

HELLENISTIC WAR-ELEPHANTS AND THE USE OF ALCOHOL BEFORE BATTLE*

ABSTRACT

This article assesses whether Hellenistic war-elephants were given alcohol before battle. First recorded in 1 Maccabees' account of the battle of Beth-Zechariah (162 B.C.E.), this unusual detail is supported by the later comments of Aelian and Philes of Ephesus. The idea also recalls a failed Ptolemaic attempt to punish the Jews in 3 Maccabees and in Josephus, and resonates with a longstanding association of elephants and alcohol in popular thought. Unfortunately, despite the recent rise in scholarly interest on war-elephants, this issue remains overlooked. This article reassesses the complexities of our sources and the practicalities of Hellenistic battles. Adopting a comparative approach to contemporary Indian material for this practice, it considers the prevalence of elephants in musth in the Indian epics, alongside the etymological link between this condition and Sanskrit concepts of drunkenness. It argues that this connection may have prompted the idea of giving elephants alcohol before battle, despite its unlikelihood as a standard feature of elephant warfare.

Keywords: elephants; alcohol; musth; Hellenistic; warfare; India

INTRODUCTION¹

As one of the most striking and persistent additions to the Hellenistic battlefield, it is unsurprising that war-elephants have attracted much interest. Fascinated by their unique and imposing physical appearance, our ancient sources offer many accounts of the devastating psychological effect that war-elephants had on those who were unfamiliar with them, and the destruction and chaos that they caused to their own troops if they panicked. Modern scholarship has similarly been interested in such details. Although Scullard's 1974 monograph, *The Elephant in the Greek and Roman World*, remains an authoritative contribution, the past twenty years in particular have seen a rise in critical works on Hellenistic war-elephants, advancing our understanding of their military use (both generally and in specific engagements) and their symbolic importance.²

* I thank Owen Rees, Kat Mawford and Julene Abad del Vecchio for their support. I am also grateful for P. Vāsiṣṭha's invaluable assistance with the Sanskrit, and to Bret Deveraux for his thought-provoking suggestions.

¹ The following works are repeatedly cited: H.H. Scullard, *The Elephant in the Greek and Roman World* (Cambridge, 1974); T.R. Trautmann, *Elephants and Kings: An Environmental History* (Chicago, 2015); C. Epplett, 'War elephants in the Hellenistic world', in W. Heckel, L. Tritle and P. Wheatley (edd.), *Alexander's Empire: Formulation to Decay* (Claremont, CA, 2007), 209–32; J.M. Kistler, *War Elephants* (Lincoln, NE, 2007); K. Nossow, *War Elephants* (Oxford, 2008); all websites accessed 10 September 2022.

² E.g. P. Schneider, 'Again on the elephants of Raphia: re-examining Polybius' factual accuracy and historical method in light of a DNA survey', *Histos* 10 (2016), 132–48; Trautmann (n. 1); G. Wrightson, 'Macedonian armies, elephants, and the perfection of combined arms', in T. Howe, E. Garvin and G. Wrightson (edd.), *Greece, Macedon and Persia* (Oxford, 2015), 59–68; A. Coşkun, 'Deconstructing a myth of Seleucid history: the so-called "Elephant Victory" revisited',

Despite these contributions, there remains an unusual detail which has not received much attention but is significant for our understanding of the military use and control of these animals: were elephants given alcohol before battle?

This idea is first mentioned in the account given in 1 Maccabees (6:28–47) of the battle of Beth-Zechariah (162 B.C.E.) fought between the Seleucids and the Hasmonean Jews, and is supported by passing comments in Aelian's *De natura animalium* (13.8) and the much later *Expositio de elephante* (145–51) by the Byzantine court poet, Philes of Ephesus. There is also another story involving elephants and alcohol recounted in 3 Maccabees (5–6:21) and Josephus (*Ap.* 2.5) concerning Ptolemaic treatment of the Jews. This use of alcohol is unusual and has typically generated a brief discussion in many of the scholarly works on Hellenistic elephants. However, these works have often either quickly dismissed this detail,³ or generalized it as a standard practice of elephant warfare,⁴ especially since the author of 1 Maccabees (6:34) claims that the Seleucid elephants were given wine specifically 'to arouse them for battle' (παραστήσαι αὐτοὺς εἰς τὸν πόλεμον). This is a striking anecdote, and the image of intoxicated elephants, roused to a fighting fury, easily fits with their role in psychological warfare that was so important to their military use. It is also something which captures the imagination, and there is a longstanding association of elephants and alcohol in modern popular thought, with numerous folktales and news reports of elephants actively seeking out alcohol or fermented fruit before drunkenly rampaging.⁵ The prevalence of this association has even prompted scientific studies analysing this phenomenon.⁶

However, despite the appeal of the idea that Hellenistic war-elephants were habitually given alcohol before battle to increase their ferocity, there are two key considerations that must be addressed. The first is the fact that our ancient sources are far from simple. Not only is the interpretation of the account of the battle of Beth-Zechariah in 1 Maccabees complex, but there is also a notable lack of evidence for this practice in many of our other sources, some of which, such as Polybius' account (5.79–85) of Raphia (217 B.C.E.), treat elephant warfare in extensive detail. While this lack of evidence alone does not provide a reason for dismissing the suggestion, this

Phoenix 66 (2012), 57–73; Nossov (n. 1); M.B. Charles, 'African forest elephants and turrets in the ancient world', *Phoenix* 62 (2008), 338–62; M.B. Charles, 'Elephants at Raphia: reinterpreting Polybius 5.84–5', *CQ* 57 (2007), 306–11; Epplert (n. 1); Kistler (n. 1); O.D. Hoover, 'Eleazar Avaran and the elephant: killing symbols in Hellenistic Judaea', *SCI* 24 (2005), 35–44; J. Edwards, 'The irony of Hannibal's elephants', *Latomus* 60 (2001), 900–5.

³ E.g. Scullard (n. 1), 187–8, 229; Epplert (n. 1), 227–9.

⁴ P.G. Maxwell-Stuart, '1 Maccabees VI 34 again', *VT* 25 (1975), 230–3, at 231 (although Maxwell-Stuart discusses 1 Macc. 6.34 in detail, he generalizes about the use of alcohol in elephant warfare); P. Ducrey, *Guerre et guerriers dans la Grèce antique* (Paris, 1985), 108; C.A. Spinage, *Elephants* (London, 1994), 266; Kistler (n. 1), 9, 26, 136–7; Nossov (n. 1), 42; Trautmann (n. 1), 62–3; also, P.P. Iossif and C. Lorber, 'The elephantarches bronze of Seleucos I Nicator', *Syria* 87 (2010), 147–64, at 155.

⁵ E.g. http://news.bbc.co.uk/1/hi/world/south_asia/2583891.stm, which details how drunk elephants killed six people in India, an incident which parallels the deaths of five people seventeen years earlier: <https://www.latimes.com/archives/la-xpm-1985-01-01-mn-10225-story.html>; see also: http://news.bbc.co.uk/1/hi/world/south_asia/3423881.stm, on four drunk elephants killed by an electric fence.

⁶ S. Morris, D. Humphreys and D. Reynolds, 'Myth, marula, and elephants: an assessment of voluntary ethanol intoxication of African elephants (*Loxodonta africana*) following feeding on the fruit of the marula tree (*Sclerocarya birrea*)', *Physiological and Biochemical Zoology* 79 (2006), 363–9; R.K. Siegel and M. Brodie, 'Alcohol self-administration by elephants', *Bulletin of the Psychonomic Society* 22 (1984), 49–52.

silence is curious, especially given the fascination of many ancient authors for unusual details. The second complication concerns the practical and logistical considerations of giving elephants enough wine to become intoxicated before battle. These aspects are often forgotten, but are of the utmost importance for separating rhetorical topoi from military reality.

Moreover, since the use of war-elephants originated in ancient India, and since it was from here that Hellenistic rulers first acquired their elephants, it is useful to compare contemporary Indian sources and assess whether there are any parallels that may illuminate Hellenistic practice. The idealization of elephants in *musth* (a state of elevated sexual ardour and aggressiveness) in the Indian epics, alongside the etymological link between this condition and drunkenness in Sanskrit and other languages, will be particularly instructive.

This article is therefore split into four main sections (Hellenistic evidence; practical considerations; Indian parallels; *musth*), demonstrating that, in light of the limited testimony in both our Graeco-Roman and our Indian sources, the use of alcohol before battle was not a standard feature of elephant warfare and, more importantly, that when we consider the dangers and practicalities of employing elephants on the battlefield it is highly doubtful that alcohol was ever used with the intention of intoxicating the animals and inciting them into a frenzy.

HELLENISTIC EVIDENCE

Let us consider in detail the only two recorded Hellenistic occasions where we are told that elephants were given alcohol before their intended use. The first, and most significant, is the battle of Beth-Zachariah (162 B.C.E.). In the description of the Seleucids' battle preparations, 1 Maccabees (6:34) states that the Seleucids 'offered the elephants the blood [juice] of grapes and mulberries to arouse them for battle' (καὶ τοῖς ἐλέφασιν ἔδειξαν αἷμα σταφυλῆς καὶ μύρων τοῦ παραστήσαι αὐτοὺς εἰς τὸν πόλεμον). Although there have been some disagreements over the translation of ἔδειξαν in this line,⁷ scholars have typically assumed that this juice was fermented in the light of Aelian's later comment that 'an elephant that contends in war drinks wine', although Aelian points out that this was 'not however made from grapes, but prepared from rice or cane' (τῷ δὲ <τὸ> εἰς πόλεμον ἄθλουντι οἶνος μὲν, οὐ μὴν ὁ τῶν ἀμπέλων, ἐπεὶ τὸν μὲν ἐξ ὀρύζης χειρουργοῦσι, τὸν δὲ ἐκ καλάμου, *NA* 13.8).⁸ Similar sentiments are also expressed by the Byzantine court poet, Philes of Ephesus (*Expositio de elephante* 145–51).⁹ Alternatively, the second incident involving the use of alcohol is recounted in 3 Maccabees (5–6:21) and in Josephus' *Contra Apionem* (2.5), where we are told that either Ptolemy IV or Ptolemy VIII ordered his elephant-keeper to intoxicate his five hundred elephants with wine and frankincense

⁷ Translations often rendered ἔδειξαν as 'showed' (LSJ s.v. δείκνυμι, A.2). However, since, as Maxwell-Stuart (n. 4), 230–1 points out, it is hard to see how 'showing' the elephants the blood-like juice of grapes and mulberries would 'arouse them for battle', it is now typically understood that the elephants were 'offered' this mixture to drink (cf. LSJ s.v. δεικνυμι, A.7). Maxwell-Stuart also discusses potential issues with the Greek translation of the original Hebrew here.

⁸ Scullard (n. 1), 187–8, 229; Epplert (n. 1), 227–9; Trautmann (n. 1), 62; Kistler (n. 1), 136; *contra* J.A. Goldstein, *The Anchor Bible: 1 Maccabees: A New Translation with Introduction and Commentary* (Garden City, NY, 1976), 320.

⁹ Epplert (n. 1), 229; Maxwell-Stuart (n. 4), 231.

so that they would become 'savage from the plentiful abundance of drink' (ἀγριωθέντας τῇ τοῦ πόματος ἀφθόνῳ χορηγίᾳ, 3 Macc. 5:2) and would trample the captive Jews to death.

From this, several scholars have claimed that it was standard practice for Hellenistic rulers to use alcohol to prepare their elephants for battle.¹⁰ The accuracy of this claim, however, is uncertain. First, it is important to note that the account recorded in 3 Maccabees and in Josephus is crucially not a battle, but rather serves as an example of Jewish suffering and piety in the face of Ptolemy's cruelty. Moreover, despite Ptolemy's intentions, his attempts to use intoxicated elephants to trample the Jews were repeatedly thwarted by divine intervention.¹¹ This instance therefore cannot inform us about typical Hellenistic battle practices, although it does illustrate the desired effects of feeding elephants alcohol. Similarly, we should remember that both Aelian and Philes wrote in much later periods (second to third century C.E. and thirteenth to fourteenth century C.E. respectively), and neither composed historical or scientific works.¹² It is thus questionable how accurately they portray elephant warfare.

Attempts to reconstruct the battle of Beth-Zechariah, especially from the account of 1 Maccabees, are also complex. As noted, there has been scholarly debate over the translation of line 34. Moreover, although the author of 1 Maccabees was a contemporary of the events he narrates, and possibly even an eyewitness of this battle,¹³ his account is highly partisan, specifically interested in glorifying the struggles of Judas Maccabeus and his followers. Consequently, many details are exaggerated or idealized and there are strong biblical parallels throughout the work.¹⁴ In particular, the story of David and Goliath forms a prominent backdrop to the battle narrative. This comparison is most notable in the exaggerated size of the Seleucid army (100,000 infantry, 20,000 cavalry and 32 elephants),¹⁵ but allusions to this story pervade the episode as a whole, especially in the author's linguistic choices. The prevalence of such language undercuts the reliability of some of this passage's details.¹⁶ Additionally, as Tropper has recently detailed in his literary analysis of this account, the narrative of 1 Maccabees is structured into two sections (battle preparations [6:32–41] and the fighting [6:42–7]) that deliberately mirror each other: 'Both parts open with [Judas'] audacious approach and both close with his men's reaction to the size and might of the Seleucid army.' Furthermore,

¹⁰ See n. 4 above.

¹¹ 3 Macc. 5:12–17, 5:25–35, 6:18–21.

¹² Scullard (n. 1), 222; A.F. Scholfield, *Aelian On Animals, Volume 1: Books 1–5* (Cambridge, MA, 1958), xiii.

¹³ B. Bar-Kochva, *Judas Maccabaeus: The Jewish Struggle against the Seleucids* (Cambridge, 1989), 144, 158, 378, 403, though cf. B. Bar-Kochva, *The Seleucid Army: Organisation and Tactics in the Great Campaigns* (Cambridge, 1976), 175; W. Horbury, review of B. Bar-Kochva, *Judas Maccabaeus: The Jewish Struggle against the Seleucids* (Cambridge, 1989), *VT* (1990), 382–3; contra A. Tropper, 'The battle of Beth Zechariah in light of a literary study of 1 Maccabees 6:32–47', *HebrUCA* 88 (2017), 1–28, at 13 n. 52.

¹⁴ Similar concerns affect the other Maccabean accounts. For instance, the '500 elephants' in 3 Macc. 5:2 are clearly an exaggeration; cf. Seleucus I's 500 elephants prior to Ipsus (301 B.C.E.), Strabo 15.2.9; Plut. *Vit. Alex.* 62.4; W.W. Tarn, 'Two notes on Seleucid history: 1. Seleucus' 500 elephants, 2. Tarmita', *JHS* 60 (1940), 84–94, at 89; Bar-Kochva (n. 13 [1976]), 76–7; Scullard (n. 1), 269 n. 46.

¹⁵ We cannot accept these numbers for the Seleucid army (only half of which was actually present at the battle of Beth-Zechariah): S.R. Gerrard, 'Seleucid mounted troops: a reassessment of the organisation and operation of the Seleucid cavalry and its unconventional units' (Diss., University of Manchester, 2020), 131–2.

¹⁶ Tropper (n. 13), 8, 13–15.

both parts spotlight the Seleucid elephants, with the first focussing on their formidable appearance and central role in the Seleucid formation and with the second emphasizing Eleazar's heroic attack on the lead animal.¹⁷

Tropper therefore dismisses the ability of the account of 1 Maccabees to relate anything about the historical realities of the battle of Beth-Zechariah, claiming that it can only illustrate the rhetorical strategies and intentions of its author.¹⁸ Although we should be wary of pushing this approach too far, Tropper makes a convincing case for treating 1 Maccabees with caution. Fortunately for us, the first-century C.E. writer Josephus also records two separate descriptions of the battle of Beth-Zechariah, making it possible to compare details across these accounts. While Josephus' later narrative in his *Antiquitates Judaicae* (12.369–75) is clearly based on 1 Maccabees, his earlier version in the *Bellum Judaicum* (1.41–6) is subtly different. What is striking, however, is that neither of Josephus' accounts mentions the alcohol that 1 Maccabees claims was given to the Seleucid elephants prior to the engagement. Although this might not be unexpected for the *Bellum Judaicum* given its other differences,¹⁹ the absence of this detail in Josephus' *Antiquitates Judaicae*, which otherwise closely parallels 1 Maccabees, is particularly notable.

The testimony of 1 Maccabees (6:34) is therefore not only of questionable accuracy but also our only recorded instance of alcohol being given to elephants prior to a Hellenistic battle. Indeed, it is significant that none of our other sources for the many Hellenistic battles in which war-elephants participated mentions this practice. It is possible that the provision of alcohol was simply so standard a feature of elephant warfare that our sources did not deem it worthy of reporting and we must be cautious of an *argumentum ex silentio*. However, Polybius' silence in his otherwise highly detailed account (5.84) of the elephant engagement at Raphia (217 B.C.E.) creates uncertainty, as does the fact that neither Livy (37.40) nor Appian (*Syr.* 32) mentions it in their extensive overviews of the Seleucids' battle formation at Magnesia (190 B.C.E.). Moreover, while it is not impossible that the decision to give the elephants wine at the battle of Beth-Zechariah represents a genuine one-off Seleucid experiment, the deliberate manipulation of the events in 1 Maccabees suggests that the author included this detail solely to highlight the monstrous ferocity of the Seleucid elephants, thereby heightening the glory and symbolism of Eleazar's self-sacrifice.²⁰ With these factors in mind, the claim that the use of alcohol was a standard part of elephant warfare in the Hellenistic period appears doubtful.

PRACTICAL CONSIDERATIONS

Another aspect that we need to consider concerns the practicalities of Hellenistic warfare. This is especially relevant to the idea that the alcohol was intended to rouse the elephants into a fighting frenzy. Although emphasizing the terrifying appearance

¹⁷ Tropper (n. 13), 12.

¹⁸ Tropper (n. 13), 17.

¹⁹ Whereas 1 Macc. 6:32–41 and Joseph. *AJ* 12.370–2 describe the appearance of the Seleucid army and its unusual formation, Joseph. *BJ* 1.41 mentions only the narrowness of the battlefield. Similarly, 1 Macc. 6:42 and Joseph. *AJ* 12.372 claim that Judas slew 600 Seleucid soldiers, a detail which Josephus' *Bellum Judaicum* does not include. See n. 15 above regarding the size of the Seleucid army.

²⁰ For an in-depth discussion, see Hoover (n. 2).

of war-elephants was an important part of their battlefield use,²¹ and could sometimes influence the battle's outcome,²² elephants were also susceptible to panic or uncontrollability, which could have disastrous effects on the battlefield as they trampled friend and foe indiscriminately. This is a topos of both ancient narratives and modern scholarly assessments of elephant warfare.²³ As Appian (*Hisp.* 46) notes, 'this is always the case when elephants are thrown into confusion and view everyone as hostile; on account of their fickleness, some call them the common enemy' (ὅπερ αἰεὶ θορυβηθέντες οἱ ἐλέφαντες εἰώθασιν πάσχειν καὶ πάντας ἡγεῖσθαι πολέμιους· καὶ τινες διὰ τήνδε τὴν ἀπιστίαν αὐτοὺς καλοῦσι κοινούς πολέμιους), and there were at least fourteen occasions throughout the Hellenistic period where elephants disrupted their own men.²⁴ Hasdrubal took this threat so seriously that during the Second Punic War (218–201 B.C.E.) he instructed his mahouts to kill their elephants if they became uncontrollable.²⁵ It therefore seems highly unlikely that a commander would deliberately wish to create such dangerous fighting conditions for his own army.²⁶

Despite the psychological gains that a contingent of drunk and aggressive elephants would offer, calm and tractable animals would be far more effective on the battlefield, just as composed and well-disciplined troops typically held the advantage over unruly or frenzied units.²⁷ Moreover, we must consider the logistical complications. A modern scientific study has noted that a single adult elephant would likely need ten litres of alcohol with a seven per cent ethanol content to become inebriated.²⁸ This would require an army to carry extensive amounts of alcohol meant only for their elephants in addition to their other supplies. Furthermore, unlike water and to some extent fodder, this would have been conceivably harder to replace while on campaign and so would have required careful preparation.

Conversely, in circumstances where the elephants were actively intended to trample people to death as a punishment, as described above in 3 Maccabees (5–6:21) and in Josephus (*Ap.* 2.5), these considerations were less important. Here the use of alcohol to heighten their fury was more desirable, and (at least theoretically) could be much

²¹ E.g. the Seleucid elephants at Magnesia wore crests to emphasize their height and the splendour of their appearance: Livy 37.40.4.

²² See Ipsus (301 B.C.E.; Plut. *Vit. Demetr.* 29.3); Cyrrhastica (285; Polyaeus 4.9.3); Heraclea (280; Plut. *Vit. Pyrrh.* 17.3; Flor. *Epit.* 1.13.8); the 'Elephant Victory' (270s; Lucian, *Zeuxis* 9–10); Tunis (255; Polyb. 1.33.9, cf. 1.39.11–12); Utica (240; Polyb. 1.74.3); the Saw (238; Polyb. 1.84.4); Trebia (218; Livy 21.55.7; App. *Hann.* 7; Polyb. 3.74.2); Raphia (217; Polyb. 5.84.2–5, 5.85.1); Insubria (203; Livy 30.18.8); Panion (200; Polyb. 16.19.4).

²³ E.g. Livy 27.14.9; Polyb. 16.19.3; Plin. *HN* 8.9; Scullard (n. 1), 249; Ducrey (n. 4), 108; P. Rance, 'Elephants in warfare in Late Antiquity', *AntHung* 43 (2003), 355–84, at 360, 365; Trautmann (n. 1), 260; P. Armandi, *Histoire militaire des éléphants* (Paris, 1843), 350–68.

²⁴ Megalopolis (331 B.C.E.; Diod. Sic. 18.71.6); Heraclea (280; Zonar. 8.3); Beneventum (275; Plut. *Vit. Pyrrh.* 25.5; Zonar. 8.6; Flor. *Epit.* 1.13.12; Dion. Hal. *Ant. Rom.* 20.12); Agrigentum (262; Polyb. 1.19.10–11); Panormus (251/0; Polyb. 1.40.13); Raphia (217; Polyb. 5.84.7); Canusium (209; Livy 27.14.10, 27.14.12); Baecula (208; Livy 27.18.19–20); Metaurus (207; Polyb. 11.1.8–9); Illipa (206; Polyb. 11.24.1); Zama (202; Polyb. 15.12.2; Livy 30.33.12, 30.33.15); Thermopylae (191; Livy 36.19.4–5); Magnesia (190; App. *Syr.* 35); Numantia (153; App. *Hisp.* 46), cf. Pyrrhus' siege of Argos (272; Plut. *Vit. Pyrrh.* 32–3; see also Livy 21.55.11–56, 27.18.20, 44.5.2; cf. Hydaspes (327/6; Arr. *Anab.* 5.17.5–7; Quint. Curt. 8.14.30; Diod. Sic. 17.88.3) and Thapsus (46; *BAfr.* 83).

²⁵ Livy 27.49.1–2; cf. Amm. Marc. 25.1.15.

²⁶ Cf. the danger in the *Cullahamsa Jātaka* (533); also Goldstein (n. 8), 320; it is unlikely that anyone would wish to mount an enraged elephant (see n. 69 below).

²⁷ Cf. Xenophon's comments regarding the undesirability of unruly stallions (*Eq. mag.* 1.4, 1.15).

²⁸ Morris, Humphreys and Reynolds (n. 6), 366.

more easily controlled as the elephants were typically kept in a confined area, away from any but their intended targets. However, even here, it is necessary to exercise caution. Ptolemy's attempt to trample the Jews turned into disaster as the elephants fell back on the armed troops behind them.²⁹ Additionally, although there are other recorded instances of prisoners being trampled by elephants in the ancient world, none of these explicitly involved alcohol.³⁰ Therefore, just as the claim in 1 Maccabees that the elephants at the battle of Beth-Zechariah were given alcohol to arouse them into a frenzy seems to have been a rhetorical strategy intended to emphasize their monstrosity rather than an accurate reflection of Seleucid battlefield practice, we cannot dismiss the possibility that both the author of 3 Maccabees and Josephus likewise included this detail primarily to heighten Ptolemy's cruelty and the Jewish suffering.

With the persistent threat of uncontrollability in mind, one might ask whether the use of alcohol before battle was intended not to provoke the elephants, as 1 Maccabees and Philes suggest, but rather to calm them down, especially since elephants are nervous animals that can become easily frightened in captivity.³¹ As Epplert points out, although Aelian claims that 'an elephant that contends in war drinks wine', he does not actually specify what effect this alcohol was supposed to have.³² This idea also finds support in Pliny's comment (*HN* 8.24) that, 'when captured, [elephants] are very quickly tamed by the juice of barley' (*capti celerrime mitificantur hordei suco*).³³ Nevertheless, just as humans display a wide range of reactions to alcohol, so too would individual elephants vary in their response, with some being pacified or soothed and others becoming violent and uncontrollable.³⁴

An alternative suggestion is that rather than being used solely before battle, alcohol was actually a standard feature of a war-elephant's diet.³⁵ Aristotle (*Hist. an.* 7[8].9, 596a5–7) claims that 'on average [the elephant] consumes six or seven *medimnoi* [of feed], five *medimnoi* of barley, and five *mareis* of wine [*c.* eight litres]' (τὸ δ' ἐπίπαν ἕξ μεδίμνους ἢ ἐπτά, ἀλφίτων δὲ πέντε καὶ οἴνου πέντε μόραις). Although Aristotle's numbers are far too large,³⁶ there is an interesting parallel in Kauṭīlya's *Arthaśāstra* (2.31.13), a roughly contemporary text on statecraft from ancient India.

Believed to refer to the time of the Mauryan empire (321–185 B.C.E.),³⁷ Kauṭīlya's work extensively details the optimal management, training and use of elephants in

²⁹ 3 Macc. 6:21; Joseph. *Ap.* 2.5; cf. Kistler (n. 1), 137–8 who does not blame this on the alcohol.

³⁰ Quint. Curt. 10.9.18; Polyb. 1.82.2; Val. Max. 2.7.14; this practice was also common in India and Southeast Asia: *Mānava-Dharmasāstra* 8.33; A. Hamilton, *A New Account of the East Indies* (Edinburgh, 1727), 2.170, 2.181–2; Armandi (n. 23), 241; cf. *Cullahamsa Jātaka* (533), where Devadatta convinced the king to intoxicate his elephant, Nalagiri, and release him into the city to attack the Buddha. Even here, this situation was incredibly dangerous, with Nalagiri causing great damage before the Buddha intervened: M. Bloomfield, 'Notes on the Divyāvadāna', *JAOS* 40 (1920), 336–52, at 337–8; S. Wriggins, *The Silk Road Journey with Xuanzang* (Boulder, CO, 2004), 128–9.

³¹ Scullard (n. 1), 22–3; Ducrey (n. 4), 108; Spinage (n. 4), 269.

³² Epplert (n. 1), 228.

³³ Kistler (n. 1), 137 notes a modern example, where a group of Russian circus elephants were supposedly given vodka during a long train journey to soothe them.

³⁴ Kistler (n. 1), 137; see n. 5 above; also Morris, Humphreys and Reynolds (n. 6), 364, 367.

³⁵ See Armandi (n. 23), 6–7.

³⁶ Cf. Aristotle's discussion of the elephant's lifespan, ranging from 120 years to 200–300 years (*Hist. an.* 7[8].9, 596a11–12; 9.46, 630b23); Scullard (n. 1), 45–6; Armandi (n. 23), 7.

³⁷ The date of this work is uncertain, see P.C. Chakravarti, *The Art of War in Ancient India* (Delhi, 1941), v–vi; Trautmann (n. 1), 49; F. Edgerton, *The Elephant-Lore of the Hindus: The Elephant-Sport (Matanga-lila) of Nilakantha: Translated from the Original Sanskrit with Introduction, Notes, and Glossary* (New Haven, CT, 1931), 2.

war. Although the didactic nature of the work means that Kauṭilya typically describes an ideal kingdom, rather than a historical one, his work is invaluable for comparing ancient war-elephant practices. In particular, he notes that as part of the daily ration for an elephant of 'seven aratnis' in height (c.three metres), the keepers should provide 'one ādhaka of liquor [c.three litres], or twice the quantity of milk' (*madhyasyāḍhakam dviguṇam vā payasaḥ*, *Arthaśāstra* 2.31.13).³⁸ Trautmann interprets this ration as functioning as a type of 'invigorating drink' intended to restore an animal's energy, noting that Kauṭilya (*Arthaśāstra*, 2.29.43, 2.30.18) also prescribes similar rations for bullocks and horses. Trautmann additionally makes a comparison with modern-day timber elephants that are often given 'energizing concoctions' to compensate for the time spent working.³⁹ Likewise, Bloomfield notes a similar practice regarding horses in the *Valodoka Jātaka* (183), while Nīlakaṇṭha's *Mātaṅga-līlā*, a Sanskrit treatise on elephant science, also mentions the use of alcohol to supplement an elephant's diet during winter (11.32).⁴⁰ This idea of alcohol acting as a restorative similarly finds a parallel in both Arrian (*Ind.* 14.9) and Aelian (*NA* 13.7), who claim that wine was used to cure sick elephants.

It is therefore possible that there was a genuine connection between these animals and the provision of alcohol, although it seems highly unlikely that Hellenistic war-elephants were intoxicated before battle to increase their aggressiveness. Indeed, one might ask whether the author of 1 Maccabees simply misunderstood the procedure of giving elephants a ration of wine as an actual battle preparation or, alternatively, consciously exaggerated this practice for literary effect. However, even here, we must remain aware of logistical considerations. Although Aristotle discusses the elephant's diet, albeit notably only in a very general way, none of our other sources addresses this subject. We therefore have no way of ascertaining the standard rations for war-elephants across the various Hellenistic armies, and whether these differed on campaign.⁴¹

With these issues in mind, alongside the significance of comparisons with Kauṭilya's *Arthaśāstra* and Nīlakaṇṭha's *Mātaṅga-līlā* to help illuminate the complexities of the Greek and Latin sources, we should consider the ancient Indian evidence further to trace the existence of other instances or ideas that can offer instructive parallels and help shed new light on the connection between elephants and alcohol.

INDIAN PARALLELS

Originating initially in ancient India, and featuring extensively in warfare there for centuries, war-elephants formed an integral part of Indian military thought. By the fourth century B.C.E., elephants had become the most important part of the *caturaṅgabala* ('fourfold army'), a theoretical framework that stated the importance

³⁸ Transl. R. Shamasastri, *Kauṭilya's Arthaśāstra* (Mysore, 1956).

³⁹ Trautmann (n. 1), 163–4, 322.

⁴⁰ Bloomfield (n. 30), 338; Edgerton (n. 37), 26; the Persepolis Fortification Tablets also record rations of wine for horses, e.g. PF 1763; C. Willekes, 'From the Steppe to the stable: horses and horsemanship in the ancient world' (Diss., University of Calgary, 2013), 216–17; R.T. Hallock, *Persepolis Fortification Tablets* (Chicago, 1969), 47–9.

⁴¹ Cf. Gerrard (n. 15), 150–1; D.W. Engels, *Alexander the Great and the Logistics of the Macedonian Army* (Berkeley, CA, 1978).

of maintaining four distinct arms (elephants, chariots, cavalry, infantry) within the army,⁴² with Kauṭilya (*Arthaśāstra* 2.2.13) even declaring that ‘the victory of kings [in battles] depends mainly on elephants’ (*hastipradhānam vijayo rājñah*).⁴³ In the aftermath of Alexander the Great’s campaigns, Indian war-elephants rapidly spread through Hellenistic armies and the Seleucids especially continued to procure elephants from India until the collapse of their authority in Media following the Parthian invasion (147 B.C.E.).⁴⁴ Moreover, Hellenistic mahouts and elephant trainers were typically identified as ‘Indians’, suggesting that, at least initially, Hellenistic armies typically recruited such personnel directly from India, although it is likely that this evolved into a pseudo-ethnic title over time.⁴⁵

Unfortunately, although there are some religious texts (such as the *Ṛgveda* and the *Jātakas*) and several epic poems (most notably the *Mahābhārata* and the *Rāmāyana*) that describe instances of elephant warfare and their general use, alongside the detailed theoretical account of elephant battle formations given in the *Arthaśāstra*, there are significantly no surviving Indian histories for this period.⁴⁶ Consequently, beyond Alexander’s engagement with Porus at the Hydaspes (327/6 B.C.E.),⁴⁷ we know little about actual Indian battles. Moreover, of the texts that do survive, their individual dates of composition are often complex, although scholars typically accept that the epics portray the Late Vedic period (c.1000–500 B.C.E.).⁴⁸ Despite these uncertainties, it is possible to gain a general understanding of some features of ancient Indian war-elephants, even if we are often dealing with literary ideals rather than actual historical examples.

With regard to the suggestion that elephants were typically given alcohol before battle, there is significantly only one recorded example of this in ancient Indian warfare. According to Xuanzang (11.3), a seventh-century C.E. Chinese Buddhist monk who travelled to India, the country of Mahārāshtra

provides for a band of champions to the number of several hundred. Each time they are about to engage in conflict they intoxicate themselves with wine, and then one man with lance in hand will meet 10,000 and challenge them to fight ... Moreover, they inebriate many hundred heads of elephants, and, taking them out to fight, they themselves first drink their wine, and then rushing forward ... they trample everything down, so that no enemy can stand before them.⁴⁹

This evidence, however, is much later than our period. Moreover, it fits within the framework of local stories that are recorded in Xuanzang’s work regardless of their

⁴² See Kauṭilya’s *Arthaśāstra* 10.4; this idea also persists throughout the *Mahābhārata* and the *Rāmāyana*; Chakravarti (n. 37), 2; U. Thapliyal, *Warfare in Ancient India: Organisation and Operational Dimensions* (New Delhi, 2010), 402; Trautmann (n. 1), 107–11, 115, 160, 210.

⁴³ Transl. Shamasastri (n. 38); Chakravarti (n. 37), 48–9.

⁴⁴ E.g. Polyb. 11.34.12; cf. Ath. *Deipn.* 1.18e, 14.652f–653a; Trautmann (n. 1), 236–7; G. MacDonald, ‘The Hellenistic kingdoms of Syria, Bactria, and Parthia’, in E.J. Rapson (ed.), *The Cambridge History of India* (Cambridge, 1922), 1.427–66, at 433; P. Goukowsky, ‘Le roi Pôros, son éléphant et quelques autres’, *BCH* 96 (1972), 473–502, at 488, 498; the Seleucids and the Ptolemies also sent ambassadors to India (Strabo 2.1.9).

⁴⁵ E.g. Diod. Sic. 18.34.2, 18.71.4; Polyb. 1.40.15, 11.1.12; Dion. Hal. *Ant. Rom.* 20.12.3; Trautmann (n. 1), 220, 238–9; Epplott (n. 1), 217–18; Scullard (n. 1), 130–1; Nossov (n. 1), 8.

⁴⁶ Chakravarti (n. 37), i–ii; Trautmann (n. 1), 49.

⁴⁷ Arr. *Anab.* 5.14–18; Quint. Curt. 8.14; Diod. Sic. 17.87–8.

⁴⁸ Thapliyal (n. 42), 14; Chakravarti (n. 37), iii–xv.

⁴⁹ Transl.: S. Beal, *Si-yu-ki: Buddhist Records of the Western World, Translated from the Chinese of Hsien Tsiang (A.D. 629)* (London, 1884); see also Trautmann (n. 1), 62–3; Wriggins (n. 30), 88, 146.

authenticity.⁵⁰ The idea of one mighty hero independently defeating a large number of enemies at the beginning of this passage, along with the generic nature of the number 10,000, gives this account a fictitious quality. Consequently, although it is not impossible that the people of Mahārāshtra did give alcohol to their elephants before battle, it is clear that this account is exaggerated and should therefore be treated with caution. Beyond this, there is also a brief incident in the *Cullahamsa Jātaka* (533) of the royal elephant, Nalagiri, being deliberately intoxicated with alcohol. This instance, however, is not military in context.⁵¹

Alternatively, there is notably no mention of alcohol being given to elephants before battle in either Kauṭilya's *Arthaśāstra* or Nīlakaṇṭha's *Mātāṅga-līlā*. This is striking given the extensive information that these works provide on ancient Indian elephant management, and in particular Kauṭilya's otherwise detailed overview of their training (2.32) and the various ways in which they could theoretically be deployed in battle and used on campaign (10.2–6).⁵² Similarly, although one might expect the epic context to favour such a detail to heighten the glory of the Indian heroes and the grandeur of their battles, this silence also pervades the *Mahābhārata* and the *Rāmāyana*. While there are many examples in these poems of war-elephants being described as *matta*, a word that can be translated as 'drunk', it is evident from the context in which it repeatedly appears that this description actually refers to a condition affecting male elephants known as *musth*.⁵³

MUSTH

Derived from the Urdu *mast* and its Persian etymon (*mast*), meaning 'drunk' or 'raving mad', and in turn related to the Sanskrit words *matta* and *madaḥ*, meaning 'intoxicated; excited; furious' or sometimes 'excited by sexual desire',⁵⁴ *musth* is a state which adult male elephants typically enter once a year that has often been likened to the rutting season in ungulates. Despite this, it does not occur simultaneously in all male elephants, nor does it necessarily correspond to the reproductive cycle of females. Moreover, it does not affect elephants equally, with some more prone to the condition than others. *Musth* is characterized by a sticky, pungent fluid secreted from an elephant's temporal glands, along with urine dribbling, and often results in heightened aggression and sexual

⁵⁰ Wriggins (n. 30), xv.

⁵¹ See n. 30 above; there are also several other *Jātakas* that mention intoxicated animals; see *Sigala Jātaka* (113); *Kaka Jātaka* (146); *Gutha-Pana Jātaka* (227); *Kumbha Jātaka* (512); Bloomfield (n. 30), 338–9.

⁵² Kauṭilya does, however, mention the dangers of an 'intoxicated' elephant as it 'tramples everything it comes across' (*yathā madāndho hasī mattenādhiṣṭhito yad yadāsādayati tatsarvaṃ pramṛdnāti*), *Arthaśāstra* 1.14.7, transl. Shamasastri (n. 38).

⁵³ V.S. Apte, *Revised and Enlarged Edition of Prin. V.S. Apte's The Practical Sanskrit Dictionary* (Poona, 1957–9), 1225, see also s.v. *madaḥ*, page 1227; however, both K.M. Ganguli, *The Mahabharata of Krishna-Dwaipayana Vyasa. Translated into English Prose from the Original Sanskrit Text* (1883–96, <https://www.sacred-texts.com/hin/maha/index.htm>) and M.N. Dutt, *A Prose English Translation of the Mahabharata (Translated Literally from the Sanskrit Text): Shanti Parva* (Calcutta, 1903), 38 translate *Mahābhārata* 12.29.70 as 'intoxicated' despite the use of *mattāḥ* in the Sanskrit.

⁵⁴ *OED* s.v. *musth*; Apte (n. 53), 1225, 1227; also Trautmann (n. 1), 63; Edgerton (n. 37), 32; Kistler (n. 1), 8; Spinage (n. 4), 137; cf. M.N. Dutt, *A Prose English Translation of the Mahabharata (Translated Literally from the Sanskrit Text): Virata Parva* (Calcutta, 1896), 75, 77.

ardour owing to increased levels of testosterone. Elephants in musth are therefore, at least temporarily, seen as more dominant than those not in musth.⁵⁵

The etymological connection between this condition and concepts of drunkenness is significant, particularly in light of the repeated description of elephants, especially those used in war, as being ‘in rut’ in the *Mahābhārata* and the *Rāmāyana*. The fact that the adjective often used to describe these elephants is typically a form of *matta* or *madaḥ* further emphasizes this connection.⁵⁶ It is clear, however, that ‘rut’ is the correct translation here, since in many instances these animals are also described as possessing ‘rent temples’,⁵⁷ ‘with (temporal) juice trickling down’ their cheeks (*prabhinnakaraṭāmukhāḥ*).⁵⁸ Throughout the epics we are presented with the idea that the best elephants are always in this condition, especially on the battlefield (*Mahābhārata* 6.19.30–1):

vāraṇā daśasāhasrāḥ prabhinnakaraṭāmukhāḥ |
 śūrā hemamayairjālairdīpyamānā ivācalāḥ ||
 kṣaranta iva jīmūtā madārdraḥ padmagandhinaḥ |
 rājānamanvayūḥ paścāccalanta iva parvatāḥ ||

10,000 elephants with [temporal] juice trickling down their cheek and mouth, and resembling [on that account] showering clouds, endued with great courage, blazing with golden armour, huge hills, costly, and emitting the fragrance of lotuses, followed the king behind like moving mountains.⁵⁹

Additionally, it is common for the epic warriors themselves to be compared to elephants in musth in order to heighten their martial qualities.⁶⁰ So prevalent is this idea in both the *Mahābhārata* and the *Rāmāyana* that it is clear that it was ‘something of a trope in poetry to describe war elephants as being in musth’, regardless of practicality.⁶¹

Despite the claims of the epics, it is unrealistic that every war-elephant would have been in this condition for every battle. First, it is far from certain that all war-elephants were male. It is true that the epics and many artistic representations overwhelmingly depict bull elephants, no doubt in part for their greater size and aggressiveness and the fact that their tusks made excellent weapons that added to their formidable appearance.⁶² Nevertheless, we hear of a female elephant in Antigonos Gonatas’ army at

⁵⁵ P.A. Rees, *Elephants Under Human Care: The Behaviour, Ecology, and Welfare of Elephants in Captivity* (London, 2021), 67, 88–9; Trautmann (n. 1), 27–8; Edgerton (n. 37), 29–30, 34–5; Kistler (n. 1), 8; Spinage (n. 4), 137–9.

⁵⁶ E.g. *Mahābhārata* 1.178.2, 4.63.25, 12.29.70; *Rāmāyana* 1.6.21, 2.3.11, 2.35.16, 2.48.36, 3.22.24, 3.44.29, 4.27, 5.44.16, 6.19.2, 6.24.21, 6.33.44.

⁵⁷ E.g. *Mahābhārata* 1.178.2, 1.219.1, 6.20.7, 6.44, 6.91.26, 7.9.7, 7.27.20, 7.63.13; *Rāmāyana* 6.19.9.

⁵⁸ *Mahābhārata* 6.19.30; see also 1.178.2, 1.202.20, 3.25.19, 3.98.15, 5.84.7, 6.44, 6.60.52, 6.91.26, 14.74.9.

⁵⁹ Transl. Ganguli (n. 53), 6.19; also see *Mahābhārata* 5.84.7. The idea that the best elephants are always in musth, or that musth is a sign of the best elephants, is common throughout much Sanskrit literature; see Nīlakaṇṭha, *Mātanga-līlā* 1.40, 5.15, 9.10; Trautmann (n. 1), 64; Edgerton (n. 37), 35, 37.

⁶⁰ E.g. *Mahābhārata* 1.178–81, 1.202.20, 3.12.56, 3.146, 4.18.21, 4.35.9, 5.23.22, 5.140.11, 7.9.7; *Rāmāyana* 2.3.11, 2.97.15, 4.27.20.

⁶¹ Trautmann (n. 1), 61.

⁶² E.g. BM 1887.0609.1; BM 1867.0212.2; BM RPK.p175A.10.Sell; alongside the sculptures and frescos at Sānci and Ajantā, etc., Thapliyal (n. 42), pls. 2–3; also see Kauṭīlya, *Arthaśāstra* 2.31.10;

Megara (266 B.C.E.),⁶³ as well as a mother and calf in Pyrrhus' army at Beneventum (275 B.C.E.),⁶⁴ something which is also depicted on a third-century B.C.E. plate from Capena⁶⁵ and a pair of terracotta models from the sanctuary of Apollo at Veii.⁶⁶ Furthermore, Aristotle (*Hist. an.* 8[9].610a20) notes that the Indians also used female elephants, although he states that 'the females are both smaller and far less spirited' (εἰσὶ μὲντοι καὶ ἐλάττωνες αἱ θήλειαι καὶ ἀψυχότεραι πολὺ) than their male counterparts. As noted above, despite military and social ideals of masculinity and aggressiveness, calm, tractable animals are likely to have been more advantageous on the battlefield, meaning that this 'less spirited nature' was not necessarily an undesirable quality in reality.⁶⁷

A second factor is that even for those male elephants in an army, musth affects individuals at different times, typically only once a year, and while the length of this period can vary, it would not last indefinitely. According to Abu'l Fazl's much later *Ā'in-i Akbarī* (1.41), a sixteenth-century C.E. Persian text detailing the administration of the Mughal empire under Akbar, it was possible for some elephant-keepers to drug their elephants to induce musth artificially; however, this often endangered the elephant. It is therefore unlikely that this technique was frequently used. Alternatively, Trautmann suggests that it was possible for armies to use alcohol 'to promote the desired combativeness of musth', claiming that this is what 1 Maccabees describes at the battle of Beth-Zechariah, 'doubtless continuing Indian practice'.⁶⁸ Nevertheless, as we have seen, there is very little evidence to support this use of alcohol, and it is uncertain how far 1 Maccabees accurately reflects what actually happened at this battle.

Elephants in musth could also be dangerous and even uncontrollable: 'the danger of mounting an adult war-elephant in musth cannot be overstated'.⁶⁹ That the *Ā'in-i Akbarī* (1.47) notes that the king's decision to ride elephants in this condition amazed even experienced elephant-riders illustrates the unusual nature of this act and the king's bravery and skill in controlling such animals. Rather than wishing to artificially induce musth, modern practice is concerned with either limiting or controlling this phenomenon, since it poses a danger to both handlers and other elephants in the herd.⁷⁰ This idea is also evident in Kauṭilya's *Arthaśāstra* (2.32.8), which, far from viewing this as an ideal state for war-elephants to achieve, discusses it as part of the problems caused by overly aggressive elephants.⁷¹ Similarly, although Nīlakaṇṭha in the *Mātanga-līlā* (1.40, 5.15, 9.6, 9.13–16) describes some of the military benefits of this condition, he also emphasizes the dangers and destructiveness it can cause, and details a concoction to help bring elephants in musth under control (9.23). With these concerns in mind, alongside the fact that many Hellenistic battles were either lost or compromised because the elephants became uncontrollable, it consequently seems

Trautmann (n. 1), 53, 158; Scullard (n. 1), 113; Nosssov (n. 1), 4; Kistler (n. 1), 69; Bar-Kochva (n. 13 [1976]), 79.

⁶³ Ael. *NA* 11.14.

⁶⁴ Zonar. 8.6; Flor. *Epit.* 1.13.12; Scullard (n. 1), 113; Nosssov (n. 1), 25.

⁶⁵ MNE 23.949, note even here the inclusion of long tusks typical of male elephants.

⁶⁶ Charles (n. 2 [2008]), 357; Scullard (n. 1), pl. 9b.

⁶⁷ For similar parallels in descriptions of warhorses, see A. Hyland, *The Horse in the Ancient World* (New York, 2003), 35, 45; Willekes (n. 40), 190, 270.

⁶⁸ Trautmann (n. 1), 62.

⁶⁹ Trautmann (n. 1), 172.

⁷⁰ Rees (n. 55), 89; Trautmann (n. 1), 61, 63, 153; Armandi (n. 23), 9–10.

⁷¹ Trautmann (n. 1), 153; cf. Plin. *HN* 8.27; Arist. *Hist. an.* 6.18, 572a1–2.

unlikely that this was a realistic feature of elephant warfare, even if alcohol could be used to create an artificial musth-like aggressiveness.

As far as the Indian epics and their presentation of war-elephants as always furious and ‘intoxicated in rut’ (*mattasankupita*) are concerned,⁷² however, such considerations are of little consequence. Regardless of the practicalities that are essential for understanding historical battles, such ideas are in keeping with the rhetorical strategies and literary conventions of the epic genre. Just as epic heroes are always godlike in their appearance and capable of superhuman feats,⁷³ so too they possess the most impressive and formidable elephants that are always in the best, most aggressive fighting condition. The elephants act as a direct reflection of a hero’s valour and status, an idea that resonates throughout elephant warfare in general as elephants quickly became propagandistic symbols of kingship across both ancient India and the Hellenistic world.⁷⁴ This deliberate idealization is particularly evident in Book 6 of the *Mahābhārata* (6.60.51–4):

traya ete mahānāgā rākṣasaiḥ samadhiṣṭhitāḥ ||
mahākāyāstridhā rājanprasravanto madam bahu |
tejovīryabalopetā mahābalaparākramāḥ ||
... susamrabdhāścaturdamṣṭrāścaturdiśam |

And those three mighty elephants, ridden by *Rakshasa*, were of huge form, with juice profusely trickling down in three lines, and endowed with brilliance, vigour and strength ... excited with fury and each endowed with four tusks ...⁷⁵

Not only are these elephants described as being in musth, but they also possess other qualities, such as ‘brilliance, vigour and strength’ (*tejovīryabalopetā mahābalaparākramāḥ*) and ‘four tusks’ (*caturdamṣṭrāś*), which highlight their martial excellence. Additionally, just as the king’s decision to ride an elephant in musth in the *Āṭn-i Akbarī* was a demonstration of his bravery and distinction, the fact that Indian epic heroes are singlehandedly able to control and defeat such dangerous and aggressive animals on the battlefield further emphasizes their glory.⁷⁶

Taking these poetic conventions into account, alongside the practical considerations detailed above, the epics were not concerned with accurately depicting historical reality. This is not to dismiss their ability to help illuminate various aspects of ancient Indian practice or thought—on the contrary, the *Mahābhārata* and the *Rāmāyana* offer valuable insights into the culture and conventions of the Late Vedic period—but the

⁷² *Rāmāyana* 2.35.16, transl. K.M.K. Murthy, *Valmiki Ramayana: Ayodha Kānda* (2002, <https://www.valmikiramayan.net>), 2.40.19.

⁷³ E.g. Bhima’s alleged ability to crush armies with his bare hands (*Mahābhārata* 6.22.11–12), or Hanumān’s ability to cross the ocean and capture the unconquerable city of Lanka (*Rāmāyana* 6.1.1–6).

⁷⁴ Strabo 15.1.41, Arr. *Ind.* 17; it is notable that the powerful god Indra rode the celestial elephant Airāvata, e.g. *Rāmāyana* 3.22.24; J. Gonda, *Change and Continuity in Indian Religion* (The Hague, 1965), 71–8, 85, 91–2, 109; also see the numerous elephant coins, e.g. BM BNK.G.808; MNE 23.94; Trautmann (n. 1), 44–8, 54, 68, 79, 100, 119–21, 128–9; Epplert (n. 1), 216; Iossif and Lorber (n. 4); A. Stewart, *Faces of Power, Alexander’s Image and Hellenistic Politics* (Berkeley, CA, 1993), 233–61, 315–17; Armandi (n. 23), 30–2.

⁷⁵ Translation adapted from Ganguli (n. 53), 6.64 by P. Vāsiṣṭha.

⁷⁶ Cf. the account in 1 Maccabees of Eleazar’s heroic act of self-sacrifice in killing the lead Seleucid elephant at the battle of Beth-Zechariah (see n. 20 above). A similar idea is evident in Plut. *Vit. Alex.* 6.

picture they present is often subject to hyperbole and idealization.⁷⁷ Nevertheless, given the close etymological link between the concept of musth and words for 'drunk', we may wish to ask whether the frequent depiction of elephants in this state on the battlefield may have in turn encouraged the idea that, prior to battle, war-elephants were roused into an aggressive fury through alcohol, regardless of the reality.

CONCLUSION

By comparing the Hellenistic evidence with roughly contemporary material from ancient India, it is therefore clear that the idea that war-elephants were given alcohol before battle is both unusual and complex. As we have seen, this suggestion arises primarily from a brief remark in the account of the battle of Beth-Zechariah (162 B.C.E.) in 1 Maccabees, and is supported by the later comments of Philes and to some extent Aelian. It is true that the seventh-century C.E. monk Xuanzang claims that the people of Mahārāshtra also intoxicated their elephants before battle, but this anecdote is much later than our period and contains several exaggerated statements (such as the idea that an intoxicated warrior could singlehandedly defeat 10,000 enemies), bringing the authenticity of its claims into doubt.

Beth-Zechariah is consequently our only battle, both in the Hellenistic period and in ancient Indian warfare, for which we are explicitly told that war-elephants were given alcohol prior to the fighting, and even here the translation of the relevant line is complex. This emphasizes the atypical nature of this detail, especially given the absence of any mention of alcohol in Josephus' *Antiquitates Judaicae*, which otherwise closely follows the details presented in 1 Maccabees. The literary manipulation of the account in 1 Maccabees to create a conscious parallel of the biblical story of David and Goliath further questions the reliability of this evidence. Additionally, the fact that the narrative is structured around Eleazar's heroic attack on the lead Seleucid elephant, suggests that the author of 1 Maccabees included the detail about the elephants being given wine 'to rouse them for battle' primarily to emphasize their terrifying appearance, regardless of its authenticity.⁷⁸ There is thus little secure literary evidence for the idea that the use of alcohol was a standard feature of elephant warfare.

The practicalities of Hellenistic military engagements likewise cast further doubt. Although techniques to heighten the formidable appearance of war-elephants by increasing their ferocity might initially seem ideal given the importance of their psychological impact on the battlefield, the dangers of unmanageable elephants cannot be overstated. Since these animals were already prone to uncontrollability, I therefore argue that it is highly unlikely that an army would wish to increase this risk by intoxicating them. The proposal that the alcohol was intended not to rouse the elephants but rather to calm them down remains possible, but there is no guarantee that the alcohol would necessarily have this effect. Additionally, while alcohol may have formed a genuine part of an elephant's rations, as Aristotle and Kauṭilya suggest, we have no way of ascertaining the accuracy or extent of this in Hellenistic armies.

Similar concerns also surround the Indian epic topos that the best war-elephants were always in a state of musth. Not only was it unrealistic for this to be the case during every

⁷⁷ Trautmann (n. 1), 61.

⁷⁸ Tropper (n. 13), 12; Hoover (n. 2).

battle, but, as both Kauṭilya's *Arthaśāstra* and modern practice demonstrate, musth is a dangerous condition that requires careful management. Moreover, although this aggression could potentially have been exploited when it was safe to do so, the *Mahābhārata* and the *Rāmāyana* were subject to the exaggerated and idealizing conventions of the epic genre and are consequently not accurate reflections of historical military reality.

Therefore, although many scholars have accepted that elephants were intoxicated prior to battle, this was by no means a standard feature of ancient elephant warfare. It is, however, plausible that the prevalence of the idea that war-elephants were constantly in musth in the Indian epics, alongside the etymological link between this condition and being drunk in the Sanskrit texts, may have prompted the idea of deploying intoxicated elephants on the battlefield, or may at least have helped to perpetuate this notion. Although it remains a remote possibility that Hellenistic armies may have occasionally experimented with the idea of giving elephants alcohol, the practicalities of ancient warfare mean that, regardless of the claims of 1 Maccabees and Philes, this was almost certainly never done with the intention of rousing the elephants into a frenzy.

University of Manchester

SILVANNEN R. GERRARD
silvannen.gerrard@manchester.ac.uk