

Greek Taktika: Ancient Military Writing and its Heritage

**Proceedings of the International Conference
on Greek Taktika held at the University of Torun,
7-11 April 2005**

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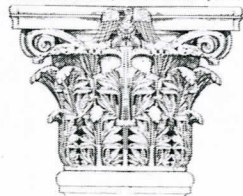


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TABLE OF CONTENTS

| | |
|--|-----|
| Preface and Acknowledgements | 7 |
| Philip Rance | |
| Introduction | 9 |
| Burkhard Meißner | |
| Early Greek Strategic and Tactical Teaching and Literature | 65 |
| Hans Michael Schellenberg | |
| Reflections on the Military Views of the 'Military Writer' Aeneas Tacticus | 81 |
| Bogdan Burliga | |
| Tactical Issues in Aeneas 'Tacticus' | 94 |
| Alexander Nefedkin | |
| The Classification of Greco-Macedonian Cavalry in Ancient <i>Taktika</i> and in Modern Literature | 107 |
| Nicholas Sekunda | |
| Cavalry Organisation in the <i>Taktika</i> : the <i>Tarantinarchia</i> | 116 |
| Bogdan Burliga | |
| Asclepiodotus' τοῖς γε σώμασιν ἐπιβρίθοντες (<i>Tactica</i> 5.2) and Polybius' τῷ τοῦ σώματος βάρει (18.30.1-4) | 123 |
| Hans Michael Schellenberg | |
| A Short Bibliographical Note on the Arabic Translation of Aelian's <i>Tactica Theoria</i> | 135 |
| Jacek Rzepka | |
| Polyaenus and the Creation of Hellenistic Monarchy | 141 |
| Sławomir Sprawski | |
| Alexander at Tempe: Polyaenus, <i>Strategemata</i> 4.3.23 | 152 |
| Pierre O. Juhel | |
| The Rank Insignia of the Officers of the Macedonian Phalanx: the Lessons of Iconography and an Indirect Reference in Vegetius | 167 |

Radosław A. Gawroński

- The Javelins used by the Roman Cavalry of the Early Principate
in Archaeological Contexts and Written Sources180

Wojciech Brillowski

- The Principles of *ars tactica*: Roman Military Theory and Practice
in Arrian's *Acies contra Alanos*195

Philip Rance

- Maurice's *Strategicon* and 'the Ancients': the Late Antique Reception
of Aelian and Arrian217

Keith Roberts

- The Practical Use of Classical Texts for Modern War in the Sixteenth
and Seventeenth Centuries256

Richard Brzezinski

- The Influence of Classical Military Texts in Early Modern Poland: a Survey282

PREFACE AND ACKNOWLEDGEMENTS

The idea of holding a mini-conference on the Greek *taktika* was floated by Ted Lendon during the First International Conference on Hellenistic Warfare, held at the Nicolaus Copernicus University in Toruń in 2003. The dates of the Greek *Taktika* Conference were set for 7-11 April 2005, and the planning of the conference steadily went ahead. At the same time, the state of health of the Polish Pope, John Paul II, continued to decline. After a long illness, the Pope finally died on 2 April, and the whole Polish nation, stunned by his passing away, even though it was as inevitable as it was predictable, was plunged into an ever-deepening state of mourning, nowhere more evident than in the 'holy city' of Toruń, which may be considered the Polish equivalent of Isfahan.

It was suggested to me that I should call off the conference, to which I replied that this was out of the question, as some of the conference delegates had already bought their air tickets, in some cases coming from as far away as the United States of America. The conference simply had to go ahead, but where? There was no problem for the delegates in terms of accommodation, their room reservations in the Institute or in local hotels would be respected, but there was a problem with the catering. At the last minute the bar that had been reserved for the reception of conference delegates on arrival on Thursday and on Friday night told me that the staff had withdrawn their labour as they were in mourning. As the hysteria mounted, it became increasingly difficult to find an alternative, but eventually one was found.

The conference itself was preceded by a tour of the Norbertine Monastery at Strzelno and the Benedictine Abbey at Mogilno, both Romanesque structures in the picturesque Kujavian region adjacent to Toruń, unique to Poland, but not to other European countries less ravaged by passing foreign armies. Alejandro Noguera Borel was heard to remark that in Valencia there were eleven Romanesque churches. Our guide related how the buildings were mistreated by the German army, upon which the German delegates fell into a remorseful silence, which only lifted somewhat when the guide concluded by saying that most of the damage to the buildings had been caused by the Red Army's artillery bombardment. The cultural day concluded with a guitar recital accompanied by the Toruń Chamber Orchestra in 'Arthur's Court'.

The catering on Saturday night was organised by the Experimental Archaeological Society under the capable direction of Grzegorz Osipowicz. They ably put on a display of reconstructed Stone-Age techniques of cooking, and the delegates were invited to partake of the results, which evinced the following response from Ted Lendon: 'Look – a prehistoric fish burger'. The conference was rounded off with a practical demonstration of 'The Penetration Power of the Scythian Bow', conducted by Erhard Godehardt in Fort IX 'Bolesława Chrobrego' nearby the Institute.

I personally found the conference rewarding, if exhausting. I felt obliged, as the chief host of the conference, to be present as the last Spanish guest went to bed at 6 am, and also to be present at the Institute to greet the first German guest at 8 am. As the conference was held during term-time, it was back to teaching on Monday. It was then that I was made aware of my increasing age, as, for the first time, I fell asleep during one of my own lectures. The reaction of the students was very understanding: 'Why doesn't Sir go home to bed?' And I did.

I have no excuse for the length of time it has taken in producing the conference proceedings. But I would like to pay thanks for the help I have received from Philip Rance, without which it is possible that they would not have been printed at all.

Nicholas Sekunda

August 2016
Gdańsk

Philip Rance

INTRODUCTION

'The following article is to serve the purpose of announcing an enterprise, which I regard as too important and too great not to do everything from the outset that can contribute in any way to its advancement. There is now no part of the entire study of antiquity that is so important and at the same time so uncommonly neglected as the art of war (*Kriegskunst*). Of all the ancient writers who treat this subject exclusively, not a single one is edited in a manner consistent with the current position of philology; most are available only in a few old and rare editions, in part in a form that is apt to scare away even the few who still have some interest in their content.

... Yet in other respects there are indeed often scholarly requirements, which everyone recognises but no one has the inclination to satisfy; the reason in this case lies without doubt in the fact that, as a rule, the science of war (*Kriegswissenschaft*) in itself can have only limited attraction for philologists, and that, on the other hand, the devotees and connoisseurs of the art of war in part do not possess sufficient linguistic knowledge to understand the military writers, or sufficient persistence and supporting materials (*Hilfsmittel*) to struggle through the textual difficulties that have not been cleared out of the way by philologists, or sufficient dedication to assemble painstakingly what is useful from writers who, for the most part, are certainly in no way attractive in terms of intellect and artistry (*Geist und Kunst*). In addition, there is the ever-progressing practical and theoretical training of the modern art of war, which with an often exaggerated sense of its independence feels less need to look back to antiquity, while in the Middle Ages, indeed one can say up to the Thirty Years War, the whole science of war was based on antiquity.'

With these words Friedrich Haase (1808-67) commenced the first modern study of Greek and Latin 'military authors' (*Kriegsschriftsteller*), published in 1835. Haase distinguished a category of technical or instructional writing

devoted to the theory, planning, conduct and/or technology of war, today commonly termed 'military manuals'. Previous scholars had edited, translated or studied individual or selected texts, but a comprehensive or synoptic survey of this broadly construed genre was hitherto lacking. The momentous scholarly enterprise Haase wished to herald, and for which he later (1847) devised a nine-volume publishing schedule, was a collective critical edition of all surviving Greek and Latin military authors, furnished with translations and/or commentaries, analogous to emerging textual corpora of ancient medical, philosophical or geographical literature.¹ While Haase confined his review of the scant and miscellaneous remnants of classical Latin military authors to a short appendix, his conception of Greek military writing aligned its far more numerous specimens in a self-conscious tradition stretching from the fourth century BC to tenth century AD, encompassing a diversity of 'sub-genre', content, style, language and literary-cultural milieu. This grand programmatic vision proved illusory. Haase himself did not published a single contribution to the project. Successive attempts to inaugurate similar all-inclusive serial editions up to the early twentieth century attained limited results, in quantity and/or quality, or entirely foundered owing to the sheer magnitude of the undertaking.²

In some respects, Haase's preliminary remarks identified enduring characteristics and recurrent shortcomings of scholarship on Greek military authors. Although over the following half century the textual basis of academic study became significantly more secure than the miserable state Haase bemoaned, on the whole editorial work in this field has been sporadic and remains incomplete. Some crucial works are still available only as deficient antiquarian texts, while several older editions, though mostly satisfactory for historical or technological research, fall short of current text-critical and codicological standards. As in Haase's day, these deficiencies have long been recognised but await redress. In this regard, Haase also drew attention to the dual value of these works as both examples of technical literature and sources for military history. The divergence he discerned between the aims, interests and aptitude of philologists and, presumably, military historians had considerably diminished within a generation. The complementary strand of historical enquiry that soon emerged alongside ground-breaking textual editing and criticism around the mid-nineteenth century was and long remained firmly grounded in philological approaches and expertise. Over the course of the second half of the twentieth century, however, the study of ancient warfare in general evolved in different directions, for the most part away from its philological roots, in some cases perhaps too far. Within the overall trajectory of military-historical research the profile of Greek military treatises has become somewhat ambiguous.

¹ Haase (1835), selectively quoting 88-9 (my trans.); elaborated (1847) esp. 6-25.

² See below pp. 30-31.

On the one hand, a succession of scholarly translations and/or commentaries, even if at times based on older editions that are not beyond reproach, bears witness to the vitality of philological scholarship in this sphere and has equipped historians with a burgeoning 'Hilfsmittel' of the kind that Haase found so inadequate. On the other hand, the interests and methodologies of some prevailing currents of academic military historiography, notably the social scientific framework of the 'New Military History' from the early 1960s, but also the synthetic modelling of the 'Face of Battle' technique from the mid-1970s, have to a great extent, if in very different ways, marginalised military treatises as historical sources, or at least the majority of texts that do not suit their respective agendas. Nevertheless, some traditional pursuits persist. A long-established method for testing the historicity of military authors by comparing their precepts with practices reported in contemporary historical accounts remains a standard device in the historian's analytical tool-kit, though the more instructive studies of this type are conscious of the conventions and priorities of the two genres, recognise the cognitive limitations of both military theoreticians and historical writers, and avoid too crudely dichotomising 'theory' and 'praxis'. Finally, Haase's remarks on the antique foundations of medieval and early modern warfare, though in some respects overblown, adumbrated the vast bibliography that has subsequently accrued relating to the long-term reception of ancient military thought and literature, particularly in western Europe from the mid-fifteenth to mid-seventeenth centuries.

Unremarkably, a retrospective reading of Haase's observations also reveals the changed face of classical studies since that heady pioneering era. Certainly few now could easily imagine a time when ancient warfare was deemed a 'neglected' field of enquiry. Haase's chronological parameters may also surprise present-day readers accustomed to stricter notions of ancient and Byzantine periodization. His broader horizons were partly a conceptual relic of looser cultural-historical distinctions in late humanist scholarship, but the focus of nineteenth- and early twentieth-century research on primarily philological, editorial and codicological issues also fostered a more acute awareness of how the Byzantine transmission shaped the available sample of classical military authors. This perspective, which culminated in the prolific output of Alphonse Dain (1896-1964), has long since been abandoned by all but a few tradition-conscious students of Byzantine military literature, reception and codicology. Indeed, the overall trend towards academic specialisation means that even the more circumscribed study of ancient military authors has become increasingly compartmentalised according to period and/or sub-genre. Yet the very heterogeneity of Greek military writing always presented a challenge to the inclusive purview envisaged by Haase. The extant works constitute a large, diverse and to some extent random selection that defies uniform and static classification, including instructional handbooks on organisation, deployment and tactics, technological blueprints for the design, construction and use of

poliorcetic machinery and artillery, collections of exemplary historical stratagems and apophthegms, and ethical and practical guidelines for the gentleman who aspires to be a general. Questions of genre, milieu and purpose that hardly troubled older scholarship have come to the fore. Collectively these texts raise fundamental questions about their contemporary use and utility, evidential basis, intended or actual readership, and literary-cultural setting. More sophisticated and pervasive analytical concepts of textual tradition and intertextuality have shifted the focus of 'reception studies' away from post-classical scenarios to the ancient Greek underpinnings of Roman military literature, in both Greek and Latin, especially in the context of the Second Sophistic. Inasmuch as most of the surviving specimens of ancient military writing in Greek were written under Roman rule, even if they drew directly or indirectly on classical or Hellenistic archetypes, the label 'Greco-Roman' is arguably more apposite. In addition, a current scholarly vogue for pushing generic boundaries and minimising genericity is apparent in explorations of rhetorical and didactic strategies shared with instructional literature in other 'practical' fields as well as literary interaction or affinities with other genres, such as historiography and paradoxography. Perhaps the most striking divergence from Haase's appraisal, however, is the ability of recent studies to discern qualities of 'Geist und Kunst' in Greek military treatises, beyond military-historical contexts. Attempts to investigate their literary dimensions and to locate their authors within contemporary intellectual and cultural currents have cultivated a growing appreciation that some works, including seemingly utilitarian expositions of mechanical technology, sought to display both technical mastery and literary erudition, and aimed as much to entertain and delight as to instruct and edify. One consequence of the heightened interest of 'non-military' scholars in selected military authors is a partial 'demilitarisation' of Greek/Greco-Roman military writing and, by extension, its closer assimilation into the classical literary landscape.

In an effort to focus discussion, the contributors to this volume concentrated on ancient Greek works relating to tactics and generalship (*taktika*, *stratēgika*), broadly construed, in contrast to those concerned mainly or exclusively with siegecraft (*poliorkētika*) or artillery (*belopoiika*), which merit separate discussion elsewhere. Although this demarcation simplifies some aspects of a literary-cultural tradition, the division is neither arbitrary nor anachronistic. By way of introduction to the issues and themes discussed, a necessarily brief survey of the field seeks to outline the origins, evolution, transmission and reception of Greek/Greco-Roman tactical writing, to delineate its principal authors, sub-genres and works, and to situate the collected papers within a review of modern scholarship. The scholarly literature on this genre is large and venerable, if not always fully appreciated or exploited by its modern students. The introduction does not aim or claim to assemble an exhaustive bibliography; older critical editions, encyclopedia articles and modern-language translations in particular are selectively cited.

Correspondingly, broader historiographical trends in the study of ancient warfare are discussed only insofar as they affect attitudes to and use of tactical treatises as historical sources; other developments have been expertly appraised elsewhere.³

Greek Military Writing

A branch of Greek 'technical' writing devoted to warfare first emerged around the mid-fourth century BC, seemingly in response to interrelated military, literary and cultural factors.⁴ War had formed the backdrop to the earliest Greek literature, both verse and prose. From an early date the Homeric poems came to be regarded as authoritative repositories of military wisdom and some later tactical authors traced the origin of their literary tradition back to Homer.⁵ Herodotus and Thucydides established war, its causes, course and impact, as the primary agenda of historical writing, which could thereby furnish prescriptive models of generalship, tactics and stratagems, as well as exempla of martial values, conduct and behaviour. The second half of the fifth century BC witnessed a general broadening of literary culture and the first systematic attempts at writing down knowledge that had previously been transmitted orally. To judge by extant examples, this encouraged a diversification of texts on scientific and 'practical' subjects, including medicine, politics and equine management. Theoretical instruction in military matters is first documented at Athens in the last third of the fifth century, when self-styled professional tutors termed sophists claimed to impart various learnable arts or skills (*technai*) that would prepare wealthy private clients to assume civic and military offices. The sophists were reportedly the first to teach specifically 'tactics' (τὰ τακτικά), among other matters, and though some contemporary critics accused them of abstraction, rhetorical didactic methodology or even charlatanism, their

³ For trends in the study of ancient Greek warfare in the past half century see now Wheeler (2011), with further remarks and bibliography relating specifically to the classical period in Wheeler (2007) xi-xxvii.

⁴ The only comprehensive overview of Greek tactical writing from classical antiquity through to the mid-Byzantine period remains Dain(†)/de Foucault (1967), which assembles the older bibliography, but is marred by errors and inconsistencies arising from posthumous publication, and is now in parts gravely outdated. Still useful selectively are Jähns (1889-91) I 13-158 and Bauer in Müller/Bauer (1893) 273-83 with bibliography at 287-8. For full or partial surveys of the classical genre: Campbell (1987); (2004); Loreto (1995) (with caution); Lenoir (1996); Schettino (1998) 45-68; Meißner (1999) 148, 161-7, 178-94, 246-55, 277-92; Traina (2002); Whitehead (2008); Fiorucci (2014). Surveys of the Byzantine genre: Hunger (1978) II 323-40; Dagron/Mihăescu (1986) 139-60; McGeer (2008); Cosentino (2009); Sullivan (2010).

⁵ E.g. Ael. pr.1, 1.1-2, 41; cf. also Arr. *Tact.* 31.5-6; Polyæn. 1.pr.4-13. See remarks of Stadter (1978) 122; Wheeler (1991) 123 n. 12; (2010) 24-7, 31; Vela Tejada (2004) 130-31; and more generally Dueck (2011).

educational ideals promoted a *paideia* based on the methodical acquisition and propagation of specialised knowledge and fostered an intellectual climate suited to the evolution of a body of theory.⁶ Continuing a longer-term shift towards larger and more complex conflicts throughout the Greek world, military developments in the first half of the fourth century created circumstances favourable to the production of instructional handbooks that could formulate general principles and offer specific guidance on the basis of accumulated wisdom or practical experience. In the era of endemic warfare following the Peloponnesian War (431–404 BC), increasing tactical specialisation of composite forces, together with fiscal complexity and technological innovations in siegecraft and fortifications, heightened demand for technical expertise or training and accelerated the professionalisation of military personnel, including the more widespread employment of career generals, mercenaries and technicians.

Against this background, and within the scope of a diverse oeuvre, Xenophon (c.430–c.354 BC) wrote a series of monographs on practical subjects and played a pioneering role in defining fields of specialised knowledge that he found interesting and considered germane to a properly educated gentleman. These included the two oldest surviving examples of theoretical studies relating to warfare in Greek literature. Xenophon's *Hipparchicus* (*Hipparchikos*), written c.360–55 BC, instructs prospective candidates for the elected office of cavalry commander (*hipparchos*) at Athens with regard to its military and political responsibilities and the requisite managerial skills and qualities.⁷ His *De re equestri* (*Peri Hippikēs*), of uncertain and disputed date, addresses purely equine and equestrian concerns, but takes account of military applications.⁸ In both treatises the topic is narrowly defined and the tone personal but informed, reminiscent of a didactic essay or memoir, which afforded Xenophon the opportunity to elaborate material that would otherwise exceed the conventional limits of a technical excursus in a historical work.⁹ From a broader perspective, the moral and practical didacticism that infuses Xenophon's compositions in other literary forms, notably his *Cyropaedia*, *Memorabilia* and *Respublica Lacedaemoniorum* – a novelistic biography, Socratic dialogue and idealised constitutional treatise – also articulate elements of

⁶ For the genesis of Greek tactical instruction and military writing: Anderson (1970) 94–110; Wheeler (1981); (1983) esp. 2–9; (2010) 19–30; Bettalli (1986) 74–81; Salomone (1986); Whitehead (2001²) 34–8; Vela Tejada (2004); Burliga (2008).

⁷ Edition with Fr. trans. É. Delebecque (ed.), *Xenophon, Le commandant de la cavalerie* (Paris 1973). Eng. trans. E.C. Marchant, *Xenophon, Scripta minora* (Cambridge MA 1925 [repr. 1968; 1971]) 233–93. Ital. trans. Petrocelli (2001). Commentary and studies: Salomone (1986); Petrocelli (2001) esp. x–xxxv, 47–99; Stoll (2010); Toalster (2011) 79–86.

⁸ Edition with Fr. trans. É. Delebecque (ed.), *Xenophon, De l'art équestre* (Paris 1995). Eng. trans. E.C. Marchant, *Xenophon, Scripta minora* (Cambridge MA 1925 [repr. 1968; 1971]) 295–363.

⁹ For the relationship between political-military historiography and the emergence of theoretical monographs see e.g. Wheeler (1981) 78–9; (2010) 19–20; Vela Tejada (2004) 135–46.

technical military instruction, including organisation, drill and tactics, as well as insights into martial psychology and models of exemplary leadership.¹⁰

Substantially different in scope, character and objective was a work written around 350 BC by an Aeneas, first styled 'Tacticus' in early seventeenth-century scholarship, who compiled a multi-volume compendium, seemingly intended as a comprehensive treatment of military science. Only one book is extant, entitled *Poliorkētika* in its sole manuscript witness, almost certainly a Byzantine editorial label.¹¹ This remnant contains a wide-ranging and pragmatic consideration of how an urban community might prepare for, evade and survive a siege. Internal cross-references, at times ambiguous, together with rare citations in subsequent authors, variously intimate the shape and composition of the original ensemble. While the number, content and configuration of the lost books remain uncertain, they apparently included discussion of logistics, finance, stratagems, campaign procedures, tactics and possibly naval operations. More impersonal in tone and less literary in style than Xenophon's monographs, it is generally assumed that Aeneas' work combined firsthand experience of command with an understanding of recent military developments. The author's identification with a contemporary Arcadian general, Aeneas of Stymphalus, has found varying degrees of scholarly favour but falls short of demonstration.¹² The nature and extent of Aeneas' innovation or debt to earlier, now-lost textual sources remains unknown, though some have discerned interaction with Xenophon.¹³

Military authors proliferate in the early Hellenistic period but virtually nothing survives of their works. Cineas of Thessaly (fl. 280 BC), the minister of Pyrrhus of Epirus (319/18–272 BC), prepared an epitome of Aeneas' writings. Pyrrhus himself wrote a *taktika*, as did his son Alexander II of Epirus. The historian Polybius (c.200–c.118 BC) composed a military treatise, which included discussion of tactics and encampments. The Athenian Peripatetic philosopher and statesman Demetrius of Phaleron (c.350–c.280 BC) is also credited with writing a two-book *stratēgika*. Other authors are little more than names: for example, Clearchus, Pausanias and Euangelus, apparently in the third century, and Eupolemus and Iphicrates, in the second century, while the date of Bryon is unknown. The

¹⁰ Wood (1964); Anderson (1970); Lendon (1999) 290–304; Christesen (2006); Toalster (2011).

¹¹ Edition: Dain/Bon (1967). Eng. trans. W.A. Oldfather in Oldfather *et al.* (1923); Whitehead (2001²). Commentaries: Hunter/Handford (1927); Bettalli (1990); Vela Tejada (1991a); Whitehead (2001²); Burliga (2007). For discussion of the title and ascription of Aeneas' text in *Laur. gr.* LV-4 see Schöne (1911) xiii–xiv; Dain (1935) 7–8; Dain/Bon (1967) xii–xiii, xxx–xxxiv; xxii–xxiii; Bettalli (1990) 6–7; Whitehead (2001) 4–7, 16–17. Previous scholarship has not considered this problem in light of the broader confusion in the rubrication of *Laur. gr.* LV-4: see Rance (forthcoming B).

¹² Date, authorship and original scope of Aeneas' military writings: Bettalli (1990) 3–12; Vela Tejada (1991b) 12–37; Whitehead (2001²) 4–16, 36–8. Further literary and historical studies with bibliography: Pretzler/Barley (forthcoming).

¹³ Bettalli (1990) 13–16; Whitehead (2001²) 35–7.

military literature of this era reportedly included both introductory handbooks (εἰσαγωγαί) and specialist treatises (τοπικαὶ πραγματεῖαι) for the cognoscenti.¹⁴ Their content, purpose and influence remain elusive, though the association with kings, generals and statesmen, as authors, addressees and readers, implies that at least some specimens of this genre were deemed of practical utility and/or intellectual value, supplementary to personal experience of warfare and other written sources of military knowledge, notably histories.¹⁵

Extant Hellenistic military treatises are conventionally subdivided into two branches. First, a poliorcetic tradition encompasses texts concerned with siegecraft, machinery and artillery, which to varying degrees reflect developments in military engineering during this era, though literary and aesthetic considerations uncut analyses based on utilitarian conceptions of technological progress alone.¹⁶ Conventionally the earliest surviving example is a short tract on siege engines ascribed to Biton. Addressed to a King Attalus, variously identified as Attalus I (r. 241-197 BC) or II (r. 160/59-138 BC) of Pergamum, it contains technical specifications and diagrams for six devices built by five named engineers in the past and is ostensibly an important source on tension-powered artillery. While its technological content appears to be intended for engineers, the received text is often confused and/or incomplete and in parts nonsensical. Also puzzling is Biton's advocacy of antiquated devices that had long been superseded by torsion-powered technology.¹⁷ Some scholars have even discerned in Biton's work a much later rhetorical exercise or pseudo-technological pastiche.¹⁸ Around 200 BC, Philo of Byzantium, also styled 'Mechanicus', wrote a large multi-volume compendium on mechanics and civil and military engineering, entitled *Mēchanikē syntaxis*, apparently the first of its kind. Extant books are addressed to Ariston, an otherwise

¹⁴ Ael. 1.2-3; Arr. *Tact.* 1.2.

¹⁵ The ancient evidence is assembled and discussed by Jähns (1889-91) I 46-9; Dain/de Foucault (1967) 321-2; Wheeler (1983) 6; (1988) 13-14; (2010) 21; Schettino (1998) 48-50. For generals reading *taktika*: e.g. Plut. *Phil.* 4.4-5, who reports that Philopoemen was 'especially attached to the *Taktika* of Euangelus'; cf. also Paus. 8.49.3.

¹⁶ Surveys and bibliography of Hellenistic poliorcetic and/or 'belopoeic' literature: Dain/de Foucault (1967) 323-6; 332-3; Marsden (1969-71); Ferrari (1982); Whitehead (2008) 144-53; Meißner (1999) 161-7, 178-85, 192-4; Cuomo (2007) esp. 50-55, 60-63; Roby (2016) 209-37.

¹⁷ Edition with Ger. trans. A. Rehm and E. Schramm (edd.), *Bitons Bau von Belagerungsmaschinen und Geschützen* ([Abhandlungen der Bayerischen Akademie der Wissenschaften, phil.-hist., Abt. N.F. 2] Munich 1929), with textual corrections by U. v. Wilamowitz-Moellendorf, 'Lese-früchte', *Hermes* 65 (1930) 241-58 at 255-7. Rev. text with Eng. trans. Marsden (1969-71) II 61-103, but see critical remarks by A.G. Drachmann, Review of Marsden (1971) in *Technology and Culture* 13.3 (1972) 487-94 esp. 48-91. Both the German and English translations exhibit a strong tendency to interpret or alter the Greek text so as to conform to technological reconstructions. Studies: Marsden (1969-71) I 13-15, 63; Drachmann (1977); Lewis (1999); Meißner (1999) 161-2; Roby (2016) esp. 61-71, 174-6, 216-22.

¹⁸ See especially Drachmann (1977). See generally Cuomo (2007) 46-59, who cautions against anachronistic notions of uniform and unilinear technological progression.

unknown correspondent or possibly patron, to whom each volume was sent independently in accordance with a previously outlined didactic programme. Most of this compendium is lost and the survival of its military sections probably reflects the selective interest of Byzantine editors. Book IV (*Belopoiika*) contains specifications for the construction of artillery, principally torsion-powered catapults. Philo assimilates empirical techniques he learned from artificers in workshops at Rhodes and Alexandria, some of whom had worked with the renowned Alexandrian inventor Ctesibius (c.270-c.230 BC), and critiques recent developments and famous devices constructed by his predecessors. His debt to Ctesibius' lost writings on ballistics cannot be demonstrated or quantified.¹⁹ Extensive excerpts survive of Book VII (*Paraskeuastika*), a wide-ranging treatment of defensive planning that contains the only technical exposition of fortification to have survived from antiquity, and of VIII (*Poliorketika*), which prescribes engineering, equipment and tactics to be employed by besieger and besieged.²⁰ Both books contain material drawn, directly or indirectly, from the surviving poliorcetic section of Aeneas' compendium.²¹ Given the loss of most of Philo's work, some modern attempts to locate his writings on fortifications and siegecraft in a specific historical, military and/or geographical setting possibly overstate his military objectives and expertise in isolation from his wider technological interests.²² Treatises written much later, under Roman rule, provide indirect or potential testimony to other, now-lost Hellenistic writings or teachings on siege machinery and artillery: Athenaeus ('Mechanicus'), probably writing in the 20s BC, cites several ancient authorities, principally Agesistratus of Rhodes, while Hero of Alexandria, in the 60s AD, possibly also had access to lost works by Ctesibius.²³

Second, and of more immediate relevance to this volume, a late Hellenistic tradition of tactical writing comprised a schematic exposition of the terminology, structure, deployment and manoeuvres of an arithmetically idealised army. This sub-genre conventionally rehearses a sequence of schematised and progressively

¹⁹ Edition with Ger. trans. H. Diels and E. Schramm (edd.), *Philons Belopoiika (Viertes Buch der Mechanik)* ([Abhandlungen der Preussischen Akademie der Wissenschaften, phil.-hist. Kl., Abh. Nr. 16] Berlin 1919); rev. text with Eng. trans. Marsden (1969-71) II 106-84.

²⁰ Edition with Fr. trans and commentary: Garlan (1974). Eng. trans. and commentary: Whitehead (2016); partial Eng. trans. in Lawrence (1979) 69-107. See also remarks in Marsden (1969-71) I esp. 113-26; Ferrari (1982) 242-95; Meißner (1999) 162-6.

²¹ Whitehead (2016) esp. 17, 35-59; Rance (forthcoming B).

²² Lawrence (1979).

²³ Athenaeus, *De machinis*: ed. with Ital. trans. and commentary: Gatto (2010); Eng. trans. with commentary: Whitehead/Blyth (2004); sources, citations and textual affinities: Whitehead/Blyth (2004) 15-31, 35-9, 171-90; Gatto (2010) 53-80, 495-509. Hero, *Belopoeica*: ed. with Ger. trans. H. Diels and E. Schramm, *Herons Belopoiika (Schrift vom Geschützsbau)* ([Abhandlungen der Königlich Preussischen Akademie der Wissenschaften, phil.-hist. Kl., Abh. Nr. 2] Berlin 1918); rev. text with Eng. trans. in Marsden (1969-71) I 17-43. Hero's literary and cultural context: Marsden (1969-71) I 3-8; Meißner (1999) 182-8.

elaborate tactical evolutions for a Greco-Macedonian infantry phalanx, variously supported by different formations or types of light infantry and cavalry. Chariots and elephants are also briefly considered but declared obsolete. It is generally agreed that this tradition originates in a lost tactical treatise by the Stoic philosopher Posidonius of Apamea (c.135-c.51 BC), later resident on Rhodes. To judge by extant witnesses, in conception and format this *Urtext* resembled an intellectualised product of taxonomic philosophical categorisation. Insofar as it transmits authentic historical data, it most plausibly portrays the late Seleucid army, though variant details and occasional differentiation of past and current practices or terminology perhaps reflect the efforts of an amateur writer to rationalise dimly understood and partly conflicting technical data from an already distant age of phalangal warfare.²⁴ The form and content of this lost archetype are known principally through three descendants, two of which are chronologically remote from Posidonius' era, in addition to later derivative opuscula. Scholarly consensus deems the earliest witness to be a short and cursory tract by a 'philosopher' named Asclepiodotus, commonly identified with a homonymous pupil of Posidonius. Asclepiodotus' text is thus assumed to be a near-contemporary abridgement or précis of the original work.²⁵ Much later (AD 106-13), Aelian's *Tactica theoria* reprised and possibly elaborated this late Hellenistic tradition as an expressly antiquarian exercise addressed to Trajan for the emperor's edification.²⁶ Slightly later still, Arrian in turn reconfigured and partly 'updated' this ancient exemplar in his *Ars tactica* (*Technē Taktikē*), written on the occasion of Hadrian's *vicennalia* (AD 136/7). While the core of his treatise (1-32.2) adheres to the Hellenistic framework, recast in an Attic idiom and embellished with glosses, Arrian sought to extol Rome as a culmination of eclectic martial traditions by interpolating details of contemporary Roman armaments and opponents, and rather awkwardly

²⁴ Köchly/Rüstow (1853-5) II.1 74-8; Dain (1946) 26-40; Dain/de Foucault (1967) 326-7, 329-32; Devine (1989) 32-3; (1993) 316-30, 333; Poznanski (1992) ix-xi; Bosworth (1993) 253-4; Meißner (1999) 187-9; Sekunda (2001) 125-34; Lendon (2011) 108-10. Alternatively, others have wished to derive the tradition from a lost tactical memorandum by Polybius: this thesis goes back at least to F. Haase, 'Phalanx' in J.S. Ersch/J.G. Gruber (edd.), *Allgemeine Encyclopädie der Wissenschaften und Künste* III.21 (Leipzig 1846) 411-30 at 427-8; see thus also Droysen (1889) 35-6 n. 2; K.K. Müller, 'Asklepiodotus'¹⁰ *RE* II.4 (1896) 1637-42 at 1640-1; Devine (1989) 33; (1993) 333-4; (1995) 40-44, partially endorsed by B. Campbell, *OCD*³, s.v. 'Asclepiodotus'; Walbank (2002) 21. However, Sekunda (2001) 128-9 counters persuasively that Posidonius originated the tradition. For what it is worth, a speculative attempt to reconstruct Polybius' tactical treatise envisages a work that is altogether different to the Posidonian model: Poznanski (1980a); (1980b).

²⁵ Edition with Fr. trans. Poznanski (1992). Eng. trans. W.A. Oldfather and C.H. Oldfather in Oldfather *et al.* (1923) 244-333. Date and context: Oldfather *et al.* (1923) 230-37; Poznanski (1992) ix-xv. Manuscript transmission: Dain (1934-5); Poznanski (1992) xv-xxvi.

²⁶ Edition: Köchly/Rüstow (1853-5) II.1 241-471. Eng. trans. Devine (1989). Date and context: Dain (1946) 15-21; Devine (1989) 31. Textual history and manuscript transmission: Dain (1946), supplemented by Stolpe (1968).

appending a report of sportive exercises (*hippika gymnasia*) performed by Roman cavalry (32.3-44).²⁷ The textual relationship between Aelian and Arrian, whether the latter merely copied the former or both independently used a common intermediary, has long remained unresolved.²⁸ Aelian's work, which seems to have already enjoyed considerable esteem in late antiquity, went on to become a (or the) fashionable military 'classic' for Byzantine writers and readers, and was subsequently the most influential Greco-Roman military treatise consulted during the sixteenth-/seventeenth-century 'military revolution' in western Europe.

Extant examples of the Roman 'reception' of Greek – primarily Hellenistic – authors, in both the poliorcetic (Athenaeus, Hero) and tactical (Aelian, Arrian) traditions, therefore date from the early Principate onwards. A prior Roman engagement with Greek archetypes can be dimly discerned in the scant textual wreckage of Latin military writing. This tradition appears to have originated in the Mid-Republic with a now-lost *De re militari* by Cato the Elder (234-149 BC), whose synthesis of Greek theory for Roman use exemplifies the broader significance of Greek models in the nascence of Latin genres.²⁹ Subsequent interaction between the Greek and Latin traditions marks the contribution of the general and thrice consul Frontinus (c.35-103/4), who both encouraged Aelian's antiquarian interest in ancient Greek military literature and, it has been inferred, drew on Greek sources in the composition of his own lost work of military theory, at least insofar as its content can be reconstructed on the basis of its surviving appendix,

²⁷ Edition: Roos/Wirth (1968) II 129-76. The Eng. trans. by DeVoto (1993) 49-103, where not impenetrable, is frequently erroneous. Ger. trans. (chs. 32.3-44): Kiechle (1964) 88-107; Ital. trans. with commentary: Sestili (2011) 24-150. Date and context: Wheeler (1978); Devine (1993) 315-16; Bosworth (1993) 253, 255-62; Meißner (1999) 250-55. Manuscript transmission: Dain (1934); summarised Devine (1993) 334-6.

²⁸ Textual correspondence between Asclepiodotus, Aelian and Arrian is tabulated by Devine (1993) 319-20; see also Förster (1877) 431-2; Stadter (1978) 120. The connection between these three works, together with the derivative so-called *Lexicon militare*, has long been disputed. Older scholarship favoured a unilinear tradition, variously nuanced, whereby Arrian copied Aelian's work, which in turn relied on Asclepiodotus, see Köchly/Rüstow (1853-5) II.1 74-8, 204-6; Förster (1877) 426-49; Hartmann (1895); followed by E. Schwartz, 'Arrianus', *RE* II.3 (1896) 1230-47 at 1233; Kromayer/Veith (1928) 14; Kiechle (1964) 108-9; Roos/Wirth (1968) II xxiii-xxiv; Bosworth (1972) 183-4; Tonnet (1988) I 90-93, II 90-92; Perevalov (2001). Alternatively, Dain accounts for points of similarity and divergence between Aelian and Arrian (1-32.2) by postulating their independent use of a lost intermediary source, styled by Dain 'Technē Perdue'. In this scheme, the unknown compiler of the 'Technē Perdue' and Asclepiodotus both had direct access to the lost treatise of Posidonius, of which Asclepiodotus' work is a terse summary. See Dain (1946) 26-40; Dain/de Foucault (1967) 329-31; similarly Devine (1989) 32-3; (1993) 316-30, 333; Bosworth (1993) 253-4, 258-9, 262-4. However, at least part of Dain's stemma, specifically in relation to the *Lexicon militare*, must be discarded, see Tonnet (1988) II 91-2. Other propositions are unfounded. Stadter (1978) 117-18; (1980) 41-2 alone entertains the possibility that Asclepiodotus, Aelian and Arrian all drew directly on Posidonius. The attempt of Loreto (1995) 575-6 to make Asclepiodotus a late epitome of Aelian and/or Arrian runs contrary to all the textual evidence.

²⁹ Wheeler (2004) I 337-40 with bibliography.

the *Strategemata* (c.84-96), and likely derivative witnesses.³⁰ Although the irrecoverable loss of much of Latin military writing before late antiquity largely precludes assessment of its quantity, extent or nature, and the differential survival of Greek texts partly reflects particular circumstances of their Byzantine transmission, the evidence suggests that the production of military literature in Greek during the Principate was more profuse and diffuse, and perhaps that, in a culture of *utraque lingua*, the weight of tradition favoured Greek as the accepted medium for this field of knowledge. Creative continuity in the poliorcetic branch is evident in a treatise on military engineering ascribed to Apollodorus of Damascus (plausibly dated to c.101-2), or more probably an interpolated, multilayered compilation based on his writings.³¹ The development of the tactical branch is characterised by further diversification of literary forms, manifest in three works written in the first and second centuries, which differently reflect intellectual and literary-cultural currents of the Second Sophistic.

Onasander's *Strategicus* (c.49-57/8), dedicated to the ex-consul Quintus Veranius, offers a wide-ranging consideration of the qualifications, responsibilities and proper conduct of a general, in which the author privileges moral character and wisdom over technical knowledge.³² Reportedly a Platonic philosopher, Onasander shows particular interest in ethical aspects of war and the qualities of an ideal commander, whereby the *Strategicus* is often characterized as a 'philosophical' treatise addressed to well-born aspirants to high command, rather than a specimen of 'scientific' literature.³³ Onasander freely admits unoriginality and

³⁰ Frontinus and Aelian: Ael. pr.3. Frontinus' possible use of Greek sources: the many similarities in content and arrangement between Onasander's *Strategicus* and Vegetius' *Epitoma rei militaris* have prompted the hypothesis that (seemingly Greekless) Vegetius obtained this material via the intermediacy of Frontinus' lost work; the evidence and bibliography are usefully summarised by Milner (1996) xxii-xxiii.

³¹ Text with Ger. trans. R. Schneider (ed.), *Griechische Poliorketiker* I ([Abhandlungen der Gesellschaft der Wissenschaften zu Göttingen, phil.-hist. Kl. N.F. 10.1] Berlin 1908); Eng. trans. and commentary: Whitehead (2010) with bibliography.

³² Edition: Korzenszky/Vári (1935). Eng. trans. J.B. Titchener and S.A. Pease in Oldfather *et al.* (1923) 368-527. Fr. trans. with commentary: P.-E. Barral, *Onosander: le général d'armée: introduction, traduction, commentaire* (unpub. Ph.D. Thesis, Paris EPHE 2010). Ital. trans. Petrocelli (2008). Date, authorship and context: Oldfather *et al.* (1923) 343-9; Dain (1930) 137-44; Ambaglio (1981) 353-4; Galimberti (2002); Le Bohec (1998); Petrocelli (2008) 5-8. Commentary: Peters (1972) 13-24, 88-245; Petrocelli (2008) 127-273. Manuscript transmission: Lowe (1927) 29-32; Dain (1930), summarised in Dain/de Foucault (1967) 327-8, with important corrections to Dain's stemma codicum in reviews by E. Korzenszky in *PhW* 52.1 (1932) 1-8 and *BZ* 35 (1935) 145-9.

³³ *Suda* ο 386. In addition to a commentary on Plato's *Republic*, the compiler ascribes to Onasander τακτικά περὶ στρατηγημάτων. Adler (III 541), following previous editors, punctuates Τακτικά, Περί στρατηγημάτων, on the grounds that a single hybrid title cannot be meant, but thus postulating two military treatises, presumably the extant *Strategicus* and another, lost work. On this unresolved question: Köchly/Rüstow (1853-5) II.1 84-5; Oldfather *et al.* (1923) 343; Dain (1930) 174; Schettino (1998) 25-9; Galimberti (2002) 143; Petrocelli (2008) 6-7, 127-9; Wheeler (2010) 33 n. 103.

inexperience, but nonetheless commends his contribution inasmuch as it is entirely based on actual exploits of the men who made Rome great (pr.7-10). Onasander's professed intention to discuss the principles of specifically Roman warfare (pr.7-8) sits awkwardly with his assemblage of generalities applicable to most armies of most eras, but the text is free of overt anachronism and some passages appear to reflect Roman practices.³⁴ His debt to classical Greek models is chiefly stylistic or historical, and typically relates to universal psychological insights or cultural precedents rather than technical content.³⁵ Recent studies of the *Strategicus* have accentuated a subtle ideological subtext within a broader intellectual dialogue that sought to accommodate Greek culture within the early Roman Empire by implicitly stressing Greek antecedents to Roman military success.³⁶

In addition to his previously discussed *Ars tactica* (136/7), Arrian also composed a shorter tactical work conventionally entitled *Acies contra Alanos* (*Ektaxis kata Alanōn*), written in the context of his successful warding off of an Alan incursion into Cappadocia in 135, while he was *legatus Augusti pro praetore* of that province (130/1-37/8). Arrian prescribes a marching order for the specific units then at his disposal and a proposed battle plan, should they be required to confront a substantial force of Alan cavalry, though whether Arrian's forces ever came to blows with the Alans remains uncertain.³⁷ It is generally agreed that the *Acies* embodies actual instructions drafted by Arrian on this occasion and later refashioned in an atticised literary guise, though it is disputed whether the text was originally a discrete literary revision of or supplement to an official report or a component of Arrian's lost *Alanica*.³⁸ The *Acies* contains the most detailed exposition of Roman battle dispositions in the four centuries between the Caesarian

³⁴ E.g. Onas. 6 describes the *agmen quadratum*; 8 may reflect Roman encampment procedures; 19, it has been suggested, is reminiscent of manipular tactics; 20 clearly refers to the Roman *testudo*, even if Onasander does not expressly name it. See Petrocelli (2008) 175-6, 186-9, 224-7. In addition, Onas. 10.4-6, inspired by Xen. *Cyr.* ii.3.17-20, may refer to Roman legionary equipment, as Rance (2000) 241-2; for alternative interpretations: Schellenberg (2007) 187-91; Petrocelli (2008) 195. See general remarks and reservations by Oldfather *et al.* (1923) 349-51; Ambaglio (1981) 367-8.

³⁵ Onasander's stylistic models and sources: Peters (1972) 25-74, 84-7; Ambaglio (1981) esp. 357-65; Ercolani (1997).

³⁶ Ambaglio (1981) 375-7; Smith (1998); Meißner (1999) 189-91; Formisano (2011) 44-50. Alternatively, Le Bohec (1998) 174-9 discerns a socio-political agenda.

³⁷ Edition: Roos/Wirth (1968) II 177-85. The Eng. trans. by DeVoto (1993) 115-22 is again often unreliable. Preferable but not problem-free are Eng. trans. by Campbell (1994) 92-3, 97-100; (2004) 128-31; Gilliver (1999) 178-80; see below n. 126. The Eng. trans. in Saxtorph/Tortzen (2002) is perversely based on the obsolete text in C. Müller (ed.), *Arriani Anabasis et Indica* (Paris 1846) 250-53. Ital. trans. Sestili (2011) 160-77. Historical context and literary affinities: Bosworth (1977); (1993) 264-72; Tonnet (1988) I 48-50, 60; Wheeler (2004) I 309-13 citing older literature. Commentary: Nefedkin (1999) with Russ. trans.

³⁸ For opinions on the differing positions see E. Schwartz, 'Arrianus', *RE* II.3 (1896) 1230-47 at 1233; Bosworth (1977) 247-8; (1993) 265-6; Stadter (1978) 119; (1980) 45-6; Wheeler (1978) 352; (2004) I 309 n. 2; Tonnet (1988) I 49-50, 60.

corpus and Ammianus Marcellinus, and is the only technical treatment of the combined tactical deployment of Roman infantry and cavalry in order to repel a frontal assault by a mounted opponent.

A further strand of Greek (or Greco-Roman) tactical literature emerges around a generation later, but could clearly lay claim to a longer literary pedigree. At the outbreak of the Roman-Parthian War of 161-6, Polyaeus, a rhetor of Macedonian descent, compiled an ultimately eight-book collection of exemplary historical stratagems, which, presumably in hope of preferment, he addressed to Marcus Aurelius and Lucius Verus as a guidebook for their impending campaign. Conventionally entitled *Stratēgēmata*, but more authoritatively *Stratēgika*, this compilation assembled c.900 excerpts from historical sources, arranged prosopographically or ethnographically, as a catalogue of ruses and aphorisms devised by generals and rulers of the past, predominantly Greeks of the classical and Hellenistic age, but including also gods, heroes, women and barbarian nations.³⁹ The *Suda* assigns to Polyaeus a 'Taktika in three books', details that are not easily reconciled with the transmitted text, and arguably a different, lost work.⁴⁰ Whether or not Polyaeus harboured historical objectives, as his methodology created both an indirect tradition to extant historical texts and a repository of fragments of lost works, by far the greater part of modern scholarship is devoted to *Quellenforschung* and related compositional issues.⁴¹ While Polyaeus is the sole extant specimen of a stratagem collection in Greek, a corresponding development in Latin military literature is already apparent in Frontinus' *Strategemata* (c.84-96), even if the contextual parallel is not exact, inasmuch as Frontinus conceived his stratagem collection as an illustrative appendix to a now-lost theoretical treatise on warfare. The complex lineage of stratagem collections, one branch of a broader taste for anthologising exempla, anecdota and apophthegmata in other fields of 'practical' knowledge, weaves constituent threads of sophistic/philosophical

³⁹ Edition: Wölfflin/Melber (1887). Eng. trans. Krentz/Wheeler (1994). Date and context: Schettino (1998) 33-5, 90-92 (with general bibliography at 293-326); Wheeler (2010) 8-17; with an alternative interpretation in Geus (2010) 60-68. Manuscript transmission: Schindler (1973).

⁴⁰ *Suda* π 1956: Τακτικά βιβλία γ', without reference to the eight-book *Stratēgika*. See remarks of Wheeler (1988) 2-3, 10-12, 19; (2010) 24, 33 n. 103; Schettino (1998) 27-9, 35-8; Geus (2010) 55. The interchangeable use of *taktika* and *stratēgika* by Byzantine editors (see below with n. 46) allows for the possibility of titular confusion here, especially as the compiler(s) of the *Suda* elsewhere refers to a military text using a title(s) that differs from its manuscript tradition: cf. *Suda* ο 386, where τακτικά<, >περί στρατηγημάτων, whether referring to one work or two, is not the transmitted title of Onasander's extant military treatise (see above n. 33). The differing number of books – three and eight – is less easily resolved. Although confusion of numerical γ and η, specifically as book numbers, has been postulated in other, unrelated textual traditions, they are not common *litterae ambiguae* in either majuscule or minuscule; see J.M. Dillon, *Iamblichus Chalcidensis in Platonis Dialogos Commentariorum Fragmenta* (Leiden 1973) 60-62.

⁴¹ Polyaeus' method and sources: Schettino (1998) 93-126; 129-90 (citing older scholarship); also Bianco (2010).

tradition, exemplary historical narrative, rhetorical instruction and a specific *rusé* military mentality.⁴²

Polyaeus' *Strategemata* is conventionally considered the last extant tactical work written before an apparent hiatus, which, leaving aside isolated references to lost works, persists until a resurgence of military writing, in Latin, in the later fourth century. Surveys of the genre typically omit the military-related fragments of Sextus Julius Africanus' *Cesti*, a compendium of diverse technical arcana compiled c.227-31. While Africanus' route to military success is undoubtedly unconventional, whereby scientific innovation and clandestine knowledge, including chemical and bacteriological warfare, compensate for finite human and financial resources, recent studies have nevertheless located his tactical interests in the context of contemporary Roman-Sasanian warfare.⁴³

Questions of Genre

As previously stated, the contributions to this volume share a common focus on those works devoted to tactics and generalship, in the broader sense, while generally excluding those concerned largely or solely with the design, construction and operation of siege engines and artillery. This dividing line, though drawn here primarily for the sake of scholarly convenience, is preceded in contemporary categorisations of Greco-Roman military writing and its late antique/Byzantine reception. Ancient tactical authors differentiated *poliorcetic* and *ballistic* texts, with their predominantly technological character and content, from their own branch of military literature.⁴⁴ Byzantine military writers often reiterated this distinction, which is reinforced at a codicological level by the typical transmission of *poliorcetic* texts in self-contained thematic corpora, probably assembled in late antiquity.⁴⁵ Once the

⁴² See Wheeler (2010) 19-36 (citing extensive bibliography), with Wheeler (1988) esp. 2-20 for philological and conceptual context, and Wheeler in Wheeler/Krentz (1994) I vi-xxiv; also Schettino (1998) 51-92; Meißner (1999) 185-7, 248-50.

⁴³ Wheeler (1997); Meißner (2009).

⁴⁴ E.g. Onas. 42.3-4; Front. *Strat.* 3.pr.

⁴⁵ E.g. Leo, *Tact.* 15.27-9; [Nicephorus Phocas], *De velitatione* (Περὶ Παραδρομῆς) 21.1 (Dagron/Mihăescu); Anon. *De re militari* (Περὶ καταστάσεως ἀπλήκτου) 27.9-11 (Dennis [1985] 316.8-13); Cecaumenus, *Strat.* 16.15-19 (Wassiliowsky/Jernstedt = Spadaro §44). Cf. Const. Porph. *Praecepta militaria*, Text C.196-9 (Haldon [1990] 106), distinguishing 'books on generalship' (βιβλία στρατηγικά), 'books on engines' (βιβλία μηχανικά) and 'artillery manuals' (βελουποϊκά), with commentary by Haldon (1990) 210-11. For a similar distinction in historical literature: e.g. Psellos, *Chron.* 7.137 (b 16): ἀπὸ τῶν τακτικῶν βιβλίων καὶ στρατηγικῶν καὶ πολιορκητικῶν. The manuscript transmission of *poliorcetic* corpora is most conveniently summarised in Dain (1930) 167-71, (1933) 18-21 and Dain/de Foucault (1967) 349-50, 358-9, 380-81, 386-8 (albeit with partly erroneous stemma); see also Gatto (2010) 147-87 (with some caution); Rance (forthcoming B).

more easily circumscribed poliorcetic branch of Greco-Roman military literature has been set to one side, what remains is a category of texts commonly termed *taktika* (τακτικά) and/or *stratēgika* (στρατηγικά). While these designations can variously signal an interest in military organisation, training, tactical deployments and manoeuvres, campaign operations and/or command, one struggles to discern strict or consistent thematic divisions associated with the use of either term, which rarely exhibit exact equivalence to modern, post-eighteenth-century conceptions of 'tactics', still less of 'strategy'. In any case, we should be wary of making assumptions about content, genre or authorial objectives on the basis of a work's title, especially as some of the transmitted headings of Greco-Roman treatises may represent the intervention of Middle Byzantine editors, who applied '*taktika*' or '*stratēgika*' and their cognates loosely and interchangeably, as both titles and generic labels, to diverse individual works and collective codices, even if only partly connected with military affairs.⁴⁶

Even with this narrowing of focus, the surviving specimens of tactical literature in Greek constitute a miscellany of different literary forms and traditions from widely separated eras – classical Greek, Hellenistic and (Greco-)Roman. Questions of generic classification and literary affinity naturally arise. If diversity of form, content, purpose and milieu sometimes tests (or exceeds) the confines of a single 'genre', these texts nonetheless constitute a self-conscious literary heritage. This is most clearly expressed in Aelian's *Tactica theoria*: written for the intellectual diversion of a Roman emperor in the early second century AD, Aelian's reprise of a late Hellenistic archetype is prefaced by a survey of preceding Greek tactical writing, which traces a lineage back to Aeneas' compendium in the mid-fourth century BC, and ultimately to Homer. It is, of course, not unusual for an ancient author to position his work with respect to a prior literary tradition, as a means of both legitimating his own endeavour and enhancing his credentials, but no other 'technical' genre can boast such an explicitly formulated pedigree.⁴⁷ In addition, albeit indicative of post-classical perceptions, one Byzantine editor-copyist seems to have classified most of these tactical works as a common

⁴⁶ To cite one example: in its manuscript prototypes the military treatise ascribed to Maurice is variously entitled *Taktika Stratēgika* (M), *Taktika* (A) and *Stratēgikon* (VNP), while an indirect tradition, apparently predating all manuscript witnesses, points to *Taktika*, and derivative texts are entitled *Taktika* and *Stratēgikon*. The modern title depends on the latest and least authoritative manuscripts, as favoured by the humanist co-editors of the *editio princeps* (1664). For detailed argumentation and other examples see Rance (forthcoming A)

⁴⁷ Ael. 1.1-2; similarly Arrian, *Tact.* 1.1-2 (initially mutilated) with additional details. Irrespective of the disputed textual relationship between Aelian and Arrian (see above n. 28), it is probable that this prefatorial survey of previous military literature was already present in their lost Hellenistic model, generally assumed to be a work by Posidonius (see above n. 24). This inference is supported by the fact that Posidonius is himself the latest dateable author in the sequence. See also the remarks of Cuomo (2007) 62-3 on technical authors compiling past authorities.

category, at least to judge by the internal arrangement of *Laurentianus gr.* LV-4, the most important and famous collective codex of Greek, Roman and Byzantine military writers, produced in an imperial scriptorium in c.950 and almost certainly intended for Constantine VII's new palace library. The copyist, who had located and transcribed exemplars of Aeneas, Asclepiodotus, Onasander, Aelian and Arrian's two treatises, grouped these texts into a discrete corpus of 'ancient' tactical authors. Indeed, it is thanks to this mid-tenth-century copyist that the works of Aeneas, Asclepiodotus and Arrian have survived at all. We must remain alert to the fact that our sample reflects not merely chance survival but also late antique and Byzantine editorial activity, taste and selective criteria.⁴⁸ In this context, it is significant that the surviving section of Aeneas' compendium, though labelled *Poliorkētika* and broadly concerned with the circumstances of a siege, is here grouped with classical writers on tactics and generalship, and was thus apparently recognised as a representative of the tactical-strategical tradition. In contrast, Aeneas' text is never included in a separate corpus of Hellenistic-Roman *poliorkētika*, possibly assembled in late antiquity and transmitted in a different manuscript tradition, which largely comprises 'technological' texts, for the most part written from the perspective of a besieger.⁴⁹

The only extant Greco-Roman tactical work absent from this 'ancient' corpus is Polyaeus' *Strategemata*, which is uniquely preserved in *Laurentianus gr.* LVI-1, dated to the 1290s and unconnected to the core manuscript tradition of Greek military literature. This codicological isolation is mirrored in modern scholarly assessments of Polyaeus' anthology and its relationship to other tactical treatises. Most older studies judged it a rhetorician's exercise of little or no serious military value or intent, which is only tangentially affiliated to Greek tactical writing.⁵⁰ Others affirm the essential kinship of theoretical treatises and stratagem collections, pointing to overlapping content and stressing the complementary didactic

⁴⁸ The dating of *Laur. gr.* LV-4 to c.950, or perhaps a little earlier, is so widely accepted in the secondary literature that I cite here only works containing relevant argumentation: Dain (1946) 184-6; (1954) 43-4; Dain/de Foucault (1967) 361-2; Irigoin (1958-9) II 178-80; with selected remarks in Mazzucchi (1978) 276-81, 287, and additional arguments in Haldon (1990) esp. 37-9, 45-53, 66-69; Rance (forthcoming A); (forthcoming B). A significantly later date c.985 is allowed by Schindler (1973) 216-17, based on the notoriously maverick opinion of Gabriel Rochefort, and seemingly unaware of the improbabilities that ensue in the wider tradition. In any case, this corpus of ancient tactical writers was assembled by the tenth-century editor-copyist himself and not merely reproduced from a prior assemblage, as some of the texts (e.g. Aeneas) were transliterated from majuscule, while others (e.g. Aelian) were copied from a minuscule exemplar; they thus demonstrably derive from different exemplars. See the limited analysis in Dain (1930) 167-71; (1953) 44 and Dain/Bon (1967) xxxii-xxxiii (partly contradicting Dain [1946] 122-6, 186-7); with additional observations in Rance (forthcoming A); (forthcoming B).

⁴⁹ See bibliography cited above at n. 45.

⁵⁰ Wheeler (2010) 7 assembles the largely negative opinions of older scholarship.

objectives of precept and exemplification.⁵¹ While its reception in antiquity cannot be traced, at least Byzantine writers and editors seem to have considered the *Strategemata* a useful and integral part of the tradition, to judge from the series of late antique and/or Byzantine adaptations variously included in tenth-/eleventh-century collective military codices, as well as the more pervasive influence of the *Strategemata* on Byzantine military writing. Conversely, if the number, frequency and popularity of Polyaeus-adaptations in fact signify their supersession of the original version of the text, then redundancy may have contributed to the relative tenuity of its transmission.⁵² Without prejudice to the professed or actual military utility of the *Strategemata*, however, its essentially historical content, narrative format and lack of technical arcana made it potentially more accessible and attractive to a wider readership than some other examples of Greek military writing. Both in form and content, notably the inclusion of female and legendary stratagems, Polyaeus' anthology exhibits affinities with paradoxography.⁵³ The citation of one of Polyaeus' mythological stratagems in an undated series of paradoxographical excerpts suggests some overlap or fluidity of generic boundaries and points to literary-didactic interest beyond a purely 'military' sphere.⁵⁴ A similar literary-cultural milieu is suggested by the composition of the sole witness, *Laurentianus gr.* LVI-1, which transmits Polyaeus' text within a collection of rhetorical handbooks and paradoxographical literature, suggesting that at least one Byzantine editor-copyist perceived Polyaeus' collection of historical stratagems as a source of exempla for rhetorical composition or a work of broader intellectual and moral edification.⁵⁵

Finally, though in some measure an impressionistic assessment, it seems that Xenophon's two military-equestrian manuals were not considered strictly part of this genre, either in antiquity or Byzantium, perhaps because they were simply too parochial or peripheral to the concerns of subsequent military authors and readers. Xenophon's oeuvre certainly exercised a literary-historical influence over some Greco-Roman tactical works. Onasander adopted the *Cyropaedia* as one of

⁵¹ Schettino (1998) 78-82; Wheeler (2010) 23-4.

⁵² The various late antique and/or Byzantine adaptations of Polyaeus' *Strategemata* are edited in Wölfflin/Melber (1887) 427-540; Dain (1938) 116-41 (= *Sylloge tacticorum* chs. 76-102); de Foucault (1949), with discussion by Dain (1931); de Foucault (1948); Dain/de Foucault (1967) 337, 340, 364-5; Schindler (1973) 205-25; Krentz/Wheeler (1994) I xvi-xxiii; Haldon (2014) 46-7, with additional considerations in Eramo (2008) 141-5; Rance (forthcoming C).

⁵³ Wheeler (2010) 16-18.

⁵⁴ Anon. *De incredibilibus* 11, ed. N. Festa ([*Mythographici Graeci* III.2] Leipzig 1902) 92.16-93.9, with remarks of Schindler (1973) 197-203. A parallel transition from a Polyaeus-inspired stratagem collection to a paroemiographical anthology occurs in corresponding Byzantine genres: *Sylloge tacticorum* 95.4, ed. A. Dain (Paris 1938), appears to be the source for *Mantissa proverbiorum* 2.82, ed. E.L. von Leutsch/F.G. Schneidewin, *Corpus paroemiographorum Graecorum* (Göttingen 1838-51) II 771.

⁵⁵ Schindler (1973) 15-18. See also general remarks of McGeer (1995) 192; Roueché (2009).

his stylistic-lexical models and he may also have found inspiration in Xenophon's instructional monographs as a conceptual exemplar.⁵⁶ Arrian incorporated allusions to Xenophon's historical works into his *Ars tactica* and took 'Xenophon' as a *nom de plume* (and/or *de guerre*) in his *Acies*, facets of a Xenophontic persona that Arrian affected elsewhere in his life and writings.⁵⁷ Perhaps more telling than this individualised literary posturing, however, is the omission of Xenophon from Aelian's prefatory survey of prior military literature.⁵⁸ Furthermore, with the possible exception of Arrian's idiosyncratic identification with the ancient Athenian, knowledge of Xenophon's *Hipparchicus* cannot be convincingly detected in any Greek, Roman or Byzantine military treatise.⁵⁹ Correspondingly, in the Byzantine manuscript tradition Xenophon's equestrian works are excluded from all the known collective military codices compiled in the tenth/eleventh-centuries and, with one late exception, transmitted separately from Greek tactical treatises.⁶⁰

Modern Scholarship

Greco-Roman military literature unsurprisingly attracted the attention of western European writers, editors and readers from the mid-fifteenth century onwards. Elements of classical military thought and culture acquired renewed significance in the dynastic ideologies and self-presentation of Renaissance rulers, the political-civic identities of nascent nation states and the literary, antiquarian and philological enquiries of humanist scholars. The opinions and authority of ancient authors informed or framed critical debates – the duties and qualities of an ideal commander; the rights and obligations of a citizen-soldier with regard to the defence of his native city or land; the proper relations between the state, its constitution and armed forces; the moral-philosophical conception and political imperatives of war.⁶¹ More specifically, Greco-Roman writings on war played a formative

⁵⁶ Onasander's linguistic debt to Xenophon's *Cyropaedia*: above n. 35.

⁵⁷ The influence of Xenophon in Arrian's tactical treatises: Bosworth (1977) 247-8; (1993) 262-7; Devine (1993) 314. Arrian's broader *imitatio Xenophontis*: see first Tonnet (1988) I esp. 225-81, with remarks of Stadter (1978) 123-5; (1980) esp. 27-38, 53-9; Bosworth (1993) 233-7, 244-6, 272-5.

⁵⁸ Ael. 1.1-2; cf. Arrian, *Tact.* 1.1-2 (initially mutilated).

⁵⁹ Petrocelli/Pitagora (2005) 141-2, 151-5; followed by Busetto (2015) 148-54, find echoes of Xenophon's *Hipparchicus* in Arrian's exposition of *hippika gymnasia* (*Tact.* 33-44).

⁶⁰ In *Vaticanus gr.* 989 (copied c.1290-1310) a self-contained suite of tactical texts, comprising Aelian's *Tactica theoria* and two Byzantine opuscula, is packaged with Xenophon's equestrian and cyngetic manuals in a textual assemblage that appears to cater to late Byzantine 'aristocratic' pursuits. All other exemplars of both equestrian works are transmitted in Xenophontic *opera omnia/varia*. See Dain (1942); (1946) 249-53, 303-7; (1946-47) 48-9; with Rance (forthcoming C).

⁶¹ See e.g. De Landtsheer (2001) and now Schwager (2012) esp. 91-186, 293-755 (with large bibliography).

role in the evolution of contemporary military theory and practice by providing historical paradigms of tactical organisation and deployment as well as antique behavioural precedents for a new, self-conscious military professionalism in western Europe. Until at least the mid-eighteenth century, classical texts were studied not only as historical witnesses to antiquity but also as practical guides to the actualisation of aspects of ancient military science on the contemporary battlefield. In this respect, textual reception, in its widest sense, rarely drew clear qualitative distinctions, at least by modern academic criteria, between prescriptive 'technical' treatises and descriptive accounts of ancient armies and warfare, whether in *historiae*, notably those of Polybius and Livy, or *commentarii*, classically Caesar's. The impact of Greek tactical traditions in particular is most evident in the so-called 'military revolution' of the mid-sixteenth/early seventeenth centuries in northern and north-western Europe, where Aelian's exposition of the structure and manoeuvres of a Hellenistic infantry phalanx inspired innovations in tactical discipline, drill and deployment, and thus became an educational and intellectual facet of a broader professionalisation of armies, especially in the United Netherlands, England and Germany.⁶²

At a linguistic level, in accordance with the general progression of classical learning, printing and book culture, all but the most erudite readers read Greek military texts via Latin translations, which in most cases became available, either in manuscript or print, decades or even up to a century before an *editio princeps*. Communication of content was the priority and Latin the more prevalent and commercially viable medium; provision of a Greek text initially facilitated verification of translations and elucidation of terminology. For example, the two earliest Greek military treatises accessible to a wider western readership were Latin translations produced by Greek émigré scholars around the mid-1450s in connection with the court of Alfonso I of Naples: Aelian's *Tactica theoria*, translated by Theodore Gaza (c.1400–c.1475), and Onasander's *Strategicus*, translated by Nicolaus Sagundinus (1402–64). Both translations circulated in manuscript for more than a generation until printed in respectively 1487 and 1494. The Greek texts were published only much later: Aelian in 1552 and Onasander in 1598.⁶³ Similarly,

⁶² The bibliography is immense. Excluding often superficial treatments of the 'origins of the Western way of war' and 'makers of modern strategy' type, see specifically Hahlweg (1941); (1950); (1960); (1973) esp. 29*–34*, 16–100, 340–54, 539–57, 606–11; Oestreich (1953); Lammert (1954); Schnitter (1983); Reinhard (1986); Hale (1988); Neill (1998); Röck (2000); De Landtsheer (2001); Formisano (2002); Schwager (2012) esp. 155–289; Eramo (2012).

⁶³ Aelian: Theodorus [Gaza] Thessalonicensis, *Aeliani de instruendis aciebus* (Rome 1487); F. Robortellus [Robortello] (ed.), *Aeliani de militaribus ordinibus instituendis more graecorum liber* (Venice 1552). Onasander: N. Sagundinus, *Onasander ad Q. Veranium de optimo imperatore* (Rome 1494); N. Rigaltius [Rigault] (ed.), *Onosandri Strategicus sive de imperatoris institutione* (Paris 1598–9). For the circumstances of both Latin translations see Eramo (2006) esp. 164–75; on Aelian see Fiaschi (2014) 138–55; with Hale (1988), elaborated by Eramo (2012).

publication of a Latin rendering of Polyaeus (1549) long preceded that of a Greek text (1589).⁶⁴ It was not until the *editio princeps* of Aeneas (1609) that the Greek text of a tactical author and its earliest Latin translation appeared concurrently, while Arrian's two tactical treatises were first published in a Greek-Latin columnar format (1664).⁶⁵ The complete text of Asclepiodotus remained unpublished until the mid-nineteenth century.⁶⁶ In all cases, both text and translation were based on secondary Greek manuscripts of uncertain quality and/or provenance, with particularly deleterious consequences for the constitution of texts with complex manuscript traditions, notably Aelian's *Tactica theoria*. Outstanding contributions in this sphere were *editiones principes* of Onasander (1598–9) by a remarkably young Nicolas Rigault (1577–1654) and of Aeneas (1609) by a mature Isaac Casaubon (1559–1614), though both texts owe more to editorial acumen than to the quality of the manuscript witness(es).⁶⁷ Even with the later provision of parallel Greek-Latin editions, a Latin linguistic filter contributed to a blurring of cultural and historical distinctions, whereby classical Greek, Hellenistic, (Greco-) Roman and even Byzantine (East Roman) military treatises came to be regarded as representatives of a common body of antique military knowledge, while Latin translations exercised a more pervasive influence insofar as they, not the original Greek texts, were typically the basis for renditions into vernacular languages.⁶⁸

Philological Scholarship

Eighteenth-century scholarship in this field, though not without longer-term value or influence, is mostly characterised by further manuscript collations and conjectural textual criticism, together with vernacular translations, primarily Italian, French, German or English. Above all, unscientific approaches to manuscript traditions continued to vitiate otherwise serious research and hinder scholarly progress. Modern academic study of Greek tactical treatises began around the

⁶⁴ J. Vulteius [Vultejus], *Polyaeni Stratagematum ad DD. Antoninum et Verum Impp. libri octo* (Basel 1549); I. Casaubonus [Casaubon] (ed.), *Polyaeni Stratagematum libri octo* (Lyons 1589), with remarks of Schindler (1973) 233–44.

⁶⁵ Aeneas: Is. Casaubonus (ed.), *Polybii ... Historiarum libri qui supersunt ... Aeneae, vetustissimi Tactici, Commentarius De toleranda obsidione* (Paris 1609). Arrian: J. Schefferus [Scheffer] (ed.), *Arriani Tactica & Mauricii Artis militaris libri duodecim* (Uppsala 1664) 1–79 (annotationes 80–122).

⁶⁶ Köchly/Rüstow (1853–5) II.1 128–97.

⁶⁷ See nn. 63 and 65.

⁶⁸ The only detailed and comprehensive study of the publishing history of a Greek tactical author relates to Polyaeus: Schindler (1973) esp. 232–47. For Aelian see Fiaschi (2014) 134–63 for early printed editions and translations, with remarks in Hahlweg (1941) 302–5; Dain (1946) 303–7, 318–19; Stolpe (1968); Eramo (2006). For an incomplete (and partly erroneous) list of the early editions, translations/versions and commentaries of Onasander: Oldfather *et al.* (1923) 354–61; with further discussion in Dain (1930) 24, 93–5, 119–24, 159–65; Peters (1972) 254–8; supplemented by Eramo (2006); Petrocelli (2008) 18–19, 275–9.

mid-nineteenth century. Following the overall trajectory of classical scholarship, investigation of this genre was overwhelmingly philological, including the first classification of manuscripts and systematic examination of textual transmission with a view to preparing critical editions, but a complementary strand of historical enquiry soon emerged. Again consistent with broader scholarly trends, the pioneering studies were undertaken by German philologists, most notably Friedrich Haase (1808-67), Hermann Köchly (1815-76) and Karl Konrad Müller (1854-1903), later augmented by the Hungarian scholar Rezső [Rudolf] Vári (1867-1940), while the codicological enquiries of the French-Alsatian classicist Carle Wescher (1832-1904) into the transmission of Greek poliorcetic texts had important implications for understanding the manuscript tradition as a whole.⁶⁹ Although not entirely without precedent, the idea of a comprehensive programme of critical editions of Greek and Latin military authors, equipped with translations and/or commentaries, was first mooted by Haase (1835) and thereafter cast a long shadow up to the early twentieth century.⁷⁰ This proposal was never realised, partly owing to the immense and unforeseen magnitude of such an undertaking, but also on account of the vagaries of individual careers, whereby the scholar who best understood the manuscript tradition and textual interrelationships, namely Müller, was regrettably the least productive. The publication closest in scope and spirit to Haase's vision was the fruit of a collaboration between the classical philologist Köchly and the soldier-scholar Wilhelm Rüstow (1821-78), who were briefly thrown together by political exile in Switzerland in the early 1850s. Their three-part *Griechische Kriegsschriftsteller* (1853-5) assembled a dozen Greek military texts of miscellaneous eras and categories – tactical, historical, technological, some edited for the first time, but chiefly on the basis of locally available *recentiores* (notably sixteenth-century *Bernensis* 97), notwithstanding Köchly's editorial ingenuity. Wescher's single-volume collection of selected poliorcetic authors (1867), though less ambitious, was superior in text-critical insight and its broader purview of manuscript witnesses. A collective critical edition of Greek military

⁶⁹ Haase (1835); (1847); Köchly (1852); (1860); Köchly/Rüstow (1853-5); Wescher (1867) esp. ix-xliv; Müller (1880); (1882) 18-39; (1883); (1884); Vári (1901) viii-xx; (1906) 47-67; (1917-22) I xi-xxxv; Korzenszky/Vári (1935) v-xix.

⁷⁰ See above pp. 9-10. See briefly Haase (1835) 88-91; then (1847) esp. 6-25 for an inclusive nine-volume publishing schedule for all known Greek-Roman-Byzantine military authors, listing then-known manuscript sources. Analogous if much less systematic projects can be traced in earlier scholarship. Although nowhere explicitly stated, the publications and correspondence of Louis de Machault (1592-1667) hint at similar ambitions: see Schwager (2012) 425-32. Subsequently, Albrecht Heinrich Baumgärtner (1743-1809) conceived a series of German translations of all Greek tactical writers collected in a *Vollständige Sammlung aller Kriegsschriftsteller der Griechen*, but his efforts extended no further than Onasander and Aelian: see Baumgärtner (1779). In a separate reprint of Baumgärtner's Aelian (1786), a note from the publisher even wondered if the original universal title might in fact have 'scared away (abschrecken)' potential readers.

texts nevertheless remained a desideratum. In 1881 the Bavarian Academy of Sciences proposed to confer the recently endowed Christakis Zographos Prize on whomever accomplished 'a critical editing of the works of the Greek military writers ... together with studies of the relationship of the individual authors and works to one another'. The competition was re-advertised in 1883. By 1885 the Academy was sufficiently impressed by Müller's meticulous preparatory research, based partly on Haase's Nachlaß but largely on his own extensive manuscript collations, that it awarded him the prize in the confident expectation that the edition could not be long delayed. Müller received half the prize money (totalling 2000 Marks) at once, with the remainder payable upon the printing of the first volume. Sadly, this had still not appeared by his death, eighteen years later, in 1903.⁷¹ A final attempt to initiate a uniform series of critical editions of Greek military treatises was the *Sylloge Tacticorum Graecorum* inaugurated in 1917 by Vári, then a pre-eminent figure in the study of Byzantine military literature. The series soon ran into trouble and out of momentum, in the end comprising just two discontinuous volumes, Onasander's *Strategicus* (1935) and (uncompleted) Leo's *Tactica* (1917-21), both nonetheless excellent editions.⁷²

The codicological-textual study of Greek military treatises was revolutionised by the French codicologist Alphonse Dain (1896-1964), who first approached this literary tradition as a suitable vehicle for testing codicological principles, but ultimately became the foremost authority on the genre during the first half of the twentieth century, to whom all subsequent students are indebted. Initially building on the analyses of, among others, Wescher and Müller, Dain's prolific, career-long output in this field differentiated manuscript prototypes from *recentiores*, traced numerous *stemma* *codicum* and established the textual transmission of Greek, Roman and Byzantine tactical writing as an integral tradition over fourteen centuries. He thereby laid foundations for later scholarship with regard to both individual works and the genre as a whole, even if some of his specific conclusions have since been shown to require modification.⁷³ Perhaps less

⁷¹ The Christakis Zographos-Preis for research in the field of Greek language and literature in antiquity and the Middle Ages had been endowed 1877. The Academy's conferral of the prize on Müller in March 1885 is reported in *Sitzungsberichte der philosophisch-philologischen und historischen Classe der k.b. Akademie der Wissenschaften zu München*, 1885 (Munich 1886) 199-200. The project was conceived as 'eine kritische Bearbeitung der Werke der griechischen Kriegsschriftsteller ... nebst Untersuchungen über das Verhältnis der einzelnen Schriftsteller und Schriften zueinander'. The collection was explicitly to exclude the work of Aeneas, on the grounds that two critical editions had only recently been prepared by Rudolf Hercher (Berlin 1870) and Arnold Hug (Leipzig 1874). A belated obituary of Müller by Theodor Preger in *Biographisches Jahrbuch für die Altertumswissenschaft* 33 (1910 [1911]) 1-5 explains the drastic diminution in his output after c.1885 as a consequence of his anxious scholarly temperament and the competing demands of other duties.

⁷² Korzenszky/Vári (1935); Vári (1917-21), respectively volumes 1 and 3.1-2 of the series.

⁷³ Dain's most important codicological and philological contributions: Dain (1930); (1931); (1933); (1934); (1934-5); (1935); (1937) 11-13, 93-123; (1942); (1946) 153-240, 369-77; (1946-7); (1950);

appreciated by the next generation of scholars, Dain's oeuvre also clarified that, at least from a textual-editorial perspective, the classical genre can only be properly understood through the prism of its Byzantine reception, not only insofar as the survival and transmission of classical texts were shaped by the activity and selective criteria of Byzantine editor-copyists and the tastes of Byzantine patron-readers, particularly during the ninth/tenth-century 'renaissance', but also because the transmitted ancient texts, to a greater extent than in some other genres, have to be separated from Byzantine textual accretions, in the form of redaction, interpolation, paraphrasis and inserted paratextual apparatus.⁷⁴ In addition, the frequency with which Byzantine military authors excerpted, adapted and/or paraphrased ancient texts in the process of composing their own works created an indirect textual tradition that, even now, has not been fully exploited by modern editors, inasmuch as the manuscripts at the disposal of Byzantine authors in the ninth/tenth centuries were sometimes superior witnesses to an ancient text than are the manuscripts that survive today in a direct tradition.

Despite this venerable philological tradition, some texts are still without satisfactory critical editions. It is worth briefly inspecting the current state of the textual foundations of the works discussed in this volume. Since Casaubon's *editio princeps* (1609), Aeneas has rarely lacked editorial or broader interest, as witnessed by a series of editions over the nineteenth and early twentieth centuries, culminating in Dain's posthumously published Budé edition (1967).⁷⁵ This level of scholarly attention is commensurate with the challenges posed by the textual transmission. The unique manuscript witness, *Laurentianus gr.* LV-4, preserves a text that is perhaps the most lacunose and badly corrupted of any Greek military treatise, largely owing to the tenth-century copyist's dependence on a single ancient and decayed papyrus majuscule exemplar, which he most diligently sought to transcribe into minuscule.⁷⁶ A glance at the apparatus criticus of Dain's edition reveals the many *loci desperati* and the layers of restorations and conjectures,

Dain/de Foucault (1967) 363, 376-390; Dain/Bonn (1967) xxx-xli, xlviii-li. It should be noted that Dain's final and most influential contributions were compiled, edited and/or completed by others after his death, namely Jules-Albert de Foucault in Dain/de Foucault (1967) and Anne-Marie Bon in Dain/Bon (1967) vii-lvii. Both posthumous publications rehearse Dain's scholarship over a period of 30 years, retaining errors and inconsistencies, shifting opinions and even views that Dain himself had expressly discarded. Subsequent analyses of individual works or codices offer supplements and correctives, see notably Mazzucchi (1978); Dennis (1981) 19-24, 28-42; Dagron/Mihăescu (1986) 13-25; Haldon (1990) 38-9, 47-53; McGeer (1995) 3-10, 81-6; Bevilacqua (2013); Rance (2007a) 733-6; (forthcoming A); (forthcoming B); (forthcoming C).

⁷⁴ E.g. for Aelian: Dain (1946) esp. 63-9, 77-115, 155-82; for Onasander: see remarks of Petrocelli (2008) 137-8.

⁷⁵ Dain/Bon (1967). See additional textual criticism in Bettalli (1990) 52-9; Whitehead (2001²) 43 (with commentary).

⁷⁶ See Dain's magisterial codicological analysis in Dain/Bon (1967) xxxiii-xl. For derivative *recensiones*: Dain (1935).

dating back to Casaubon, whereby successive editors have sought to repair the damage. While it is difficult to envisage further substantial emendations beyond the level of conjecture, researchers should at least remain alert to the fragility of some parts of the text as it is currently constituted. As previously mentioned, the same manuscript is also the *codex unicus* of Asclepiodotus' and Arrian's two tactical treatises, which the same copyist likewise transcribed from majuscule exemplars.⁷⁷ In the case of Asclepiodotus and the core component of Arrian's *Ars tactica* (1-32.2), the constitution of the text poses far fewer problems insofar as both works are representatives of a more broadly attested sub-genre of late Hellenistic tactical writing, preserved also via the more voluminous manuscript tradition of Aelian's *Tactica theoria*, and which to a great extent follows a predicable schematic format.⁷⁸ As Asclepiodotus' treatise was never a fashionable or influential work, its indirect textual tradition is almost negligible.⁷⁹ The editorial potential of derivative Byzantine treatises to improve the text of Arrian's *Ars tactica* may yet reward enquiry.⁸⁰ In contrast, the text of Arrian's *Acies contra Alanos* preserved in *Laurentianus gr.* LV-4 is marred by, arguably, incorrigible lacunae and/or copyist's errors and prematurely truncated owing to physical damage to the codex. In consequence, several crucial passages are necessarily editorial constructs based on individual or successive emendations, which have rarely won universal or lasting acceptance and remain a focus of disagreement in historical interpretations.⁸¹

The received texts of Aeneas, Asclepiodotus and Arrian, known to us via *Laurentianus gr.* LV-4, are thus in each case the sole surviving descendant of a single, now-lost majuscule exemplar, which was already ancient and often defective, but nonetheless apparently the only (or best) copy available to the tenth-century editor-copyist charged with producing this collective codex in a well-resourced

⁷⁷ Asclepiodotus: Dain (1934-5); Poznanski (1992) xv-xxvi. Arrian: Dain (1934); Roos/Wirth (1968) II xx-xxii.

⁷⁸ Asclepiodotus: ed. Poznanski (1992); Arrian, *Ars tactica*: ed. Roos/Wirth (1968) II 129-76.

⁷⁹ The *Nachleben* of Asclepiodotus' work does not extend beyond a few excerpts in the *Lexicon militare* (alias *Glossarium militare* or *Definitiones*), an undatable anonymous glossary of arcane military terminology, which also draws material from Aelian's *Tactica theoria* and Arrian's *Ars tactica*. As an independent item it is preserved in *codex Coislinianus* 347 (ed. Köchly/Rüstow [1853-5] II.2 217-33), but it is more commonly found appended to manuscripts of the *Suda* (ed. Adler IV 855-64). For discussion see Oldfather/Titchener (1921); Tonnet (1988) II 91-2 (*contra* Dain [1946] 29-33, 38-40; Dain/de Foucault [1967] 329, 332, 338).

⁸⁰ The reception of Arrian's *Ars tactica* in late antique and Byzantine military literature is summarised by Roos/Wirth (1968) II xxiv-xxv. See in detail Förster (1877) 450-71; Rance (2007b); Haldon (2014) 47-50.

⁸¹ The critical edition is by Roos/Wirth (1968) II 177-85. See minor emendations by M. Pavkovic, 'A Note on Arrian's *Ektaxis kata Alanon*', *AHB* 2.1 (1988) 21-3; with more radical textual interventions proposed by Bosworth (1977) 238-40; (1993) 270-72 (see further below n. 126). Byzantine familiarity with Arrian's *Acies contra Alanos* is discussed by Nefedkin (2002) and Rance in this volume.

imperial scriptorium. There is no trace of previous editorial attention or fresh (minuscule) transcriptions that would typically signal a work's prior circulation or readership.⁸² In stark contrast, the textual transmissions of Aelian's *Tactica theoria* and Onasander's *Strategicus* are far more extensive and complex; for neither text is a comprehensive critical edition currently available. To be clear, this is not a question of simply counting extant manuscripts, necessarily a reflection of chance survival, but rather of evaluating what the extant manuscripts, none older than the tenth century, can tell us about the prior majuscule tradition. The more numerous manuscript prototypes of Aelian and Onasander are assignable to three distinct recensions, which in turn descend from three majuscule hyparchetypes, that is to say, three transliterations into minuscule executed by different scribes at separate times and places (typically c.850-c.900). The codicological evidence therefore suggests that the works of Aelian and Onasander were already relatively popular in late antiquity and were thus transmitted across the Byzantine literary-cultural 'Dark Age' (c.640 to c.780) via a more ample majuscule tradition, possibly conjoined in a small textual corpus.⁸³ From an editorial perspective, these circumstances afford a more hopeful prospect for pursuing the textual tradition closer to the original. The challenge for modern editors entails less the quantity of manuscripts than the complexity of the textual history. The transmission of Aelian's treatise is particularly elaborate, inasmuch as his work, of all the Greco-Roman tactical authors, attracted by far the highest degree of Byzantine editorial intervention, witnessed by successive recensions, interpolations and appendices, and the priority is thus to isolate authorial components of an 'authentic recension' from a Byzantine 'interpolated recension', which appears to have enjoyed a wider circulation in Byzantium and became the basis of a vulgate tradition in the early modern period.⁸⁴ Furthermore, as authoritative or fashionable authors, both Aelian and Onasander variously served as models for the form and/or content of Byzantine military treatises and thereby engendered an extensive indirect textual tradition in the form of excerpts, adaptations and/or paraphrases into contempo-

⁸² Dain/Bon (1967) xxxiii-xxxvi; Rance (forthcoming B).

⁸³ For the manuscript tradition of Aelian's *Tactica theoria* see Dain (1946) esp. 119-27, 153-82, 200-207. The manuscript tradition of Onasander's *Strategicus* requires re-examination; for the present see Dain (1930) esp. 15-18, 151-4, 167-71, with important corrections to Dain's stemma codicum in reviews by E. Korzenszky in *PhW* 52.1 (1932) 1-8 and *BZ* 35 (1935) 145-9, and fuller remarks of Korzenszky/Vári (1935) v-xix with stemma codicum at xvii. For evidence of a textual corpus comprising Aelian, Onasander and Maurice see Dain (1930) 15-18, 167-71; (1946) 122-6, 204-7. Dain was not able to date this corpus more precisely than prior to the transliteration into minuscule around the mid to late ninth century. See additional remarks in Rance (forthcoming B).

⁸⁴ The essential study of the textual evolution of Aelian's treatise remains Dain (1946) 63-9, 77-115, 155-82, even if some of Dain's conclusions now require modification. For remarks on interpolated elements in Onasander's text, notably the chapter-divisions and -headings: e.g. Petrocelli (2008) 137-8.

rary Greek.⁸⁵ Regrettably, at present the best available edition of Aelian's *Tactica theoria* remains that of Köchly and Rüstow (1855), which at least represents the 'authentic' recension closest in form and wording to the original, even if they constituted their text on the basis of defective secondary manuscripts.⁸⁶ A new edition based on a full collation of manuscripts by Albert Devine has long been forecast.⁸⁷ The most widely cited edition of Onasander's *Strategicus* is that prepared by the Illinois University Greek Club for the Loeb Classical Library (1923), often reprinted but never revised. The rare and little-known edition by Eleonóra Korzenszky and Rezső Vári (1935) is greatly superior but not beyond improvement.⁸⁸

The text of Polyaeus' *Strategemata* is preserved in a single late prototype, *Laurentianus* gr. LVI-1, dated to the 1290s, the ultimate progenitor of all the numerous *recentiores* copied in the sixteenth and seventeenth centuries.⁸⁹ A critical

⁸⁵ For Aelian see Dain (1946) esp. 129-51; Zuckerman (1990) 217-19; (1994) 385-9; Rance (2007a) 703-4, 717-19; Haldon (2014) 45, 47-9; Rance (forthcoming A); (forthcoming B); (forthcoming C). The late antique and Byzantine reception of Onasander awaits comprehensive study but for selective instances see Vári (1898) 56-9; Oldfather *et al.* (1923) 350-2; Lowe (1927); Dain (1930) 145-57; (1931) 340-41; Kučma (1982-6); Haldon (1990) 54, 179; (2014) 45; Krentz/Wheeler (1994) xx-xxi; Rance (2000) 235-44; Taragna (2004) 799-801; Petrocelli (2008) 319, 325 (indice); see also Nicephorus Uranus, *Tact.* 66, 68-74 (ed. de Foucault [1973] 302-11), with Dain (1937) 40-45, 50; McGeer (1991) 132.

⁸⁶ Köchly/Rüstow (1853-5) II.1 218-471. They based their text on *Bernensis* 97 [XVI] and *Parisinus* gr. 2446 [XVII], seemingly unaware that the latter is a direct copy of the former, together with *variae lectiones* from several other manuscripts and the vulgate tradition; see Köchly/Rüstow (1853-5) II.1 206-17. See the critical remarks by Dain (1930) 61-5; (1946) esp. 87-92, 199-200, 383; Devine (1989) 33.

⁸⁷ See A.M. Devine, 'Aelianus Tacticus. A Critical Edition of Aelian's ΤΑΚΤΙΚΗ ΘΕΩΡΙΑ, with Prolegomena and Translation' in *ANRW* II.37.5 (forthcoming). Devine (1989) offers the best English translation, with a useful summary of editorial difficulties. For the present, an improved Greek text of chs. 1-27, utilising *Laur. gr.* LV-4, is to be found in F. Di Cataldo, *Eliaño. La 'Tactica Theoria'. Testo critico, traduzione e commento dei capitoli I-XXVII*. (unpub. Ph.D. Thesis, Catania 2010), though the text is still far from a full *recensio*. The text presented in C.A. Matthew, *The Tactics of Aelian. A New Translation of the Manual that influenced Warfare for Fifteen Centuries* (Barnsley 2012) is an eclectic composite of antiquarian editions of vulgate texts without reference to manuscript authority.

⁸⁸ Oldfather *et al.* (1923 [repr. 1928, 1948, 1962, 1977, 1986]) 369-527. Although Oldfather *et al.* consulted some of the manuscript prototypes, the text relied to a significant extent on editorial emendations in Köchly (1860), the first critical edition, which Köchly had based primarily on available *recentiores* (*Parisinus* gr. 2522 [XV] and *Bernensis* 97 [XVI], copies of *Laur. gr.* LV-4). See criticisms of both these editions in Dain (1930) 125-32. Further progress was achieved by Korzenszky/Vári (1935), who took account of additional manuscripts and indirect witnesses catalogued by Dain (1930), notably *Ambrosianus* gr. 139 (B 119 sup.), which was unavailable to Oldfather *et al.*; although a tenth-century paraphrase, it is indispensable for establishing the critical text, see comments by Lowe (1927) 29-32. See also textual emendations proposed in E.[J.] Darkó, Rez. Korzenszky/Vári (1935) in *BZ* 36 (1936) 542-4; F. Lammert, Rez. Korzenszky/Vári (1935) in *PhW* 58 (32) (1938) 881-3; Peters (1972) 259-70; C.M. Lucarini, 'Ad Onasandri Strategicum', *MH* 67.4 (2010) 222-7. Petrocelli (2008) 22-125 reproduces the Greek text in Oldfather *et al.* (1923) with Italian trans.

⁸⁹ Schindler (1973) 15-142, 153-63 with stemma codicum after 280; also remarks on the tradition in Dain (1930) 167, 170; Rance (forthcoming C).

edition has been available since 1887, when Johann Melber (1859-1938) finally disentangled this unique textual witness from its voluminous vulgate tradition.⁹⁰ Melber's text is presented rather understatedly as a revision of a prior edition, which had been prepared over many years by his tutor Eduard [von] Wölfflin (1831-1908) and published in 1860. In reality, subsequent research on the manuscript tradition had quickly rendered Wölfflin's edition entirely obsolete, as he had not recognised the priority of *Laurentianus gr. LVI-1*.⁹¹ Melber's revised text is mostly satisfactory and certainly serviceable for historical research. The *apparatus criticus*, in contrast, is wholly deficient, insofar as Melber retained much of the now redundant and/or erroneous substructure of Wölfflin's edition, including irrelevant variants in secondary manuscripts and vulgate readings, and he neglected to clarify the provenance of emendations and conjectures. A new edition of Polyaeus' *Strategemata* could undoubtedly furnish an apparatus that more clearly and accurately charts the constitution of the text.⁹² It is, however, hard to see how such an exercise would result in many improvements to the text itself, at least any that would entail a substantial change of meaning. Later textual scholarship on the long sequence of Byzantine adaptations of Polyaeus' *Strategemata* has demonstrated that all of these works successively derive from the same archetype, the so-called *Hypotheseis* or *Excerpta Polyaeni* (c.500?-c.850?), a partly paraphrased abridgement of the *Strategemata* reconfigured into a more user-friendly thematic format, the text of which is uniquely preserved in the famous military collection in *Laurentianus gr. LV-4*. In editing the *Strategemata*, Melber (as previously Wölfflin) took account of readings in the *Hypotheseis*, the text of which he also edited and appended to his edition. Consequently, the descendants of the *Hypotheseis* are only of further editorial value in a small number of cases where material has been lost from the received texts of both the original *Strategemata* and the *Hypotheseis*.⁹³ Potential scope for editorial improvement or augmentation on the basis of a broader indirect tradition, including other, isolated excerpts, is exiguous.⁹⁴

⁹⁰ Wölfflin/Melber (1887 [repr. 1970]).

⁹¹ E. Wölfflin, *Polyaeni Strategematon libri octo* (Leipzig 1860). See subsequent research by Rose (1864-70) I 1-8; also independently Müller (1884) 723-9, with remarks by Schindler (1973) 20-23, 265-8.

⁹² See Schindler (1973) 11-12, 268-70, 272-3, whose criticisms are in places overly harsh, presumably to justify his own projected (but unrealised) new edition.

⁹³ Editions and studies of late antique and/or Byzantine adaptations of Polyaeus' *Strategemata* are listed above n. 52. For specifically editorial considerations see Dain (1931); de Foucault (1948); Schindler (1973) 205-25.

⁹⁴ Melber's edition accommodates all then-known literal excerpts from the original text of the *Strategemata*; see Schindler (1973) 189-204, whose conclusions are only partly accepted here. Melber did not take account of some adapted Polyaeus-derived material that found its way (independently of the *Hypotheseis*) into Byzantine military texts, notably the *Apparatus bellicus*, on which see now Mecella (2009) 91. For the reception of Polyaeus' *Strategemata* in Leo's *Tactica* and its potential editorial value see Wheeler (2012).

Historical Scholarship

Compared to this long-term philological endeavour, historical research on Greek tactical literature is more diversified and discontinuous, and less easily quantified in terms of objectives or progress. Unremarkably, students of ancient warfare have for centuries selectively adduced information the tactical treatises provide about military practices and attitudes. According to their form and content, some of these works have proved more susceptible to historical analysis or compatible with historical enquiry. For example, modern readers of Polyaeus typically treat his stratagemical anthology as a repository of historical fragments that can supply corroborative or supplementary data rather than as a specimen of technical or didactic writing reflective of contemporary military concerns.⁹⁵ Onasander's *Strategicus* is one of the most frequently cited texts in studies of Roman (or classical) warfare, in large part owing to its abstractive generality and wide applicability, though few studies extend beyond superficial assessments or seek to contextualise his precepts with regard to specific characteristics of Roman generalship and military culture.⁹⁶ In contrast, the schematised and often pedantic exposition of deployments and manoeuvres in the late Hellenistic tactical sub-genre is commonly judged ill-suited to historical reconstruction. Diversity of literary forms and military-historical contexts across the genre has generally discouraged or complicated synoptic and thematic approaches.⁹⁷

Basic interpretative difficulties defy facile solutions or generalisations. Even the generic terminology to be applied to such works is a matter of preference rather than consensus. The available designations in English – handbook, manual, textbook, treatise, tract, pamphlet – all variously carry subjective associations and potentially anachronistic cultural baggage. A resort to foreign terms – *Lehrbuch*, *Handbuch*, *vade mecum* – avoids the issue.⁹⁸ Ancient Greek sources offer no clear guidance – while ἐγχειρίδιον entails semantic and conceptual equivalence to 'handbook', this rare usage is attested only in relation to other subjects – philosophy, natural sciences and grammar.⁹⁹ A greater puzzle remains the intended

⁹⁵ See, in contrast, Wheeler (2010) esp. 38-52, who discerns in Polyaeus' work several motifs of specific relevance to Roman-Parthian warfare in the early 160s.

⁹⁶ E.g. Gilliver (1996); (1999); Smith (1998) 158-64; Galimberti (2002) 144-52.

⁹⁷ See, however, Stoll (2015) on the theme of space, topography and terrain in Greco-Roman military literature.

⁹⁸ E.g. Campbell (1987) 18; Smith (1998) 152.

⁹⁹ In addition to the transmitted title of the well-known philosophical work by Epictetus, ed. H. Schenkl (Leipzig 1916), see e.g. *PHerc.* 1013.12 (Demetrius Laco?), ed. C. Romeo, 'Demetrio Lacone sulla grandezza del sole (*PHerc.* 1013)', *Chronache Ercolanesi* 9 (1979) 11-35; Philostr. *VS* 2.1.14; Longinus, *Prolegomena ad Hephaestionis Enchiridion*, tit., 8, ed. M. Consbruch, *Hephaestionis Enchiridion cum commentariis veteribus* (Leipzig 1906) 81.3, 86.6 (cf. Scholia A, 1, at 93.3). The fact that Longinus deems it necessary to explain the etymology of *encheiridion* in this context implies that this was not a common usage. The currency of ἐγχειρίδιο in Modern Greek in the sense of

purpose and readership of these books, and in particular their actual use or utility in war. Like military theoreticians of every era, the authors plead the usefulness of their writings, though often by means of argumentative strategies that both concede and excuse personal inexperience of warfare.¹⁰⁰ At its simplest, this debate is framed in terms of correspondence or tension between 'theory' and 'praxis' – whether a text is prescriptive or descriptive; to what extent an author reports current practices, recommends new procedures or reproduces content from earlier works – though consideration of these issues is at times hampered by unnecessary dichotomies and, arguably, unrealistic criteria. The charge of being 'theoretical' pervades the secondary literature, with the explicit or implied corollary that a work of theory, by definition, must be remote or divorced from experience, practice or historical trends. The weight of criticism lies more heavily in ancient historical research than in studies of modern warfare. Since the seventeenth century the combat operations of most European armies, to varying degrees, have been shaped by drill books, tactical manuals and/or operational regulations, whether officially sanctioned or private initiatives, which aimed to minimise or nullify the unpredictable and uncontrollable effects of chance by setting down preparatory standards, procedural guidelines and due precautions for normative scenarios. The self-evident limitation that the author(s) cannot thereby guarantee implementation and/or success in every eventuality has never been considered a legitimate argument against writing or reading such works or their potential value as historical sources. Without assuming exact or specific parallels across time and space, if the precepts laid down in an ancient treatise similarly represent procedures executable in typical or likely situations, then the apparent polarity of 'theory' and 'praxis' diminishes and, at least in ideal circumstances, prescription and description can coincide. Accordingly, 'theory', if based on accumulated and condensed experience, will have informed and influenced pragmatic decisions on the battlefield, especially if the nature of combat itself is circumscribed by predictable cultural conventions, 'heroic' ritualised protocols and restricted technological innovation in weaponry. None of the Greek tactical authors presents his work as a codification of eternally valid and universally applicable rules. Even the most abstract texts counsel appropriate courses of action or reaction insofar as circumstances are foreseeable. Furthermore, the diversity of didactic strategies between and within Greek tactical treatises, including general principles, technical instruction, historical exempla, ethical guidance and contingent recommendations, allows or promotes choice, adaptation and improvisation.¹⁰¹ Correspondingly, old

'handbook' or 'manual' is a later development. Within the genre of military treatises, Arr. *Tact.* 32.2 appears to employ τέχνη with the sense of a work written to convey specialised knowledge.

¹⁰⁰ E.g. Onas. pr.3-4, 7-10; Ael. pr.3-7; Polyæn. 1.pr.2; 3.pr.; 5.pr.; also implied in Aen. pr.3; Asclep. 12.11 (fin.).

¹⁰¹ Explicit statements on contingency planning and circumstantial adaptation: e.g. Aen. pr.3, 2.8;

need not mean obsolete: fundamental continuities in classical (and medieval) warfare permitted authors to cite, replicate or adapt much older material without necessarily compromising contemporary utility, even if the popularity of some ancient works might also reflect tradition-conscious literary considerations (*imitatio* or *aemulatio*), antiquarian sensibilities and, later, the cultural cachet of specific texts as military 'classics'.

One ostensible test of validity is to compare principles and practices prescribed in tactical treatises with those described in narrative histories, but such a juxtaposition can typically reveal only broad parallelism, while the absence of corroborative evidence is not decisive. Even allowing for the well-studied limitations of historical writers as witnesses to *res militares*, throughout antiquity their different literary priorities, generic conventions and vocabulary constrict the scope for precise and detailed correspondence with tactical authors. Conversely, essential similarities and even interaction between historiography and tactical literature complicate critical comparisons. The professional credentials of military theorists are often cited as grounds for scepticism. Among the extant classical tacticians only Arrian demonstrably possessed experience of command; firsthand knowledge of warfare is usually assumed also of Aeneas but in all other cases deemed implausible, when not expressly denied by the author himself.¹⁰² Yet the same can be said of most historians. In both genres, given the relative rarity of literary-minded soldier-savants – a Xenophon, Polybius or Arrian, even a 'civilian' and 'amateur' author may become a valuable 'non-expert' witness to military tradition and doctrine. Insofar as the tactician and the historian shared the same intellectual background and cognitive horizons, both, in different ways, remodelled military 'reality' according to subjective notions of how war *should* be.¹⁰³ Furthermore, comparison of tactical theoreticians and historians acquires a certain circularity if the military exploits described in classical histories were intended to be exemplary or admonitory, with regard as much to tactics and stratagems as to virtue and conduct. Histories, then, as Polybius explicitly states, could also offer ancient readers specific lessons in generalship and patterns of martial behaviour, over and above the conventional 'didactic' claims of historiography.¹⁰⁴ By extension, the descriptive could easily be recast as prescriptive whenever historical material was redeployed as exempla by a tactical author, notably Aeneas and Polyænus, or provided the raw data for his theoretical abstraction, as Onasander alleges.¹⁰⁵

Onas. 30; Polyæn. 1.pr.2; 5.pr. Cf. Front. *Strat.* 1.pr.

¹⁰² Denial of military experience: Onas. pr.7-10; Ael. pr.2, 1.2-4; Polyæn. 1.pr.2.

¹⁰³ See generally Whitby (2007) 54-71; with remarks on firsthand experience and historiography in Bettalli (2010); Formisano (2009) 350-2; (2011) 43-8.

¹⁰⁴ E.g. Polyb. 11.8.1-2, cf. 9.14.1-5, with Walbank (1967-70) II 139-40, 279-80. Walbank (1967-70) I 39 [ad Polyb. 1.1.2] assembles examples of histories laying claim to general educational value.

¹⁰⁵ Aeneas: Burliga (2008). Polyænus: Schettino (1998) 72-90; Pretzler (2010); (forthcoming);

The contemporary currency, applicability and impact of tactical treatises also elude simple analysis. Some works, at least to a modern eye, appear to systematize general principles, elucidate technical procedures or offer situational guidance, even if similar or other military doctrines were also or more often transmitted orally in different instructional contexts. It is therefore relatively easy to imagine military planners – rulers, generals and officers – consulting such texts as a theoretical adjunct to practical training and experience, a treasury of ideas and precedents or a source of antique authority. This image struggles to escape modern academic assumptions about the functionality of (modern) military literature, but even if the characterisation of an ancient tactical treatise as, literally, a *vade mecum* inevitably risks importing anachronistic conceptions of utility, the existence of this genre seems to be broadly indicative of cultural attitudes to the requisite qualities and preparation for military office or command.¹⁰⁶ Little can be said with certainty regarding the number or identity of the original consumers of this broad genre, though it is reasonable to assume that technical content catered to a minority taste, and doubtless literacy and the expense of book production were at all times constraining factors on distribution and access. These issues are, of course, not unique to Greek/Greco-Roman tactical treatises, and studies of the military literatures of other martial cultures of ancient and medieval Eurasia face similar methodological challenges.

A number of seventeenth- and eighteenth-century writers, typically classical antiquarians or antique-inspired military reformers, hoped to reconstruct, often diagrammatically or pictorially, Greek and Roman battle dispositions and manoeuvres, along with encampments, armaments and siege machinery. Some of these studies benefited from professional insights into the practicalities of deployment and drill.¹⁰⁷ Modern historical evaluation of the tactical treatises, however, can again be traced to the mid-nineteenth century. Over the last century and half, assessments of the contemporary utility or historicity of some or all of these works have fluctuated according to period, national academic tradition and scholarly fashion. While there was in fact no ‘golden age’ of historical enquiry into this genre, on the whole older, predominantly Germanophone scholarship, though by no means uncritical or unanimous, found more of historical value in these texts than have more recent, mostly English-language studies. In addition to the aforementioned contributions of Wilhelm Rüstow (1821–78), which were informed by a career officer’s expertise, pioneering studies by Max Jähns (1837–1900), Hans Droysen (1851–1918), Adolf Bauer (1855–1919) and, above all, father and son Edmund (1847–1921) and Friedrich Lammert (1890–1956) clarified tech-

Wheeler (2010) 38–48. Onasander: pr.3, 7–9.

¹⁰⁶ See remarks of Campbell (1987) 18–23, 27; (2004) 16–17; Formisano (2011) 39–43.

¹⁰⁷ Among numerous publications, outstanding examples include: Machault (1614); Bingham (1616); (1629); de Folard (1724); Guischart (1758); Baumgärtner (1779); Dillon[–Lee] (1814).

nical obscurities and located Greek tactical writing and its constituent traditions in a historical framework. In contrast, the genre hardly features in the far more influential writings of Hans Delbrück (1848–1929), whose ambition to study war in its societal and cultural contexts, together with his factual critique (*Sachkritik*) of ancient battle accounts on the basis of perceived military probability, otherwise prefigured major developments in military historiography during the twentieth century. For the most part, this later nineteenth-/early twentieth-century scholarship remained anchored in a philological methodology, from which a large proportion of subsequent research has gradually come adrift.

Over the past four decades, an overall dissonance between the content of the tactical treatises and the primary concerns of two prevailing currents of academic military historiography contributed to the neglect, stereotyping or repudiation of these texts as historical sources. First emerging as an offshoot of the *Annales* school in the early 1960s, and becoming prevalent in Anglophone ancient historical scholarship from the later 1980s, the ‘New Military History’ expanded the scope of enquiry beyond the narrower and purely technical confines of ‘traditional’ military history and repositioned the study of war in a broader socio-historical framework. Prioritising social, economic and political dimensions of war, armed forces and military life, and borrowing comparative approaches and interpretations from anthropology, sociology, economics and demography, this now predominant ‘war and society’ agenda fostered a progressive marginalisation of or even disdain for operational aspects of warfare and military institutions, including tactics, generalship and military theory, while ultimately extending the concept of ‘war’ from inter-state hostilities to diverse forms of societal violence.¹⁰⁸ In contrast, the ‘Face of Battle’ technique, pioneered by John Keegan from the mid-1970s, focuses unswervingly on the battlefield, but largely or exclusively from the minutiae perspective of an individual soldier’s experience of combat, typically in relation to his immediate comrades or squad, with a view to reconstructing ‘what really happened’ in the ‘killing zone’. Conceived as a corrective or supplement to command-centred, experientially remote, ‘squares-on-maps’ studies of battles or campaigns, and informed by modern military psychology and, later, re-enactment and wargaming, this soldier’s-eye-view analytical method privileges morale, cohesion, motivation, fighting techniques, and processes of maiming and killing over evidence for tactical doctrine, organisation or capabilities beyond small-group dynamics. Although radically different in focus from the bloodless enquiries of the ‘war and society’ school, ‘face of battle’ can pursue some of the same social and psychological interests insofar as its more culturally astute practitioners attempt to analyse combat units as microcosms of society. Generally

¹⁰⁸ See the historiographical survey in Wheeler (2011) 58–64, 98–9, with further bibliography in Wheeler (2007) xi, xiv–xviii.

disdainful of the theoretical idealism of tactical treatises but also dissatisfied with the clichéd literary visualisations of battle in historical sources, the more doctrinaire and formulaic manifestations of 'face of battle' run the risk of homogenising warfare across time, space and knowledge inasmuch as their synthetic modelling of 'combat mechanics', reliant on inventive conjecture, assumptions of human behavioural universals and/or generic comparanda imported from distant eras and cultures, is no less an abstraction and convention-bound construct.¹⁰⁹ Of more recent vintage, as 'face of battle' perhaps slips out of fashion, is an emergent '(New) Cultural History', which endeavours to interpret variety and change in ancient conceptions of war, martial ethos and military behaviour as integral and specific traits of a civilization explicable in cultural terms other than socio-economic factors, technological determinism and anachronistic socio-psychological parallels. Scholarship in this sphere has touched upon literary-historical aspects of Greek tactical literature and its contribution to the intellectual substructure of battle narratives in Greek and Latin historiography.¹¹⁰ More generally, some recent historical studies, unaligned to any single school or approach but mostly 'traditional' (historical-philological) in spirit, have sought to (re-)engage with tactical treatises, though in some instances at a superficial level and unfamiliar with the textual traditions and conventions of the genre, while, as in other areas of ancient military history, a lack of familiarity with older bibliography leaves room for a new generation of scholars to reinvent the wheel.

On the whole, the interpretative difficulties of this 'theoretical' genre are more often cited as justification for its eschewal or rejection than as grounds for further study. The diversity of Greek/Greco-Roman military literature, however, cautions against such collective punishment and requires that each author or text be judged individually. Of the works under consideration, the extant part of Aeneas' compendium has been most easily and successfully accommodated in historical studies, partly because the content of this fortuitous remnant happens to coincide to a greater extent with the social scientific agenda of the 'New Military History'.¹¹¹ Unlike most other specimens of the genre, Aeneas' predilection for citing distant and recent episodes as exempla, some of them otherwise undocumented, fixes his text in a historical setting and has the effect of validating the practices he

¹⁰⁹ See Wheeler (2011) 64-75, with additional bibliography in Wheeler (2007) xix-xxiii. See also critiques in *idem*, 'Battles and Frontiers', *JRA* 11 (1998), 644-51; *idem* (2001); J.E. Lendon, 'The Roman Army Now', *CJ* 99.4 (2004), 441-9 at 443-7; Whitby (2007) 80-81. See generally Lynn (2003) esp. xiv-xxii, whose main target is Hanson's 'Western way of war' thesis, but his remarks on the 'universal soldier' similarly expose anachronism in 'face of battle' approaches.

¹¹⁰ Lendon (1999) esp. 281-5, 290-5. For a 'cultural' approach to ancient warfare see e.g. Eckstein (2005); Lendon (2005), with observations and further bibliography in Wheeler (2007) xxv-xxvi; and generally Lynn (2003), summarised (2005).

¹¹¹ For attempts to classify the surviving portion of Aeneas' work see Lammert (1940b) 284; Wheeler (1981) 77-8; Whitehead (2008) 143-5.

prescribes and reassuring readers, ancient and modern, that his military knowledge, whether book-based, anecdotal or firsthand, is ultimately rooted in precedent. More illuminating is the wealth of information and circumstantial detail he provides about warfare and especially siegecraft, broadly construed, in Greece in and before the mid-fourth century BC, and particularly the diverse logistical, sociological, psychological and demographic aspects of an urban community threatened with or under siege. These insights are especially valuable inasmuch as Aeneas is a rare and early witness to a 'third Greece', neither Athenian nor Spartan, and thus, presumably, wrote from the viewpoint of a smaller and more typical polis rather than a superpower.¹¹² While numerous historical studies have selectively drawn on Aeneas' work, the culmination of that scholarship is to be found in a series of philological-historical commentaries in several languages.¹¹³ Specific areas of historical enquiry to which Aeneas' work has contributed include his pioneering role in the exposition of military knowledge in a written medium, the significance of socio-political or factional strife (*stasis*) in a polis strained by siege or blockade, and the principles and methods of espionage, notably cryptography and steganography.¹¹⁴ A forthcoming collaborative handbook digests and elaborates the extensive scholarship on various, primarily historical dimensions of this author and his era.¹¹⁵

Few modern scholars have entertained a high opinion of the historicity and historical utility of the late Hellenistic tactical tradition, as variously witnessed by Asclepiodotus, Aelian and Arrian. Critics point to the relatively late date, schematised character and partly contrived terminology of this sub-genre as evidence of amateur and dilettantish armchair generalship. In contrast, readers and writers in both Byzantium and early modern western Europe, some with extensive military experience, came to a very different assessment and considered at least parts of Aelian's text to offer clear and practicable models of elementary deployment and drill for contemporary close-order infantry formations.¹¹⁶ On the whole, nineteenth- and early twentieth-century historical scholarship, for the most part German-language Handbücher and encyclopedia articles, expressed some scepticism

¹¹² Bettalli (1990) 16-17; Whitehead (2001²) 2-4.

¹¹³ See, with extensive bibliographies, Bettalli (1990); Vela Tejada (1991a); Whitehead (2001² [1990¹]); Burliga (2007).

¹¹⁴ Aeneas' systematisation of military knowledge: Bettalli (1986) esp. 82-5; (1990) 13-16; Whitehead (2001²) 17-25, 36-8; Burliga (2008). *Stasis*: e.g. Lehmann (1989); Bettalli (1990) 16-26; Winterling (1991); Schenk (1994); Whitehead (2001²) 25-33; Boëldieu-Trevet/Mataranga (2003). Espionage: e.g. Bettalli (1986) 86-9; (1990) 32-4, 302-12; Richmond (1998); Whitehead (2001²) 183-92; Deboudour (2006).

¹¹⁵ Pretzler/Barley (forthcoming)

¹¹⁶ Byzantine: Dain (1946) esp. 77-115, 129-82, with remarks in Rance (forthcoming A); (forthcoming C). Early modern: e.g. Hahlweg (1941) esp. 41-100, 119-24, 146-83, 197-250, 292-300; (1973) 16-30, 606-11; Reinhard (1986) 193-7.

about the numerical abstraction and generic artificiality of the three works, but nonetheless cited selected passages with regard to tactical organisation, deployment and manoeuvres.¹¹⁷ Some later Anglophone studies directly inherited this traditional stance.¹¹⁸ More recently, the war-and-society school understandably found nothing of interest in this sociologically arid sub-genre, while exponents of 'face of battle' generally discount such 'theoretical' expositions as irrelevant to the battlefield (or at least to their view of what is important in combat).¹¹⁹ In line with a longer-term florescence of interest in the once comparatively neglected Hellenistic era, others sought to identify content rooted in *Realien* of Hellenistic armies and warfare, even if transmitted in an intellectualised and overly schematic form. Research has focused on two related questions. First, in continuation of prior scholarly interest, whether and to what degree tactical formations and drills prescribed in these treatises are intrinsically feasible and might serve to clarify briefer or more obscure descriptions of deployments and manoeuvres in accounts of Hellenistic battles.¹²⁰ Here analogies with other aspects of the Hellenistic 'military revolution' caution against importing modern utilitarian assumptions of efficiency or developmental progress: just as recent studies of the technological branch of Hellenistic military writing highlight the value ancient authors attached to appearance as well as function when evaluating the efficacy of siege machines and artillery, so the geometrised idealism of the tactical tradition may similarly reflect notions of tactical 'aesthetics', whereby both the practice and spectacle of such complex large-scale tactical evolutions had intrinsic military value in terms of training, discipline and morale.¹²¹ Second, the extent to which the symmetrised rank-unit structure delineated in this sub-genre is both internally consistent and assignable to one or more historical horizons, and in particular

¹¹⁷ E.g. Köchly/Rüstow (1852) xv-xvi, 235-7; Droysen (1889) 35-45, 49-54; [E.] Lammert, 'Reiterei', *RE* IA.1 (1914) 519-51 esp. 522-34; E. (†) and F. Lammert, 'Kriegskunst', *RE* XI.22 (1922) 1827-58 esp. 1833-46; Kromayer/Veith (1928) 13-14, 113-14 132; F. Lammert, 'Phalanx', *RE* XIX.38 (1938) 1625-46; Lammert (1940a) 18-22. In contrast, Jähns (1889-91) I 67-8 and Bauer in Müller/Bauer (1893) 422 are entirely dismissive of the historical value of these texts; Delbrück (1920-28³) I 440 hardly mentions the sub-genre.

¹¹⁸ E.g. Pritchett (1971-91) I 136-8, 144-5, 150-51, 153 (citing Köchly/Rüstow [1853-5]).

¹¹⁹ E.g. Hanson (1989) 47-8; Goldsworthy (1996) 9-10, 120-21; Sabin (2000) 2-3. See remarks of Wheeler (1991) 167 n. 135; (2011) 69-70.

¹²⁰ For older literature see above n. 117. Oldfather *et al.* (1923) 232-3 expresses a generally positive view of the potential of this late theoretical sub-genre for reconstructing phalanx tactics. See more recently e.g. Wheeler (1979) esp. 307-9; (2004) I 328-31, 336-7; 343-5; Rance (2004) 120-22; Matthew (2009) 405-9; Sestili (2010) esp. 280-98, 308-24; Lendon (2011); Wrightson (2015) 85-7. Less successful is Devine (1983) 201-17, largely rebutted by Buckler (1985).

¹²¹ Regarding the importance of appearance as well as function in military technological treatises see Cuomo (2007) 53-5, 58; Roby (2016) esp. 144-6. Similar aesthetic and intellectual aspects of conceptual culture have been discerned in the geometrised linear perfection of European battle deployments in the age of the Enlightenment: see Lynn (2008) 111-29, 155-6.

whether this system and vocabulary can be reconciled with the fragmentary and incidental information about officers and units recorded in other categories of source material – histories, papyri and inscriptions – and might thereby elucidate the hierarchy and organisation of Seleucid, Ptolemaic and/or Antigonid armies, or even earlier Macedonian forces. In this sphere, papyrological and epigraphic documentation, for the most part unavailable to older scholarship, has indeed vindicated some components of the tacticians' scheme, while the possibility of new discoveries offers the prospect of further reappraisal.¹²² An additional field of enquiry concerns armaments: while these treatises provide few details about Hellenistic weaponry and equipment, their limited testimony is adduced in particular in perennial discussions of the length and use of the *sarissa*.¹²³ Correspondingly, Arrian's interpolations relating to the Roman panoply, together with his allusions to contemporary opponents, have similarly contributed to Roman military equipment studies.¹²⁴ Finally, though strictly extraneous to the late Hellenistic tradition, Arrian's supplement on Roman cavalry exercises (*hippika gymnasia*), the most valuable source for this aspect of Roman military culture, poses historical questions about the occasion, identification, execution and objectives of this species of equestrian display.¹²⁵

The treatise that has generated the greatest degree of historical controversy is Arrian's *Acies contra Alanos*, which, as the most detailed and only 'technical' witness to tactical deployment during the Principate, is (or should be) a central text in discussions of Roman military operations. Interpretation of Arrian's opusculum is complicated by its uncertain textual milieu and peculiar literary form, and in particular the classicizing Greek vocabulary he applies to Roman formations, procedures and equipment. Interpretative difficulties are exacerbated by evident lacunae and corruption in the unique manuscript witness, with the result that certain passages central to our understanding of Arrian's meaning depend on editorial emendation, sometimes extensive and based on military-historical conjecture rather than philological or textual criteria.¹²⁶ The historical occasion

¹²² See van 't Dack (1988) 47-64 (reprising older literature); Sekunda (1994) 5-10, 25-6; (2001) 31-41; Helly (1996); Hatzopoulos (2001) 76-8; Wrightson (2010); (2015) 80-85, 87-90.

¹²³ Asclep. 5.1-2; Ael. 14.2-6; Arr. *Tact.* 12.6-10. Despite the large literature on this topic, the best summary of the evidence remains [E.] Lammert, 'Sarisse', *RE* IA.2 (1920) 2515-30. For subsequent studies and bibliography see most recently Matthew (2012), supplemented by Manti (1994); Devine (1996).

¹²⁴ Roman panoply: Arr. *Tact.* 3.5, 4.7-9; contemporary peoples: 4.3, 11.2; cf. 44.1-2. See Gawronski in this volume, with cited bibliography.

¹²⁵ Arrian, *Tact.* 33-44. See Kiechle (1964) 114-129; Wheeler (1978); Bosworth (1993) 258-62; Hyland (1993); Busetto (2013); (2015).

¹²⁶ In particular, some speculative textual emendations and reconstructions proposed by Bosworth (1977) 238-40, restated with modifications in (1993) 270-72, have exerted a strong influence upon subsequent research and translations, see e.g. Campbell (1987) 26, 28; (1994) 99; (2004) 130; Gilliver (1999) 180.

of Arrian's composition is clear – his tactical prescription for repelling an Alan inroad into Cappadocia in 135 – and external evidence for the units he lists under his command has been intensively scrutinised.¹²⁷ While Arrian's marching order has proved relatively uncontroversial, his proposed battle dispositions have long been a focus of dispute in two main respects: first, the overall typicality, exceptionality and/or regionality of the 'phalangical' legionary deployment he prescribes; second, the non-uniform weaponry used by different ranks of legionaries and specifically the identity of what Arrian terms a *κοντός* – whether a *pilum*, *hasta* or ill-defined 'pike'.¹²⁸ An older view that Arrian's deployment reflects a historicist revival of Hellenistic phalanx tactics during the reign of Hadrian to counter the cavalry of eastern opponents found few adherents.¹²⁹ Most subsequent scholarship has tended to characterise Arrian's deployment as a regional variation, one-off stratagem or idiosyncratic aberration from tactical orthodoxy (or modern perceptions thereof).¹³⁰ Other studies have sought to contextualise Arrian's phalangical deployment as a standard response to large-scale cavalry attacks within the longer-term evolution of Roman tactics.¹³¹ Textual and historical obscurities and internal inconsistencies remain, however, and a recent sharpening of scholarly disagreement has led to a hardening of positions.

Literary Scholarship

Finally, a more recent and welcome development in the study of Greek/Greco-Roman tactical treatises is a growing interest in the literary and literary-historical dimensions of these texts and in military theoreticians as representatives of their cultural and intellectual environments.¹³² Such enquiries are foreshadowed by philological and lexical studies, largely independent of textual editing or translation, which analyse the language, dialect/idiolect or style of individual tactical authors and, cumulatively, elucidate Greek linguistic history and in particular the emergence of 'scientific' prose. In this sphere Aeneas' work especially continues to attract wider interest as an important witness to the early formation of *koinē*.¹³³

¹²⁷ See, citing older bibliography, Bosworth (1977) esp. 217–34; Wheeler (2004) I esp. 309–13.

¹²⁸ For differing views on weaponry see, selectively, Bosworth (1977) 234–5, 238–46; (1993) 270–2; Nefedkin (1999) 182–5; Wheeler (2004) I esp. 312, 318–20; II 148–59; Colombo (2011).

¹²⁹ Kiechle (1964) 108–14.

¹³⁰ E.g. Bosworth (1977) 238, 242–6; (1993) 255–8; Campbell (1987) 24–8; Goldsworthy (1996) 17–18, 135, 172, 180–81; Gilliver (1999) 112–17.

¹³¹ Wheeler (1979) 307–8, 310–14; expanded (2004) I esp. 309–44, II esp. 148–66, with also (1997) 575–6; (2001) 177–8, 181. See similarly, if differing in details, Nefedkin (1999).

¹³² For general questions of genre and milieu see Loreto (1995); Meißner (1999) esp. 161–7, 178–94, 246–55; Whitehead (2008); Wheeler (2010) 17–28. A doctoral dissertation in preparation by Hans Michael Schellenberg (Heinrich Heine Universität Düsseldorf) includes investigation of literary and cultural aspects of Greco-Roman military literature.

¹³³ Linguistic and/or stylistic studies of Aeneas: Vela Tejada (1991b) 62–324 (with bibliography);

Comparable studies of Onasander and Arrian have pursued traditional interests in literary models, Atticism, and linguistic and stylistic peculiarities.¹³⁴ More sophisticated analyses have illuminated the murky origins, early development and socio-cultural contexts of Greek tactical writing, beyond a conventional and rather obvious recognition that the existence and growth of a body of tactical texts expresses a particular theoretical mentality towards the conception, planning and conduct of warfare.¹³⁵ While this genre has so far largely escaped literary-theoretical approaches, selected explorations of the literary and didactic formation of knowledge as a medium of communication, together with modes of authorial self-presentation and rhetorical strategies of authorisation – how writers promote their works and persuade readers that what they have to say is important or necessary – have sought to illuminate the connection between literary texts and discourse on war, both with regard to specific Greek tactical authors and as a broader intellectual-historical phenomenon.¹³⁶

Investigations of the literary and cultural background of Greek tactical authors who wrote under Roman rule have been most productive where such enquiries are informed by and/or contribute to broader trends in classical literary scholarship. In particular, author-specific studies have located Onasander and especially Polyaeus within the intellectual and belletristic currents of the Second Sophistic, a diverse and expanding field in which many 'minor authors' in different genres are currently enjoying unprecedented attention.¹³⁷ In addition, Onasander's 'philosophical' sensibility to the morality of war and martial conduct has also prompted consideration of his place in the evolving ethical framework of war and peace.¹³⁸ One striking aspect of this recent scholarship, which transcends the confines of genre or literary categorisation, is the contribution of scholars who might otherwise claim neither interest nor expertise in *res militares*. While yet more expansive cross-cultural and interdisciplinary perspectives would doubtless

(1994); (forthcoming).

¹³⁴ Onasander: Peters (1972) esp. 25–83 is essential but often overlooked. Arrian's tactical works: Förster (1877) 439–41 and Grundmann (1884) 83–8 create the foundations of linguistic analysis, supplemented by Tonnet (1988) I 90–93, 244, 262, 264, 313–51 (selectively). For Arrian's literary considerations see Stadter (1978); Bosworth (1993) esp. 253–67. For comparative purposes, see also the linguistic study of Philo of Byzantium by Arnim (1912).

¹³⁵ Wheeler (1981); (1983); (2010) 17–30; Bettalli (1986); Salomone (1986); Whitehead (2001²) 34–8; Vela Tejada (2004).

¹³⁶ Bettalli (1986) esp. 82–5; Smith (1998) 161–6; Whitehead (2001²) 37–42; Burliga (2008); Formisano (2009); (2011); Shipley (forthcoming); see also remarks of Cuomo (2007) esp. 62–3 on technological texts. On authorial rhetoric in Greco-Roman technical literature in general see the (non-military) case studies in Taub/Doodly (2009).

¹³⁷ Onasander: e.g. Ambaglio (1981); Galimberti (2002) 144–53; Formisano (2011) 44–50. Polyaeus: e.g. Schettino (1998) esp. 283–92; Wheeler (2010) 12–30; Pretzler (2010); Morton (2010).

¹³⁸ Gilliver (1996); Chlup (2014); see also general remarks on the shifting ethos of war in Cuomo (2007) 67–76.

prove instructive, differing levels of scholarly activity and progress within academic specialisms, as well as linguistic obstacles, have so far frustrated efforts to coordinate research on Greco-Roman military texts with corresponding studies of the military literatures of other Eurasian cultures, notably ancient India and China, which produced independent but conceptually parallel traditions. Rare attempts at comparative or integrative approaches, though admirable in their own strengths, inevitably lack expertise in one or more fields.¹³⁹

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The contributions to this volume selectively engage with philological, historical and/or literary approaches and pursue lines of enquiry traced by preceding scholarship. Collectively the papers treat all the extant authors of ancient Greek tactical literature, as previously defined, with the exception of Onasander (and Xenophon, if in fact he is to be admitted into this category). The first section concerns the genesis and early evolution of Greek military thought, teaching and texts in the fifth and fourth centuries BC, especially as reflected in the surviving part of Aeneas' compendium. BURKHARD MEISSNER's paper 'Early Greek Strategic and Tactical Teaching and Literature' explores the origins of Greek military writing within the contexts of fourth-century literary culture and education. Examining early conceptual distinctions and interrelationships between 'strategy' (or generalship) and 'tactics', he focuses on evidence for the sophists' teaching of this *technē*, as dimly perceived through Xenophon's quasi-Platonic lens of Socratic criticisms. He locates sophistic instruction within a broader regime of rhetorical training than Xenophon's hostile portrayal allows, whereby the sophists sought to respond to a rapidly changing military environment in fifth- and early fourth-century Greece. The extent to which they met these challenges may already be discerned by the mid-fourth century in the scope and sophistication of Aeneas' military writings, in which Meißner sees an enlarged and modified assemblage of earlier subliterate material, and which thus bequeathed a defining sophistic strand to Greek tactical and strategical thought and writing as it subsequently evolved in shifting cultural-technological contexts. MICHAEL SCHELLENBERG's paper 'Reflections on the Military Views of the "Military Writer" Aeneas Tacticus' soberly reviews the evidence for Aeneas' identity, background, historical context and fragmentary writings, with a view to testing long-held assumptions about his knowledge and authority and the contemporary utility and historical value of his work. He probes the basis and limitations of Aeneas' military attitudes and

¹³⁹ E.g. Wheeler (1981); Lynn (2003) 1-72; Eckstein (2005).

observations, arguing that the greater part of the information he transmits is more plausibly derived from written or oral sources than from personal experience, while Aeneas' citation of historical exempla in particular is no guarantee of their general applicability, typicality or empirical validity. Accordingly, Schellenberg urges caution in using Aeneas' work to support hypothetical reconstructions of ancient history or military history, especially across changes in time and place. BOGDAN BURLIGA's paper 'Tactical Issues in Aeneas "Tacticus"' considers how Aeneas should be classified as a writer, given his acknowledged priority in the literary tradition, the loss of most of his writings and the difficulty of deducing the scope of his compendium or its *Nachleben* in subsequent works. Surveying the extant 'poliorcetic' book and citations in later authors for indications of Aeneas' conceptual and terminological categorisation of the basic elements of military theory, Burliga seeks to infer Aeneas' 'tactical' thinking in a narrower sense, in light of what is known about contemporary warfare and environmental constraints. He concludes that Aeneas is unlikely to have devoted a monographic treatment to this topic precisely because 'tactics' so imbued his broader conception of warfare that 'tactical' considerations pervaded his oeuvre and are discernible even in its 'poliorcetic' component.

The second section, in contrast, concerns the late Hellenistic tradition of the self-contained tactical handbook, a literary by-product of the larger, more specialised land forces maintained by Hellenistic dynasties. ALEXANDER NEFEDKIN's paper 'The Classification of Greco-Macedonian Cavalry in Ancient *Taktika* and in Modern Literature' examines the categorisation of different classes or types of cavalry in the works of Asclepiodotus, Aelian and Arrian in order to draw attention to anachronistic notions in modern literature with regard to ancient criteria for classifying mounted troops. He discerns divergences between the three authors, inasmuch as the works of Aelian and Arrian are later and, in part, 'historical' documents that impose layers of cultural understanding on an ancient archetype. Nefedkin traces certain misconceptions to eighteenth-/nineteenth-century scholarship, when students of ancient warfare were often men with a military background or experience, who were thus more familiar with the mechanics of cavalry but also more liable to import anachronisms. Continuing the theme of cavalry in the Hellenistic tactical tradition, NICHOLAS SEKUNDA's paper 'Cavalry Organisation in the *Taktika*: the *Tarantinarchia*' revisits his earlier studies on the organisational structures and hierarchies defined in the three witnesses to this sub-genre. He reaffirms and elaborates the view that this scheme for cavalry units and officers, though transmitted in a symmetrised format reflective of arithmetical idealism, incorporates terminological usages variously documented in late Seleucid and Ptolemaic armies and in corresponding systems for organising cavalry forces in contemporary mainland Greece, notably in Athens and Thessaly. BOGDAN BURLIGA's second paper 'Asclepiodotus' τοῖς γε σώμασιν ἐπιβρίθοντες

(*Tactica* 5.2) and Polybius' τῷ τοῦ σώματος βάρει (18.30.1-4)' addresses the perennial question of whether and to what extent the phalanx and phalangical manoeuvres outlined in this theoretical literature operated in reality on a Hellenistic battlefield, and thus the evidential validity of these three tactical treatises as historical sources. He focuses on the testimony of Asclepiodotus with regard to the notoriously vexed issue of *othismos*, more commonly discussed in relation to the classical hoplite phalanx. Adducing comparative historical material, Burliga concludes that the weight of intellectual tradition and the authorial conservatism of this sub-genre, despite its relatively late date, preserved information about this particular technique of infantry combat that is of use to historians interested in reconstructing the mechanics of battle. MICHAEL SCHELLENBERG's second contribution is a short bibliographical review of the evidence for an Arabic translation or version of Aelian's *Tactica theoria*, the only classical Greek tactical treatise known, with certainty, to have passed into the Arabic tactical tradition. Although long recognised, this specimen of military cultural transfer has attracted curiously little attention, presumably owing to a lack of interdisciplinary engagement and the relative underdevelopment of the study of the military literatures of Islamic cultures.

A section on Polyaeus' *Strategemata* comprises two papers that each investigate military-historical aspects of a single event and more broadly explore the extent to which this stratagemical anthology can be used as a supplementary witness or indirect source for otherwise unknown episodes, in light of modern appraisals of Polyaeus' military competence and ability to understand the distant past. Both authors closely analyse one stratagem in book IV, which is devoted to the exploits of Macedonian commanders and occupies a privileged position in Polyaeus' collection, inasmuch as he vaunts his own Macedonian ancestry as an innate mandate to write about war. JACEK RZEPKA's paper 'Polyaeus and the Creation of Hellenistic Monarchy' discusses an excerpt (4.6.4) concerning the Triparadeisus conference (320 BC) in relation to scholarly debate about 'constitutional' institutions and practices in the era of the Diadochi. SŁAWOMIR SPRAWSKI's paper 'Alexander at Tempe: Polyaeus, *Strategemata* 4.3.23' examines a stratagem assigned to an 'Alexander' with regard to its ambiguous historical and topographical setting, with implications for studies of historical memory, the historicizing of landscape and Greco-Roman 'tourism'. Both papers combine traditional *Quellenforschung* with consideration of Polyaeus' methodology, literary and historical objectives, national sentiment, and relative marginality in modern historical scholarship.

The two contributions to the following section concern the interaction between research on Greco-Roman tactical treatises and military equipment studies. PIERRE JUHEL's 'The Rank Insignia of the Officers of the Macedonian Phalanx: the Lessons of Iconography and an Indirect Reference in Vegetius' examines the form and functionality of badges of rank used in ancient armies. Citing better-known

parallels in classical Lacedaemonian and Roman practices, specifically the transverse helmet crest, he inferentially expands the evidence for Hellenistic armies and attempts to discern an underlying rationale, tactical applications and historical development. RADOSŁAW GAWROŃSKI's paper 'The Javelins used by the Roman Cavalry of the Early Principate in Archaeological Contexts and Written Sources' places Arrian's *Ars tactica* at the centre of a detailed analysis of evidence for Roman cavalry javelins in the first and second centuries AD, insofar as the passages on contemporary Roman weaponry that Arrian inserted into the conventional framework of the late Hellenistic tactical tradition can clarify aspects of design, utility and modes of combat relative to other categories of projectile embraced by Roman military eclecticism. In seeking to combine textual, representational and archaeological sources, both papers address the difficulties of applying and harmonising Greek and Latin terminology and elucidate how military equipment can subtly combine practical function with a decorative impulse reflective of martial ethos or ethnic/regional identity.

Two papers examine the interplay of tactical doctrine, literary-cultural milieu and intertextuality in the Roman reception and innovation of Greek tactical writing. WOJCIECH BRILLOWSKI's 'The Principles of *ars tactica*: Roman Military Theory and Practice in Arrian's *Acies contra Alanos*' re-assesses this enigmatic tract as both an attempt to impart Roman tactical principles and practice to a contemporary literary audience and a historical source for battle tactics in the Roman imperial era. Against a military-historical background of the long-term evolution of the Roman army, Trajanic and Hadrianic tactical-organisational innovations and the particularity of the Cappadocian provincial garrison, Brillowski attributes the peculiarities of Arrian's short prescriptive/descriptive narrative to the distinctive personality, experience and literary interests of the soldier-historian, in addition to the constraints of linguistic and compositional convention. He argues that Arrian sought to furnish an exemplar of both accomplished generalship and refined military writing through his oblique reportage of his own actions in a real and current situation, without overt aspirations to personal fame. PHILIP RANCE's contribution 'Maurice's *Strategicon* and "the Ancients": the Late Antique Reception of Aelian and Arrian' addresses the textual relationship between this late sixth-century military treatise and its classical antecedents, a largely unexplored question, given that the *Strategicon* has been studied primarily by Byzantine historians and as a foundational document of Byzantine military theory. While the unprecedented vernacular idiom, institutional jargon, technical content and documentary source-material of the *Strategicon* are consistent with Maurice's professed intention to write a non-literary elementary compendium, his familiarity with examples of classical military writing is evident in explicit references to 'the Ancients', adherence to the conventions and rhetorical repertoire of the genre and a self-conscious positioning of his treatise in relation to this literary tradition, as

well as in conceptual and structural parallelism and similarities of language and/or substance. Without claims to exhaustive *Quellenforschung*, Rance examines the extent and nature of Maurice's interaction with 'the Ancients' in general, and Aelian's *Tactica theoria* and Arrian's *Acies contra Alanos* in particular, with a view to differentiating the various ways in which Maurice exploited this classical heritage, whether as conceptual models, sources of technical content, validatory antique authority or allusive literary ornament. Greater clarity in this regard sheds light on the *Nachleben* of these two classical treatises, Maurice's methodology, authorial credentials and literary-cultural milieu, and the transmission and reception of Greco-Roman military literature in late antiquity.

The final section concerns the post-classical reception of Greek tactical literature. KEITH ROBERTS' paper 'The Practical Use of Classical Texts for Modern War in the Sixteenth and Seventeenth Centuries' considers the well-documented impact of Greek and Roman military thought and literature in early modern western Europe, particularly within the crucial strategic-operational triangle of Spain, the United Netherlands and England, and the formative role of the Low Countries as a "School of War" for debating, testing and actualising classical paradigms of tactical deployment, drill and manoeuvres, inspired by contemporary conceptions of the Greco-Macedonian *phalanx* or Roman *legio*. Roberts distinguishes the varying degrees to which different multinational armies, individual commanders, professional officers and/or military theorists sought to discuss, adopt or integrate selected Greco-Macedonian or Roman tactical-organisational precepts and practices, as disseminated by a small canon of Greek and Latin technical and historical texts and derivative early modern intermediary works, depending on the detailed applicability of ancient models to the sixteenth-/early seventeenth-century battlefield, the perceived efficacy of already highly evolved tactical systems, and their receptiveness to and capacity for antique-inspired innovation. He identifies the tactical restructuring of Dutch armed forces by the Orange-Nassau military reformers in the 1590s, an eclectic fusion of Macedonian, Roman and Byzantine models, as an example of the successful cultural transfer of theoretical concepts from the distant past to the military-technological environment of the modern age. Remaining in the early modern era but shifting the geo-cultural focus eastwards, RICHARD BRZEZINSKI'S 'The Influence of Classical Military Texts in Early Modern Poland: a Survey' examines aspects of classical military reception in eastern Europe, a region that has attracted much less interest, at least in anglophone scholarship. Brzezinski surveys military thought, teaching and texts in the Kingdom of Poland and (from 1569) the Polish-Lithuanian Commonwealth from the later fifteenth to early eighteenth centuries, with particular emphasis on a series of military treatises written in the sixteenth century, their sources and textual interrelationships. Locating Polish military-political elites within a broader flourishing of humanistic literature, book production, historiography and Renaissance

aristocratic ethos, he traces contemporary access to and knowledge of Greek and Roman authors in Poland, both direct and via recent Italian intermediaries. Brzezinski also identifies characteristics of Polish martial culture, notably the prominence of cavalry, that both constrained and shaped the influence of classical precepts, exemplified by evidence that Polish mounted formations might have practised tactical evolutions originally intended for a Greek-Hellenistic infantry phalanx, specifically the 'Laconian' countermarch. A concluding note on the role played by classical sources in promoting an archaizing taste for 'Sarmatism' in Polish-Lithuanian weaponry, dress and military-cultural identity from the sixteenth to early eighteenth centuries points to the potentially negative and impractical implications of adherence to a classical heritage.

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EARLY GREEK STRATEGIC AND TACTICAL TEACHING AND LITERATURE

Twice in his writings, Xenophon mocks the sophists' teaching on military matters: in the third book of his *Memorabilia*, he has Socrates examine a young boy whom Socrates himself had reportedly sent off to a sophist to take a course in generalship (Xen. *Mem.* 3.1.1). In the *Cyropaedia*, Xenophon dwells on the same point at greater length: Cyrus' father mentions how he had given his son money to go to a sophist to be taught the art of a commander (στρατηγεῖν), and now the father diligently examines his son about what he has learnt (Xen. *Cyrop.* 1.6.12-44).

In the *Memorabilia*, within a quasi-Platonic framework, Xenophon scrutinizes the achievements of the sophists in tactics and strategy: Dionysodorus, the famous sophist, has come to Athens to teach the art of a commander (στρατηγεῖν) (Xen. *Mem.* 3.1.1). Xenophon's Dionysodorus is the same Dionysodorus of Chios (later of Thurii) who, together with his brother Euthydemus, is questioned – though not very favourably – in Plato's dialogue *Euthydemus*. Both these sophists, according to Plato, taught everything concerning war (περὶ τὸν πόλεμον πάντα) and judicial oratory, and thence proceeded to the more general teaching of 'goodness' (ἀρετή) (Plato, *Euthyd.* 273a-d).¹ Xenophon's treatment of Dionysodorus and Euthydemus, however, refers to an earlier stage of the two brothers' careers, when these

¹ Like Herodotus, Euthydemus and Dionysodorus took part in the colonisation of Thurii; they had to go into exile and live from sophistic teaching. In Plato's *Euthydemus* they are depicted teaching at Athens in the 420s BC, while Aristotle in his treatment of these characters seems to presuppose the years of the Athenian expedition to Sicily after 415 BC. Cf. Kerferd (1981) 53-4, 63. In Aristotle, Dionysodorus' brother Euthydemus is said to have cast doubt on the geographical and temporal generality of knowledge, thus leading his opponents into fallacies: Arist. *Rhetorica* 1401a28-9, 'Such was Euthydemus' argument to show that one knows that there is a trireme in the Piraeus, because one knows any of the two facts themselves; and that one who knows the letters also knows the word, because the word is nothing else than a composition of letters'. Arist. *Sophistici elenchi* 177b12-15, 'There is also the argument of Euthydemus: How do you know, being in Sicily, that there are, right now, triremes in the Piraeus? And, similarly: Can a cobbler, who is good, be bad at the same time? But a good man can be a bad cobbler? So, he will be a good and at the same time bad cobbler.'