the siege of Dara 603–604, just twelve miles from the R. Arzamon, see ps.-Sebeos, *Hist.* 107–108 (tr. 58-9); *Chron. 724, s.a.* 604; *Khuz Chron. s.a.* 603; *Chron. Seert, s.a.* 604.

[106] For the Persians massacring Roman garrisons and civilian populations see e.g., Proc. 1.7.30–31; ps.-Joshua Stylite, ch. 53 (pp. 61–63).

[107] Mich. Syr. *Chron.* 10.25, ed. and tr. J. B. Chabot (Paris 1899–1905) II, fsc. 2: 378.

[108] Theoph. Sim. 5.10.2–11.3. This account is based on the lost *History* of John of Epiphania.

[109] Theoph. Sim. 5.10.6. cf. 5.10.5. where the troops on the flanks are defined as allies: οἱ δὲ ἡγε-μόνες τοῦ συμμαχικοῦ τὴν ἐφ' ἑκάτερα δύναμιν; the allies in question included Turks, cf. 5.10.13–15.

[110] SCULLARD (n. 1) 260, n. 150. Indeed, the original editor C. de BOOR, *Theophylactus Simocatta Historiae*, ed. (Leipzig 1887): Index Graec. 379, *s.v. ἑκάτερος*, understood τὸ πολέμιον.

[111] BALDWIN (n. 2) 293, with postscript 2. Baldwin cites other references in support of this interpretation. However, Theoph. Sim. 1.3.8–10 merely proves that the Romans possessed elephants. This is not in question, but that they used them in a military capacity is not proven. Maurice's gift of an elephant to the Avar chagan, ibid. 1.3.9–10 is similarly irrelevant. The Romans were also familiar with elephants through captured specimens, which would be used in triumphs before the Constantinopolitan populace, irrespective of their real presence in the field.

made the opposing forces to some extent indistinguishable.[112] If this were the case, these elephants must have been supplied by the Roman government or acquired at some point during the campaign. Our reasonably detailed information on the forces collected by Narses and Khusrau does not include elephants, nor does any author mention their acquisition, though certainly Bahram's elephants captured at Gandzak were subsequently handed over to Khusrau.[113] M. and M. Whitby, however, suggest τὸ ἑκάτερον more sensibly refers to 'either side', that is either flank, of Bahram's army, hence 'neither side was without its share of these beasts as allies'.[114] This interpretation has much to recommend it, and such a deployment is also attested in Arabic sources (discussed below)

If there were 'Roman' elephants present, then Theophylact's relatively detailed account of the battle makes no mention whatsoever of their role in the engagement. On the other hand the involvement of Bahram's elephants is recorded, though not especially well defined. As noted above, Theophylact states that Bahram 'arranged for elephants to be led forward as a sort of bulwark for the cavalry' (καὶ ἐλέφασι … καθάπερ προβόλους τινὰς ἱππέων ἡγεῖσθαι κατέταττεν). Theophylact's language is typically obscure, but the phrase προβόλους τινὰς would seem to suggest a kind of screen or defensive barrier; certainly this is the sense πρόβολος and its cognate προβολή in earlier military writers.[115] The phrase is also very reminiscent of Agathias ἐλέφαντες ἀντ'ἐρύματος προβεβλημένοι, and perhaps even Theophanes' cryptic φρούριον. Again it seems that Persian elephants and cavalry intended combined tactics, the elephants unnerving the Roman cavalry and giving the Persian horsemen the opportunity to attack. Whatever their dispositions, Narses apparently paid them no attention to them – οὐδὲν μέλον αὐτῷ περὶ τῶν ἐλεφάντων.[116] Indeed, they are only mentioned again in the context of the battle's aftermath, acting as a rearguard to cover Bahram's retreat, an action which resulted in their capture: … ὁρῶσι Ῥωμαῖοι τοὺς ἐπὶ τῶν ἐλεφάντων ἱδρυμένους βαρβάρους ἀκροβολιζομένους καὶ τῷ τόξῳ χρωμένους. διὰ τοῦτο τούτους περιστοιχίσαντες δευτέρας μάχης κρατοῦσι τά τε θηρία ζωγρήσαντες τῷ Χοσρόῃ παρείχοντο.[117] Theophylact's narrative is clear that this particular engagement took place at the very end of the day (ἡλίου δὲ κλίναντος), after the main action was over. The only other description of the battle is that of pseudo-Sebeos, who also regarded the elephants as a resource available only to Bahram. One of the few specific details of his otherwise generic, 'Maccabeean' battle narrative is that the engagement with the elephants took place after sun down and during the pursuit of Bahram's defeated forces, rather than as part of main battle.[118] In both sources these were expressly war elephants mounted with armoured warriors and not Bahram's baggage train. This action in the aftermath

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[112] Theoph. Sim. 5.10.4–5.
[113] For the campaign see L. M. WHITBY, *Emperor Maurice and his Historian* (Oxford 1988), 297–303. For captured elephants given to Khusrau: Theoph. Sim. 5.11.2; ps.-Sebeos, *Hist*. 79–80 (tr. 23).
[114] M. and M. WHITBY, *The History of Theophylact Simocatta* (Oxford 1986), 145–146 with n. 49.
[115] See e.g., Arrian, *Ectaxis* 14, … ὡς προβολὴν μὲν εἶναι πρὸ τῶν ἀκοντιστῶν τοὺς ὁπλίτας; ibid. 29, τὴν πεζικὴν τάξιν … αὖθις εἶναι προβολὴν πρὸ τῶν ἱππέων.
[116] Theoph. Sim 5.10.10.
[117] Theoph. Sim 5.11.2.
[118] ps.-Sebeos, *Hist*. 80 (tr.23).

of the battle of Ganzak is reminiscent of Agathias' description of the elephants assisting in covering the retreat of Persian forces from Phasis in 555, which not only goes some way to restoring the credibility of Agathias' account, but also opens the possibility that such vigorous rearguard actions were one of the standard tactical roles for elephants. This perhaps corresponds to the *Arthaśāstra*'s rather vague, 'reuniting broken ranks, breaking up unbroken ranks; protecting in a calamity'.

Even so, the prominence of war elephants in Bahram's army at Gandzak might again reflect unusual circumstances. Bahram does at least appear to have been particularly conscious of the large numbers of elephants at his disposal. Pseudo-Sebeos describes how earlier in the campaign Bahram entered into correspondence with Musheł Mamikonean, the commander of the large Armenian contingent in the Romano-Persian forces attempting to restore Khusrau. The exchange makes repeated reference to the large numbers of war elephants in Bahram's host and their heavily armoured riders, with the threat of which Bahram attempted unsuccessfully to intimidate Musheł into switching sides, though the latter merely concluded that the usurper was a braggart who placed his confidence 'not in God, but valour and the strength of elephants'.[119] It is worth noting that Al-Tha'âlibî reports that in the 'battle of the Hyrcanian Rock' against the Turks in 588, just three years before the battle of Gandzak, Bahram deployed elephants in his battle line. Again, their purpose is not altogether clear, but on this occasion they were certainly positioned 'in the rear' behind the infantry, a deployment also noted by Ammianus.[120] Perhaps their role here was to bolster the morale of the battle line and to hinder the possibility of flight, a potential danger that Al-Tha'âlibî notes was on Bahram's mind.[121] It is possible, therefore, that for reasons that are unclear Bahram had access to better sources of elephants than those usually available to Persian commanders.[122]

Finally, it is necessary to survey briefly the references to Sasanian war elephants in Arabic sources, in part for the sake of completing the late antique purview of this study, but more so because they serve as an invaluable 'control' to the information provided by Roman and Armenian authors. The principal narrative for this purpose is Tabari's account of the early Islamic conquests, which, though compiled in the ninth century, preserves an extensive earlier tradition, both written and oral. The character of Tabari's sources, and his attempt to compile a narrative account from different, and sometimes conflicting, traditions, results in battle descriptions that are repetitive, episodic and essentially anecdotal, being characterised by several small-scale, localised perspectives, from which it is often difficult to construct a wider picture of

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[119] ps.-Sebeos, *Hist*. 78–79 (tr. 21–22).

[120] Amm. Marc. 24.6.8; and possibly implied in Ełishē (Thomson tr.), 173.

[121] Al-Tha'âlibî, *Ta'rikh ghurar al-siyar (Histoire des rois des Perses)*, ed. and tr. H. ZOTENBERG (Paris 1900), 646. Al-Tha'âlibî notes that Bahram had already dispatched a detachment to prevent anyone who might wish to flee from doing so. Balami, *Chronicle*, tr. H. ZOTENBERG (Paris 1867–1874), 261, also narrates this battle, though makes no mention of elephants. Tabari also gives a much-abbreviated version without elephants, see *The History of al-Tabarī*, vol. 5: *The Sasanids, the Byzantines, the Lakhmids, and Yemen*, tr. C. E. BOSWORTH (New York 1999), 302–303.

[122] The large numbers may reflect proximity to elephants herds within the Sasanian empire, or possibly their particular value for Bahram's campaigns in the late 580s against the Turks, whose strength lay overwhelmingly in cavalry.

events. Moreover, his source material is often framed in the manner of the *ayyām al-ʿarab* – 'battle days literature', confused and tribally-partisan stories and traditions which, while they contain certain historical facts, nevertheless focus primarily on the distinguished successes or failures of individuals or tribes. Consequently, not only do single combats feature prominently, but the more exotic and colourful aspects of the Persian opposition are stressed, including encounters with obviously dangerous opponents like heavily-armoured cavalry and elephants.[123] The wealth and sophistication of Sasanian armies relative to the poorly-equipped Muslim warriors is also a persistent and deliberately moralising theme. The Muslim invasions of lower Mesopotamia in the 630s present the only context in which Arab forces regularly encountered elephants, though the attack of Abraha's Himyarite army on the Kaʿba at Mecca, clearly a poliorcetic deployment, of course became a significant point in Muslim chronological calculations.[124]

Tabari reports the presence of Persian war elephants on three occasions.[125] The first is the battle of al-Qarqus, or the famous 'Battle of the Bridge (*Djisr*)', in October–November 634. This was the Persians' sole success over the forces of Islam, and it was largely for this very reason that it became one of the most celebrated incidents in Arab historiography. The Persian commander Rustam (Rustum b. al-Farrukhzādh) dispatched Bahman Jādhūyah 'along with elephants' to deny the Muslims the passage of the Euphrates. The account of the subsequent engagement is extremely vague, but for Arabic tradition the most significant event was a fatal confrontation between the Arab commander Abū ʿUbayd (b. Masʿūd al-Thaqafī) and a Persian war elephant, and Abū ʿUbayd's fall in this encounter was apparently responsible for the Arab defeat just on the point of victory.[126] While there is no reason to reject the essential fact of this event, the role of this exotic creature in this account is perhaps most significant in explaining away a rare setback in the otherwise unstoppable progress of Islamic armies in the 630s–640s.

The second action is the battle at Shūmiyā or the so-called 'battle of Al-Buwayb' (November 634 or April 635 or October/November 635). Tabari reports that the Persians 'put themselves into battle formation. Then they advanced against the Muslims in three lines. Each line had an elephant, with their infantry before their elephant.' This arrangement is somewhat reminiscent of Ełishē's fifth-century Armenian

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[123] See W. CASKEL, 'Aijām al-ʿArab. Studien zur altarabischen Epik', *Islamica* 3 (1930), fasc. 3 (*Ergänzungschaft*), 1–99; A. DURI, *The Rise of Historical Writing among the Arabs*, ed. and tr. L. I. Conrad (Princeton 1983), 16–20.

[124] See *Koran* cv. This event is recalled in the ʿĀmat al-Fīl, the 'Year of the Elephant', traditionally the year of Mohammad's birth, AD 570, but certainly much earlier, possibly 547. The Arabic word for elephant, *fīl*, derives directly from the Persian *pīl*. For the broader context of the elephant in the Muslim world see J. RUSKA, C. E. BOSWORTH et al, *Encyclopaedia of Islam* (2nd ed.) II, 892–895, s.v. *fīl*.

[125] Tabari 2115–2121, also preserves a tradition (via Sayf) of an earlier battle between al-Muthannā and the Sasanians, which included elephants, but there are good grounds for thinking that this is probably both chronologically misplaced and a battle 'manufactured' from variously reported skirmishes.

[126] Tabari 2174–2176, 2180–2181; see *The History of al-Tabarī*, vol. 11, *The Challenge to the Empires*, translated and annotated by Khalid Yahya BLANKINSHIP. (Princeton 1993), 188–189. For another account see Ibn Khayyāt, *al-Taʾrikh,* ed. S. Zakkār (Damascus 1967–1968), 109–110. See F. M. DONNER, *The early Islamic conquests* (Princeton 1981), 192 with App. E. at 375–379.

account of the battle of Avarayr, where individual elephants appear to have been assigned their own unit of troops, at least as one element in the Persian deployment for battle. Unfortunately the elephants do not recur in Tabari's lengthy and seemingly detailed account of the battle. Moreover, Tabari bases his account largely upon the traditions collected by the earlier author Sayf b. 'Umar, who probably elaborated an already heavily embroidered tradition, and whose unreliability is generally accepted by Arabic scholarship.[127] Indeed, several scholars have doubted whether this battle took place at all.[128] The most that can be said for Tabari's description of elephant tactics at this point is that he possibly preserves an earlier Arabic tradition of how Persian armies 'typically' fought battles.

The third and most informative episode in Tabari's history is his lengthy account of the battle of al-Qādisiyyah (probably 637). Tabari devotes very considerable space to this battle and its preliminaries, which had momentous consequences for the fates of both Islam and the Sasanid dynasty.[129] His account is based on several earlier authors, but again for the most part on the traditions collected by Sayf b. 'Umar. There are many (in all possibility insoluble) problems associated with this three- or four-day engagement, including its basic chronology (even the year is disputed) and the numbers involved. The presence of elephants is just one of the several traditions concerning the battle, and in particular how the generally poorly-equipped Muslims devised new methods to defeat them. It is safe to conclude that elephants were present, and clearly the Arabs had learned to deal with them. It is interesting to note that Arabic tradition preserved the detail that the Shahrbarāz Sijistān was present at al-Qādisiyyah, a significant detail given that, as previously noted, Ammianus explicitly connects the appearance of elephants in the Persian host at Amida in 359 with the presence of *Segestani*, that is to say, troops from the eastern province of Sistan.[130] More to the point, Tabari preserves valuable incidental detail that corresponds closely to information provided by Roman and Armenian sources.

Tabari lists the various conflicting traditions concerning the number of elephants at al-Qādisiyyah, which ranges between 30 and 33, though most concur the

[127] See A. DURI, *The Rise of Historical Writing among the Arabs*, ed. and tr. L. I. Conrad (Princeton 1983), 46–47, 140–144; though see E. LANDAU-TASSERON, 'Sayf b. 'Umar in Medieval and Modern Scholarship', *Der Islam* 67 (1990), 1–26, for a critique of the modern prejudice against Sayf; his faults are uncritical selectivity of sources and heavy-handed interpretation rather than deliberate invention.

[128] Tabari 2184–2185, 2187, 2190–2193, 2196, 2199–2200 = *The History of al-Tabarī*, vol. 11, *The Challenge to the Empires*, translated and annotated by Khalid Yahya BLANKINSHIP. (Princeton 1993), 204. The 'battle of Al-Buwayb' does not appear in Ibn Khayyāt's version. See F. M. DONNER, *The early Islamic conquests* (Princeton 1981), 198–200, who argues persuasively for a 'Buwayb cycle' or 'a kind of tribal epic'.

[129] The account of al-Qādisiyyah is in *The History of al-Tabarī*, vol. 12: *The Battle of al-Qādisiyyah and the Conquest of Syria and Palestine*, translated and annotated by Yohanan FRIEDMANN (Princeton 1992), sections 2234–2360 (pages 27–144). For commentary see (rather uncritical) S. YUSUF, 'The battle of al-Qadisiyyah', *Islamic Culture* 19 (1945), 1–28; L. VECCIA VAGLIERI, *Encyclopaedia of Islam* (2nd ed.) IV, 384–387 s.v. al-Kādisiyya; F. M. DONNER, *The early Islamic conquests* (Princeton 1981), 202–205.

[130] Tabari 2311 (103). It may also be significant that the Persian commander-in-chief, Rustum b. al-Farrukhzādh, was the son of the *ispabadh* of the neighbouring province of Khurāsān, where he had himself served as deputy.

latter, of which 18 were with Rustam in the centre, and fifteen distributed on the wings. One tradition maintains the presence of an older and bigger white elephant, as the herd leader.[131] The numerical discrepancy is perhaps explained by one tradition that 'they had thirty elephants. With each elephant were 4,000 men… There were also elephants on which the leaders were standing and which did not fight.' These details are strikingly similar to Ełishē's fifth-century Armenian account of the battle of Avarayr, with which there can be no possible literary connection.[132] As noted above, Ełishē has the Persian commander assign units of 3,000 men to each elephant. He also reports that at least one Persian officer named Ardashir participated in the battle mounted on an elephant. It is possible, therefore, that in addition to providing designated tactical units – of either infantry or cavalry – with a psychological 'spear-head' to break enemy formations, some 'non-combatant' elephants also served as prominent 'command posts' for senior officers, who could thus obtain a better per-spective of the course of the engagement. Their elevated position might also assist in the conveying of orders and receipt of reports, and potentially rendered commanders less likely to be harmed in close-quarters combat. It is possible that the white ele-phant and the so-called 'scabby' elephant singled out for attack by the Muslims on the third day of al-Qādisiyyah, because they were 'herd leaders', were in fact the ele-phants of senior officers.

The Persian elephants feature prominently in the fighting on the first and third days of the battle; the second was primarily characterised by light skirmishing and recuperation. Tabari's narrative, rather repetitively, preserves the variant versions of 'the events' on the first day.[133] Varying in detail, the broad tradition relates that a unit of elephants (variously 13 or 16) attacked the Bani-Bajīla: 'the elephant drivers at-tacked the Muslims and drove a wedge between their units. The horses panicked. Ba-jīla was on the verge of being annihilated. Their horses and the horses of those who were with them in their positions fled in terror, and only the infantrymen stationed there remained … Every elephant was ridden by twenty (sic) men.'[134] Conspicuous support was given by the Bani-Azd; then 'the Persian cavalry, accompanied by the elephants, gathered against Azd. … The elephants attack the horses on the two wings, and the horses were recoiling and swerving aside. The Muslim horsemen insistently

[131] At Tabari 2235 (30): elephants merely reported in Rustam's camp at Sābāt. For numbers and dispositions: 2266–2267 (62–63), 2287 (82). The important role of 'herd-leaders' in military operations is attested in e.g., Polyb. 3.46.7–8; Livy 21.28.5, 8; Frontinus, *Strat.* 1.7.2. See also R. CARRINGTON, *Elephants: a Short History of their Natural History, Evolution and Influence on Mankind* (New York 1959), 63–64.

[132] Tabari 2294 (89). It is unimportant that the overall arithmetic is internally inconsistent – an army of 30,000 divided between 30 elephants into groups of 4,000; this does not vitiate the basic detail and its striking resemblance to Ełishē's account, see above p. 373–374.

[133] Tabari 2298–2301 (92–95), 2355–2356 (140). Other specific aspects of Persian tactics are noted, including the use of caltrops and massed archery.

[134] Tabari 2298 (93). The reference to twenty men mounted upon each beast merely indicates 'a lot'. Megasthenes, *Indica*, ed. E. A. Schwanbeck (Bonn 1846; repr. Amsterdam 1966), frgs. 34, 35; Livy 37. 40. 4, write that the crew normally comprised three to four men in addition to the driver. We may similarly dismiss the account in I *Maccabees* 6:37 of thirty-two soldiers plus driver.

asked the infantrymen to urge the horses on.'[135] A further Muslim counterattack util-
ised specifically anti-elephant tactics, combining massed archery against the beasts
with individual swordsmen attempting to slash the girths securing the turrets. The ele-
phants were driven back and their drivers killed.[136] Tabari reports that the elephants
were not used on the second day of the battle because their turrets were broken and
under repair.[137]

On the third day the elephants reappeared for the heaviest fighting of the whole
engagement. According to Tabari's sources the Persians deployed specifically with
the previous Muslim success in mind, but the formation does not appear to differ sig-
nificantly from the regular field tactics outlined above, indeed this is possibly the
clearest statement of the elephants' function in combined battle tactics: 'the elephants
moved forward, accompanied by the infantrymen, who protected them against the
possibility of their girths' being cut again. The infantrymen were, in turn, accompa-
nied by horsemen, who protected them. When the Persians wanted to attack a mili-
tary unit, they move towards it with an elephant and its escort in order to scare the
horses of the Muslims.'[138] The Persians attempted to repeat their earlier tactical suc-
cess, 'driving a wedge between the Muslim units and doing again what they had done
on the [first] day…', focusing their attack on the centre.[139] Again Muslim determina-
tion and ingenuity won the day; this time they concentrated on the elephants' trunks
and eyes to incapacitate or infuriate them, with apparently designated individual war-
riors singling out lead beasts for attack. These tactics were successful, resulting in the
deaths of the riders, and the elephants stampeded back through the Persian lines.[140]

CONCLUSIONS

It has been necessary from the outset to discard the assumption that every refer-
ence to elephants in the campaigns of this period is to 'war elephants' trained to be
deployed in pitched battle in the Hellenistic mould. In fact, there are very few refer-
ences to elephants on the battlefield and those that exist are often individually prob-
lematic. On the other hand, this survey has demonstrated that from the third to the
early seventh centuries a varied range of military applications for elephants accounts
for their reported presence in Sasanian armies. Certainly there emerges a rather dif-
ferent picture of their role and importance to that suggested by the battlefield-orien-
tated sources for the Hellenistic period and the Roman Republic, and one which cor-

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[135] Tabari 2300 (94) The reference to the 'two wings' is repeated subsequently, but it is unclear
whether this refers to elephant attacks on both wings of the army, as Friedmann (n. 129) 95, n. 320) or a
more localised encirclement, but the context favours the latter.
[136] Tabari 2300–2301 (94–95).
[137] Tabari 2306 (98), 2320 (109).
[138] Tabari 2320 (109–110). Tabari reports that the Muslims used camels in a similar way, and
with greater success; that is, a combined attack with cavalry which spooked the Persian horses, cf. 2309
(100), 2326 (115).
[139] Tabari 2326 (114).
[140] Tabari 2324–2326 (113–115).

responds more closely to and is elucidated by ancient Indian sources. During late antiquity the overwhelming weight of the evidence indicates that the military significance of elephants lay in two broad spheres, siegecraft and logistics. In the former they facilitated the attackers' approach to battlements, especially where obstructed or difficult terrain precluded other, wheeled types of siege machinery, as was often the case during Sasanian campaigns in the Caucasus, precisely the sort of mountainous region where conventional wisdom might regard their deployment as inappropriate. The measures taken by the Roman defenders to avert their attacks indicates the seriousness of the threat they could pose. In the sphere of logistics, elephant trains, an additional resource to camels and mules, were capable of transporting large quantities of military matériel, and all the paraphernalia that might accompany a Sasanian royal progress, over long distances and across difficult terrain. In this respect the late antique evidence provides a very different picture of the military capabilities of elephants to that of the Hellenistic period, where the wonder evoked by Hannibal's crossing of the Alps has perhaps focused attention too much on the logistical difficulties elephants posed, rather than the advantages they conferred. Tamed Indian elephants could also participate in a variety of vital military engineering projects, especially road clearing and construction, and the bridging of rivers.

This is not to deny that elephants played a useful role on the battlefield, only that this was never their primary function, and in fact they were sufficiently rare for Maurice to omit them altogether from his study of Persian tactics in *Strategicon*. In battle they were principally deployed, often individually, as a psychological spearhead for units of Persian cavalry and infantry, frightening both the men and especially horses in enemy formations and thereby creating favourable opportunities for the accompanying troops; this role is variously attested in the historical literature produced in different languages and cultural milieux throughout the period. In this respect their tactical application on the battlefield was not dissimilar in function to their Hellenistic counterparts. Elephants might also be deployed to bolster a battle line from the rear or if necessary served as a rearguard to cover the army's withdrawal and prevent pursuit by enemy cavalry. The presence of 'war elephants' on the battlefield, as opposed to beasts of burden in the baggage train, however, was never in large numbers, and the small figures in Roman and Arabic sources act as a corrective to the vast hosts found in the Armenian histories of the period. Furthermore, they appear in battle irregularly, and most conspicuously during major penetrations of the Sasanian empire, such as Julian's invasion of 363; the civil war between the Roman-backed Khusrau II and Bahram Chobin in 591; and during the early stages of the Muslim penetration of lower Mesopotamia in the middle to late 630s. It is difficult to determine to what extent this pattern represents military 'desperation' or corresponds to the location of elephant herds, equipment and troops within the empire, or indeed merely reflects the interests and survival of the sources in question.

These last concerns point to several unanswered questions. Unfortunately too little is known of the location of elephant herds in the Sasanian empire and their sources of supply. A tradition preserved in a late source emphasises the extreme difficulty of elephant-breeding in Iran, with a single instance of 'home breeding' attested

in antiquity.[141] Certainly proximity to sources of Indian elephants was significant to their deployment in the Hellenistic period, a factor that can also be recognised in ancient Chinese warfare.[142] Sistan and neighbouring provinces have been suggested as one possible breeding area, though it is safe to presume than non-breeding herds were maintained in Iran and Mesopotamia, if only for the purposes of ceremony and hunting.[143] Also unclear are the wider implications of the presence of elephants for Sasanian armies in terms of marching speeds and provisioning. There is no information for this period, but modern assessments require 300 to 350 lbs. of fodder per beast per day and 50 gallons of water.[144] This fodder had to be collected and transported, and these considerations must have acted as a limiting factor on the numbers participating in campaigns. These were, however, clearly difficulties that did not deter the Sasanians from continuing to employ elephants in the variety of roles outlined above. Indeed, the retrospective 'military record' of the elephant in late antiquity appears on the whole more positive than his counterpart in the age Seleucus, Pyrrhus and Hannibal, where there is often a tacit underlying assumption in modern scholarship that the war elephant, in terms of provisioning, logistics and manageability in battle, was more of a liability than an asset. The new perspectives suggested by this study might in turn lead to a reappraisal of the Hellenistic evidence, but that is a task the author prefers to leave to others.

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[141] The anonymous Persian history *Mujmal Al-Tawârikh wa'l-qisas* (ed. M. T. BAHAR, Teheran 1939), compiled c.1126 AD, using much earlier compilations and traditions. This records that Khusrau II Parviz (591–628) possessed 900 elephants, among which a single Iranian-born beast was regarded as a unique marvel and accordingly named 'Kedizad', meaning 'home-born'. To the current author's knowledge the only modern (partial) translation is J. MOHL, 'Extraits de Modjmil al-Tewarikh, relatifs à l'histoire de la Perse', *Journal Asiatique* Aug./Sept. 1842, IIIe ser. xiv, no. 77, 127.

[142] The overwhelming dominance of the Southern Han in elephant warfare reflects both the local abundance of elephants and the geographical and cultural proximity of Annam and Champa, where war elephants were in regular use. See E. H. SCHÄFER, 'War Elephants in Ancient and Medieval China', *Orient* X (1957), 289–291.

[143] For this broader cultural perspective, see, for example, the employment of elephants to drive various types of game in the royal hunting reliefs on the walls of the great *iwan* of Khusrau II at Taq-i Bustan.

[144] SCULLARD (n. 1) 46.