

The *Fulcum*, the Late Roman and Byzantine *Testudo*: the Germanization of Roman Infantry Tactics?

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THE ORIGIN AND DEVELOPMENT of Roman and Byzantine military terms have been the subject of numerous monographs, though the absence of an up-to-date comprehensive lexical work leaves many obscurities in this field.¹ This study examines the *fulcum* or φοῦλκον, both as a significant Roman tactical development of intrinsic interest and as an exemplum of the historical and linguistic problems posed by Greek, Roman, and Byzantine military vocabulary. The word φοῦλκον is first attested in the sixth-century *Strategicon* of the Emperor Maurice to designate a compact, well-shielded infantry formation reminiscent of both the *testudo* of earlier Roman warfare and the hoplite phalanx of classical Greece. Maurice's technical description of the *fulcum* permits its identification in contemporary historical narratives as the standard battle formation of

¹C. du Fresne du Cange, *Glossarium ad scriptores mediae et infimae Graecitatis* (Lyons 1688), often remains the point d'appui. E. A. Sophocles, *Greek Lexicon of the Roman and Byzantine Periods* (Cambridge [Mass.] 1887), is frequently in error with definitions of military terms. Still helpful is J. G. Kempf, "Romanorum sermonis castrensis reliquiae collectae et illustratae," *Jahrbücher für classische Philologie* Suppl. 26 (1901) 338–400. Of the greatest value are H. Mihăescu, "Les éléments Latins des 'Tactica-Strategica' de Maurice-Urbicius et leur écho en néo-grec," *RESEE* 6 (1968) 481–498, 7 (1969) 155–166, 267–280 (= Mihăescu, "éléments" I, II, III); H. Mihăescu "Les termes de commandement militaires latins dans le Stratégicon de Maurice," *RevRoumLing* 14 (1969) 261–272 (= Mihăescu, "termes"). See also T. G. Kolias, *Byzantinische Waffen* (Vienna 1988), for equipment terminology (= Kolias, *Waffen*). For work on particular terms see e.g. A. Dain, "'Touldos' et 'Touldon' dans les traités militaires," in *Mélanges Henri Grégoire* II (Brussels 1950) 161–169, and "Saka dans les traités militaires," *BZ* 44 (1951) 94–96; M. Canard, "Sur deux termes militaires byzantins d'origine orientale," *Byzantion* 40 (1970) 226–229.

the period; this in turn leads to a consideration of its terminological origins and historical antecedents. Maurice's use of a term drawn from military slang previously unattested in Roman sources, together with the superficial resemblance of the *fulcum* to the "shield-walls" conventionally associated with "Germanic" warfare, has accentuated its apparent novelty and "un-Romanness." The essentially cosmetic factors of idiom and terminology, however, frequently distort historical perceptions. Clarification of the precise form and purpose of the *fulcum* reveals that this tactical deployment can be discerned in earlier Roman sources dating back to at least the second century, though framed in different terminology or alternative, "classicized" guises. This will elucidate the relationship between the military ideals expressed in tactical handbooks and the military practices described in historical narratives, and also shed new light on the roles and capabilities of late Roman infantry, demonstrating a greater degree of continuity in Roman military practices into late Antiquity than scholarship often allows.² Finally, the different meanings of *φοῦλκον* in middle Byzantine texts, and in particular in the tenth-century military corpus, prompts consideration of mimesis within the tactical genre, and changing usage in Byzantine technical vocabulary.

The φοῦλκον in the sixth century

The term *φοῦλκον* first appears in Maurice's *Strategicon*, whose character and purpose require some clarification.³ Writing in the 590s, the author (hereafter "Maurice") of this comprehensive military treatise combined in deliberately simple Greek earlier written material with a thorough knowledge of the organisation, training, tactics, and everyday routines of the

²In the latter sense, this paper seeks in part to continue the study of E. L. Wheeler, "The Legion as Phalanx," *Chiron* 9 (1979) 303–318, from its late fourth-century conclusion.

³I am preparing a new translation with commentary, *The Roman Art of War in Late Antiquity: The Strategicon of the Emperor Maurice* (Birmingham Byzantine and Ottoman Monographs [forthcoming 2005]).

contemporary Roman army. Doubts persist regarding the imperial ascription, largely on account of misunderstandings concerning the manuscript transmission, but the *Strategicon* was undoubtedly an official ordinance sponsored by central government rather than the personal and/or amateur reflections which in large part characterise this broad genre. Much of the “Byzantine” character and apparent novelty of this treatise, including the misconception that it represents the theoretical component of a contemporaneous “army reform,” derive from its unprecedented vernacular idiom and uniquely technical content. Although Maurice prescribes principles of cavalry deployment and tactics modelled on the Avar armies of the period, the *Strategicon* is on the whole a “codification” or restatement of existing regulations, commands, and procedures in the form of an official “handbook” for officers.⁴

Two features of *Strategicon* are crucial for understanding the character and development of the φοῦλκον. First, Maurice chose to write in a plain vernacular, sacrificing stylistic concerns to practical utility, “to which end, we have also frequently employed Latin and other terms which have been in common military use” (ὅθεν καὶ Ῥωμαϊκαῖς πολλάκις καὶ ἄλλαις ἐν στρατιωτικῇ συνηθείᾳ τετριμμέναις χρήμεθα λέξεσι), rather than the Greek terminological translations or periphrases favoured by earlier authors.⁵ Authorial humility for stylistic deficiencies is a topos of both ancient technical writing and late antique literature, but the *Strategicon*’s exceptional vernacular idiom replete with the technical jargon of the day not only preserves many Latin terms that would otherwise be lost, but also tends to obscure underlying conceptual parallels with other Roman *tactica* and narrative histories, both earlier and contemporary, the majority of which were written in a classicizing

⁴Maurice’s prefatory complaint concerning the parlous state of military science (*Strat.* pr.10–19; repeated 12.B.pr.) is a topos of the genre, cf. Veg. *Epit.* 1.28; Urbicius *Epited.* 2; Syrianus *De strat.* 15 (on which text see n.27 *infra*).

⁵*Strat.* pr.27–31, at 26–27; sentiments repeated at 12.B.pr.9–10.

idiom.⁶ This essentially cosmetic difference is partly responsible for the status of the *Strategicon* as a “Byzantine” rather than a “late Roman” text. The distinction is more than a semantic nicety; it governs our perceptions of the value of the treatise for understanding warfare in the late Roman period and our sense of continuity between “Roman” and “Byzantine” military institutions and practices.

Equally significant is the nature of Maurice’s source materials. In this “rather modest elementary guide or introduction” (μετρίαν τινὰ στοιχείωσιν ἤτοι εἰσαγωγήν) Maurice sets out to treat “the rudiments” (τὰ πρόχειρα) of training, drill, deployment, and tactics, in short precisely those “essential preliminaries” (τὰ ἀναγκαῖα καὶ συστατικά) conventionally overlooked by the more literary compositions of the genre as too trivial or technical.⁷ Far from being an abstract discussion of “strategy,” the *Strategicon* is primarily concerned with day-to-day routines and often mundane technicalities, and is aimed at the middle-ranking field officers of the East Roman army, whose literacy is assumed throughout.⁸ The important difference between the *Strategicon* and other Roman *tactica* is that Maurice’s treatise is in large part a practical compendium of essentially *documentary* and reportorial materials, rather than a *literary* composition drawing on other literary sources. In compiling the *Strategicon* Maurice appears to have utilised official ordinances, disciplinary regulations, “campaign diaries,” and “drill books,” possibly

⁶ Authorial humility for style is a topos in various genres of technical literature, cf. Galen VIII 581–588 K.; similar remarks at VI 633.4, XIV 624.17; Veg. *Epit.* 1.pr., 1.8; Palladius *De re rust.* 1.1.1. See generally in late antiquity: Ps.-Josh. *Chron.* 1; Agath. *Hist.* pr.12–13; Men. fr.2; 6.2.3–11; Theoph. Sim. pr.16.

⁷ *Strat.* pr.14–27; cf. Aelian *Tact.* 1.2, 6, for a similar distinction between an elementary εἰσαγωγή and an earlier “classic.”

⁸ At *Strat.* pr.24 the intended readership is “those who aspire to be a general” (τοῖς εἰς τὸ στρατηγεῖν ἐπιβαλλομένοις), though it is more general at 11.4.226–227. Much of the low-level, technical material in the *Strategicon* can only have been of interest or relevance to regimental officers. For written orders and general ordinances addressed to officers see, e.g., to tribunes: 1.6.5; 7.A.4.6; 12.B.pr.7, B.24.30; and assumed at 7.B.17.41; to merarchs and moirarchs: 3.5.123, 11.4; 7.B.16.41.

translated from Latin into Greek for the first time, together with the informal writings produced by and for the officer corps of the Roman army. As such it presents historians with a late Roman “archive” of just the sort of non-literary material that rarely survives outside papyrological texts. The *Strategicon* therefore contains a great deal of traditional material, still current at the date of composition, and invaluable for elucidating earlier Roman practices.⁹ An important consequence is that some manuscripts of the *Strategicon* preserve, often uniquely, the original Latin commands for Roman tactical manoeuvres and drills, Latin remaining the official *Heeressprache* up to the 630s.¹⁰ It is important to bear in mind the character and composition of the *Strategicon* when assessing its precepts.

The precise nature of the φοῦλκον described in the *Strategicon* is currently obscured by errors in both the modern critical edition and the sole English translation, which will be noted below where appropriate.¹¹ As φοῦλκον designates an infantry formation in this period, the term appears only in Maurice’s treatment of infantry training, deployment, and tactics in Book

⁹For the relevance of the *Strategicon* to the earlier Roman army see e.g. M. P. Speidel, “Who Fought in the Front?” in G. Alföldy *et al.*, edd., *Kaiser, Heer und Gesellschaft in der Römischen Kaiserzeit: Gedenkschrift für Eric Birley* (Stuttgart 2000) 473–482; P. Rance, “*Simulacra pugnae*: the Literary and Historical Tradition of Mock Battles in the Roman and Early Byzantine Army,” *GRBS* 41 (2000) 223–275, esp. 231–234, and “*Drungus*, Δροῦγγος and Δρουγγιστί—a Gallicism and Continuity in Late Roman Cavalry Tactics,” *Phoenix* 58 (2004).

¹⁰E.g. *Strat.* 3.5; 12.B.14–16, 24. The Latin commands are generally best preserved in *Mediceo-Laurentianus* 55.4 (M), and to varying degrees in *Vat.gr.* 1164 (V), *Neapol.gr.* 284 (III C 26) (N), and *Paris.gr.* 2442 (P). *Amb.gr.* B 119 sup. (139) (A) gives a tenth-century Greek paraphrase of the commands possibly corresponding to contemporary Byzantine usage.

¹¹The modern edition is *Das Strategikon des Maurikios*, ed. G. T. Dennis; German transl. E. Gamillscheg (CFHB 17 [Vienna 1981] = Dennis ed.). English transl. G. T. Dennis, *Maurice’s Strategikon, Handbook of Byzantine Military Strategy* (Philadelphia 1984) (= Dennis, transl.) Also referred to below are the *editio princeps* by J. Scheffer, *Arriani Tactica et Mauricii Ars Militaris* (Uppsala 1664) (= Scheffer); H. Mihăescu, ed., *Mauricius Arta Militară* (Bucharest 1970) (= Mihăescu ed.). Some of the manoeuvres discussed in this paper are also briefly outlined by C. M. Mazzucchi, “Le ΚΑΤΑΓΡΑΦΑΙ dello *Strategicon* di Maurizio e lo schieramento di battaglia dell’esercito Romano nel VI/VII secolo,” *Aevum* 55 (1981) 111–138, at 129–130; Kolias, *Waffen* 100.

12 of his treatise.¹² In a list of the various manoeuvres (κινήσεις) essential to train infantry (12.B.14.9), Maurice includes φούλκω περιπατεῖν, “advancing in a φούλκον” (this information is recapitulated at the end of Book 12 with minor alterations and the useful addition of the appropriate Latin commands, although editorial error has jumbled these in modern editions).¹³

¹²The character of Book 12 as an appended “afterthought” has been exaggerated. For the traditional argument that Book 12 was grafted on to the *Strategicon* after its completion, and that its core section (12.B) represents an earlier, perhaps “Justinianic,” treatise on infantry, see K. E. Zachariä von Lingenthal, “Wissenschaft und Recht für das Heer vom 6. bis zum Anfang des 10. Jahrhunderts,” *BZ* 3 (1894) 437–457, at 440; R. Vári, “Zur Überlieferung mittelgriechischer Taktiker,” *BZ* 15 (1906) 47–87, at 71–72; A. Dain, *Naumachica* (Paris 1943) 39; “Les Stratégistes byzantins,” *TravMém* 2 (1967) 317–392, at 345; and “Urbicius ou Mauricius?” *REB* 26 (1968) 123–136, at 130, 132, 134–135; Dennis, ed. 28–29. While accepting that the contents of Book 12 are somewhat miscellaneous, and certain sections (most clearly 12.A.7 and D) had a previous separate existence, the present author is inclined to view 12.B rather as Maurice’s own composition utilising the same type of technical, non-literary and official documentary materials employed in compiling the rest of the work. Furthermore, Book 12 as a whole is thoroughly integrated into the main text; not only is it framed in substantially the same idiom and terminology, but it contains cross-references to corresponding sections in earlier books of the *Strategicon*. More significantly, there are forward-looking cross-references to “the book on infantry” from the beginning of and throughout the treatise, see e.g. 1.9.16–17, 2.2.7–8, 11.2.87–89. For detailed discussion see Rance (*supra* n.3).

¹³In Dennis, ed. 484, the text at 12.B.24.12–14 reads καὶ παραγγέλλει *iunge fulco*. περιπατεῖν. καὶ παραγγέλλει *ami fulco*. There are two problems here. First, the wording of the command *ami fulco* is manifestly corrupt; the correct reading *ad fulco*, attested elsewhere in the treatise, is explained below (n.17 *infra*). Second, Dennis’ text is distorted by incorrect punctuation, which is replicated in Gamillscheg’s parallel Ger. translation and Dennis, transl. 163. There is no such command as “*iunge fulco*.” The word *iunge* is the last word of the previous clause, and is the standard command “close ranks” (*cf.* the command *iunge* at 3.4.5, 5.26; 12.B.16.22). The word *fulco* (or more correctly φούλκω) is the first word of a new clause and goes with the following περιπατεῖν, meaning “to advance in a *fulcum*” (for the same phrase φούλκω περιπατεῖν *cf.* 12.B.14.9), after which there should be no fullstop since the relevant command is then explained. The complete passage should read πυκνοῦσθαι ἥτοι σφίγγεσθαι κατὰ βάθος καὶ μήκος, καὶ παραγγέλλει *iunge*. φούλκω περιπατεῖν, καὶ παραγγέλλει *ad fulco*, meaning “To close up or close ranks, he orders, *iunge*. To advance in a *fulcum*, he orders *ad fulco*.” Similarly, the tenth-century Greek paraphrase ἔνωσον φούλκω in MS. A, as cited in Dennis’ apparatus, should be divided and punctuated in the same way, ἔνωσον equating here to *iunge*. Mihăescu ed. 364–366 has the same error. It appears to arise from codex M, where *fulco* (actually MS. *folco*) in Latin characters superficially appears to relate to the preceding Latin word *iunge*. This is not a problem in the other codices. Scheffer 362 in fact had all this correctly in the *editio princeps*.

Maurice subsequently outlines in more detail what *φούλκω περιπατεῖν* involves (12.B.16.20–38). Before close-quarters contact with the enemy, about two or three bowshots from the enemy battle line, upon the order “*iunge*,” the infantry were to close in from both the flanks and rear, a manoeuvre Maurice calls *πύκνωσις* or *σφίγξις*. Traditionally *πύκνωσις* meant reducing the space allotted to each man in a rank to two cubits (three feet), creating a dense formation in which each man was still able to manoeuvre and employ his weaponry; this conventional “close order” appears to correspond to what Maurice describes.¹⁴ During this manoeuvre “the men deployed at the front come together side-by-side until they are shield-boss to shield-boss with one another” (οἱ μὲν ἔμπροσθεν τεταγμένοι ἐκ πλαγίου εἰς τὰ βούκουλα ἀλλήλοις ἐγγίζουσιν), while those in the ranks behind stand “almost glued to one another” (ἀλλήλοις σχεδὸν κεκόλληνται).¹⁵ Maurice remarks that the rearguards (τοὺς οὐραγούς) should shove from behind, if necessary, pushing nervous recruits into formation and maintaining a straight battle line.¹⁶

Thereafter, just outside the range of enemy missiles, the infantry formed a *φούλκον* (12.B.16.30–38):

φούλκω περιπατοῦσιν, ὅταν, ἐγγιζουσῶν τῶν παρατάξεων, τῆς τε ἡμετέρας καὶ τῶν ἐναντίων, μέλλῃ ἄρχεσθαι ἢ τοξεία γίνεσθαι

¹⁴For the traditional intervals in phalanx and legionary warfare cf. Polyb. 18.28–30; Asclepiod. 4.1–3; Ael. *Tact.* 11.2–5; Arr. *Tact.* 11.3–4; Veg. *Epit.* 3.3.14–15. See comments of Wheeler (*supra* n.2) 308–309; A. K. Goldsworthy, *The Roman Army at War 100 BC – AD 200* (Oxford 1996) 179–180; N. Sekunda, “The *Taktika* of Poseidonius of Apameia,” in *Hellenistic Infantry Reform in the 160s BC* (Lodz 2001) 125–134, esp. 131–133.

¹⁵Dennis, transl. 146, misunderstands εἰς τὰ βούκουλα ἀλλήλοις ἐγγίζουσιν, for which see n.18 *infra*. For the same manoeuvre in cavalry see *Strat.* 3.5.18–19, “and they all close up, coming together side-by-side” (καὶ σφίγγονται πάντες πλευρὰν πρὸς πλευρὰν ἐγγίζοντες).

¹⁶*Strat.* 12.B.16.27–29. Dennis, transl. 146, has incorrectly the rearguards “should *order those* in the rear to close in forcefully”; the rearguards are in fact themselves those to whom “orders must be given to push from behind those in front of them” (χρὴ τοὺς οὐραγούς παραγγέλλεσθαι ἐκ τῶν ὀπίθεν ὡθεῖν ἔμπροσθεν) to ensure that the line is straight. For the role of the rearguards see also 12.B.17.40–44.

καὶ οὐ φοροῦσιν οἱ ἐν τῷ μετώπῳ τεταγμένοι ζάβας ἢ γονυκλάρια. παραγγέλλει, ἀδ φουλκω. καὶ τῶν ἔμπροσθεν κατὰ τὸ μέτωπον τεταγμένων πυκνούντων τὰ σκουτάρια αὐτῶν μέχρι τοῦ ἐγγίξειν τοῖς βουκούλοις κατασκέποντες προσπεπλασμένως τὰς γαστέρας αὐτῶν μέχρι τῆς κνήμης, οἱ δὲ παρεστῶτες αὐτοῖς ὄπιθεν ὑπερανέχοντες τὰ σκουτάρια αὐτῶν καὶ ἀναπαύοντες εἰς τὰ βούκουλα τῶν ἔμπροσθεν σκέπουσι τὰ στήθη καὶ τὰς ὄψεις αὐτῶν καὶ οὕτως συμβάλλουσιν.

They advance in a *fulcum*, whenever, as the battle lines are coming close together, both ours and the enemy's, the archery is about to commence, and those arrayed in the front line are not wearing mail coats or greaves. He [the herald] orders, "*ad fulco*."¹⁷ And those arrayed right at the very front mass their shields together until they come shield-boss to shield-boss, completely covering their stomachs almost to their shins. The men standing just behind them, raising their shields and resting them on the shield-bosses of those in front, cover their chests and faces, and in this way they engage.

In operations against enemy infantry, therefore, the φοῦλκον was a compact formation in which the front two ranks formed a "shield-wall." Maurice characterises this shield wall as "shield-

¹⁷The command is variously corrupted in the codices: **MLp** λαφουλκω; **VN** ἀδ φουλκω; **P** ἀδεφουλκω. MS. **A** contains the tenth-century paraphrase φοῦλκον ποιήσατε. Clearly the initial component is ἀδ or Ἀδ, responsible for the obvious misreading λα in **M**. Dennis, ed. 442, reconstructs ἀδ φουλκον; Scheffer 526 similarly "non dubito, quin scripserit Mauritius Ἀδ Φούλκωμ." Where all codices suggest the Latin *fulco*, however, the form *ad fulcum* cannot be assumed with certainty. In fact, there are other examples in this chapter of Latin commands, common to all codices, in which the preposition *ad* is followed by a substantive ending *-o* where *-um* would normally be expected; see e.g. *ad conto clina* (12.B.16.78); *ad scuto clina* (80). Mihăescu, "termes" 263–265, suggests that this divergence from classical forms reflects the loss or confusion of case endings in spoken usage, at least in the context of military commands. He prints this form in his edition (Mihăescu ed. 330); followed by Mazzucchi (*supra* n.11) 130.

At 12.B.24.13, the order to form a *fulcum* is given as *ami fulco*, a reading common to all codices. This is the only divergence between this recapitulation chapter and the previous text at 12.B.16. I am unconvinced by Mihăescu, "termes" 266, and "éléments" III.277, that *ami* here is a phonological corruption of *abi*, from *abire*, and thus a genuinely different command. It is more probable that *ami fulco* is simply another corruption of *ad fulco* given elsewhere. The common reading in all codices suggests an early date for this error; perhaps a copyist misread Δ as M in a majuscule text.

boss to shield-boss” (εἰς τὰ βούκουλα ἀλλήλοις ἐγγίζουσιν, 12.B.16.24; μέχρι τοῦ ἐγγίζειν τοῖς βουκούλοις, 34–35), which should be understood as a colloquial expression rather than a literal description.¹⁸ Although Maurice does not define specific measurements, he nowhere implies that the transition to a φοῦλκον involved reducing still further the intervals between the files, which after πύκνωσις were already “shield-boss to shield-boss” at the front and “almost glued together” at the rear. This would in any case have fatally restricted the unit’s ability to manoeuvre and fight, and rendered impossible much of Maurice’s subsequent account of how the attack should develop. Each man continued to operate in the traditional “close-order” allotment of roughly three feet, so that the edges of his shield just overlapped those of the men to either side, but he retained sufficient space to advance, throw missiles, and slash to his front with a *spatha*.¹⁹

It appears that “advancing in a φοῦλκον” entailed simply an additional defensive measure by the front two ranks, the pur-

¹⁸Literally, the infantry close together “until they are close at the shield-bosses” (μέχρι κτλ.), that is, until the rim of a man’s shield nearly touches the shield-boss of his neighbour. Cf. the same phrase in the preceding description of “closing ranks”: οἱ μὲν ἔμπροσθεν τεταγμένοι ἐκ πλαγίου εἰς τὰ βούκουλα ἀλλήλοις ἐγγίζουσιν (12.B.16.23–24). Dennis, transl. 146, is confused here, as he believes σκουτάρια and βούκουλα to refer to the same items, the shields. βούκουλα (Lat. *buccula*) actually refers to the bosses of the shields, an understanding which makes much greater sense of this passage, and especially how the shields of the second rank “rest upon the shield-bosses” (ἀναπαύοντες εἰς τὰ βούκουλα) of the first rank. Gamillscheg in fact appreciated the distinction in his parallel Ger. transl.; see “auf den Buckeln” in Dennis, ed. 443. The references to βούκουλον are collected by Kolias, *Waffen* 98–102.

¹⁹Prima facie, it is tempting to see a φοῦλκον as a further “closing in” of the files, equating to what the classical Tacticians called συνασπισμός, the traditional one-cubit (one-and-half-feet) space per soldier in a rank. Those ancient authors who use this term in a technical sense, however (rather than the generic “battle pieces” of classicizing historians), are clear that συνασπισμός is strictly a stationary, defensive formation; e.g. Asclepiod. 4.1–3; Ael. *Tact.* 11.2–5; Arr. *Tact.* 11.3–4, *Ect.* 15, 26. The phrase μέχρι τοῦ ἐγγίζειν τοῖς βουκούλοις, with which Maurice describes the infantry forming a φοῦλκον, seems to be simply a repetition of εἰς τὰ βούκουλα ἀλλήλοις ἐγγίζουσιν which he uses for the earlier “closing ranks” or πύκνωσις, rather than a further “closing in.” As noted, the subsequent combat manoeuvres of the infantry unit are impossible to envisage with only a cubit’s breadth per man.

pose of which was to protect the front of the formation against missiles as it advanced. This would have been particularly the case when fighting the Persians, whose archery remained a tactical problem throughout the late Roman period.²⁰ The internal structure of late Roman infantry units ensured that men in the front ranks would know what to do. The less-experienced troops were positioned in the centre of the formation, sandwiched between the junior officers; the “rearguards” (οὐραγοί) prevented flight and literally shoved men into formation, while the “file-leaders” (λοχαγοί, πρωτοστάται, or δεκάρχαι) were regularly issued with additional defensive equipment commensurate with their more exposed position, which in this period might include basic items like corselets, as well as greaves and stronger shields, although Maurice notes that even the file-leaders might lack armour. In this solution to the problem of arranging troops of varied quality, success depended less on individual weapons training, and more on unit cohesion, discipline, and stamina.²¹

Within one bowshot of the enemy line, the Roman light infantry began shooting arrows from the rear at a high trajectory. If the heavy infantry were armed with the lead-weighted darts commonly called *martio barbuli* (μαρτιζοβάρβουλα) or other missiles, the formation halted, while the front ranks (οἱ εἰς τὸ μέτωπον τεταγμένοι), fixing their spears into the ground, showered the enemy with these projectiles. Late Roman close-order infantry employed an impressive number and variety of missiles, which allowed them to generate

²⁰ *Strat.* 12.B.16.20–55. For Persians and missile preliminaries to battle see e.g. Procop. 1.14.35, 18.31.

²¹ Veg. *Epit.* 2.15–17, 3.14–15; Amm. Marc. 14.6.17, 24.6.9; Procop. 8.29–31; Agath. 2.8.4–5; Syrianus *De strat.* 16 (on which text see n.27 *infra*); Maurice 12.A.7, B.9, 12, 16.39–55. As a broad generalisation, from the fourth to the late sixth centuries the standard equipment of the Roman infantryman increasingly suited him to forms of combat other than pitched battle. Wearing heavy armour became restricted to the battlefield and the defence of exposed fortifications, and towards the end of this period Roman infantry clearly possessed a generally lighter panoply, see e.g. Agath. 2.8.4; Syrianus 15.89–90; 16.3–12, 54–58; Maurice 12.B.4.5–8; 16.31–32, 54–55.

casualties and disruption as the battle lines closed, and gave them some of the capabilities traditionally assigned to light infantry.²² Maurice's description lacks some details a modern reader would require, but which might have been obvious to a contemporary; presumably the men in the first rank forming the lower tier of the "shield-wall" did not participate in this missile exchange. If such projectiles were unavailable, then closing with the enemy, those at the front hurled their spears like javelins and drew their *spathae* to fight hand-to-hand, while "those standing behind them, covering their own heads with their shields" (οἱ δὲ ὀπιθεν αὐτῶν ἐστῶτες, τὰς ἑαυτῶν κεφαλὰς σκέποντες μετὰ τῶν σκουταρίων αὐτῶν, 49–50), assisted by throwing their spears overhead. This last remark does not mean that the whole formation was covered over in the manner of the classical, shed-like *testudo*, merely that the rear ranks should take care to shield themselves from enemy missiles falling from a higher trajectory.²³ This expedient relates to the changed dynamics of the fighting after closing with the enemy line. It is probable that at close-quarters with enemy infantry the Roman shield-wall was dismantled, having served its primary function as a protective screen against missiles. Maurice suggests that there was greater danger of casualties among the front ranks during the period of approach than in the subsequent hand-to-hand fighting, when they would no longer be a target for enemy projectiles, but those to the rear remained exposed to continuous fire from overhead.²⁴ The φοῦλκον was difficult to

²²For *martioarbuli*: Veg. *Epit.* 1.17, 20; 2.15; Maur. *Strat.* 12.B.2, 4–5, 20.8–10; see Kolias, *Waffen* 173–176; J. Eagles, "Testing Plumbatae," in C. van Driel-Murray, ed., *Roman Military Equipment* (BAR Int.Ser. 476 [Oxford 1989]) 247–253; T. Völling, "Plumbata-mattiobarbulus-μαρτζοβάρβουλον. Bemerkungen zu einem Waffenfund aus Olympia," *AA* (1991) 287–298; R. Degen, "Plumbatae: Wurfgeschosse der Spätantike," *HA* 23 (1992) 139–147.

²³For similar actions and phraseology in cavalry formations immediately before closing with the enemy, cf. 3.5.30–31, "and covering their own heads and part of their horses necks with their shields" (καὶ σκεπόντων τὰς ἑαυτῶν κεφαλὰς καὶ μέρος τῶν τραχήλων τῶν ἵππων μετὰ τῶν σκουταρίων αὐτῶν).

²⁴This characteristic of close-quarters fighting is noted by Amm. Marc. 24.6.11. Maurice 12.B.16.81–86 outlines an identical procedure whenever an

manoeuvre, but afforded protection during the last and most dangerous stage of the advance, while from behind the shield-wall the other ranks of close-order infantry and the light infantry to their rear could maintain a constant shower of projectiles (12.B.16.43–47). There would have been a concomitant reduction in the momentum in the attack, which perhaps exposed the infantry formation to a longer barrage, but as with the cavalry tactics Maurice describes elsewhere, speed of attack was sacrificed to the essential consideration of tactical cohesion.

Maurice also describes Roman infantry forming a *φούλκον* when confronting an enemy cavalry charge, though these different tactical circumstances required certain modifications (12.A.7.49–60):

εἰ δὲ τὴν τῆς σαγίττας βολὴν παρερχόμενοι οἱ ἐχθροὶ ῥῆξαι καὶ βιάσασθαι τὴν φάλαγγα ἐπιχειρήσουσιν, ὅπερ ἐστὶν αὐτοῖς ἐπικίνδυνον, τότε πυκνοῦσθαι κατὰ λόγον τοὺς πεζοὺς. καὶ τὸν μὲν πρῶτον καὶ δεῦτερον καὶ τρίτον ἐκάστης ἀκίας εἰς φούλκον καθίστασθαι, τουτέστιν ἐν ἐφ' ἐν σκουτάριν, καὶ τὰ κοντάρια αὐτῶν ἔξω τῶν σκουταρίων ὄρθια προβάλλοντας, ἀντερειδεῖν γενναίως τῇ γῆ, ἵνα ἐτοίμως ἐμπειρῶνται οἱ κατατολμῶντες ἐγγίξιν αὐτοῖς, καὶ τοῖς ὅμοις ἐνθλίβειν ἤτοι ἀντιβαίνειν τοῖς σκουταρίοις, ἵνα ῥάως τὴν ὄθησιν τῶν ἔξωθεν φέρωσιν. τὸν δὲ τρίτον, ὡς ὑψηλότερον ἐστῶτα, καὶ τὸν τέταρτον κατέχοντας ὡς ἐπὶ ἀκοντίων τὰ κοντάρια, ὅτε μὲν κατακεντᾶν τοὺς ἐγγίζοντας, ὅτε δὲ καὶ ἀκοντίζειν καὶ ἐπιλαμβάνεσθαι τῶν σπαθίων, τοξεύειν δὲ καὶ τοὺς ψιλοὺς μετὰ τῶν καβαλλαρίων.

If the enemy [cavalry], coming within a bow shot, attempts to break or dislodge the phalanx, which is hazardous for them, then the infantry close up in the regular manner. And the first, second, and third man in each file are to form themselves into a

infantry formation “deploys double-fronted” (φυλάττονται ἀμφιστόμως), that is, when the rear ranks of a unit already engaged to its front are compelled to about-face to confront simultaneously a sudden enemy attack to the rear. In these circumstances, while the front and rear ranks actively engage the enemy to either side, “those standing in the middle” (οἱ δὲ ἐν τῷ μέσῳ ἐστῶτες), caught between two fires, “uniformly cover their heads using their shields” (τάς κεφαλὰς αὐτῶν ἴσως σκέπουσι διὰ τῶν σκουταρίων).

φοῦλλον, that is, one shield upon another, and having thrust their spears straight forward beyond their shields, fix them firmly in the ground, so that those who dare to come close to them will readily be impaled.²⁵ They also lean their shoulders and put their weight against their shields so that they might easily endure the pressure from those outside. The third man, standing more upright, and the fourth, holding their spears like javelins either stab those coming close or hurl them and draw their swords. And the light infantry with the cavalry [stationed to the rear] shoot arrows.

These orders clearly describe a variation suited to cavalry combat, with advice on how to convert the shield-wall into a physical barrier against horsemen. It is important to clarify here that this chapter of the *Strategicon* (12.A.7)—with its isolated position within the work’s internal structure, its eccentric use of terminology, and tactical precepts slightly inconsistent with the rest of the treatise—undoubtedly existed as a separate tract before its incorporation into Book 12. Furthermore, close conceptual parallels, and in a few instances verbal correspondence, point to a relationship with an earlier Roman work. In this chapter Maurice provides a contemporary reworking of Arrian’s *Deployment against the Alans* (Ἐκταξις κατὰ Ἀλανῶν or *Acies contra Alanos*), composed *ca* 135. Given the sharp differences between Maurice’s plain vernacular and Arrian’s classicizing idiom, it is unclear whether this “version” of Arrian’s *Ectaxis* was produced by “Maurice” (the compiler of the *Strategicon*) or an earlier editor, though its existence does at least indicate that Arrian’s opusculum was read by later military writers and was less of a textual cul-de-sac than has been assumed. The two texts are intermittently sufficiently close to allow textual improvement to the single corrupt and lacunose manuscript of

²⁵Dennis, transl. 134, gives “will quickly experience them,” and similarly Gamillscheg in Dennis, ed. 411, has “erfährt,” both apparently confusing ἐμπίρω, “to impale” (constructed with the dative), with ἐμπειρέω, “to be experienced in” (constructed with the genitive). The text in Dennis, ed., 12.A.7.55 thus has ἐμπειρῶνται when ἐμπείρωνται seems far more appropriate in both sense and grammar.

Arrian's work and to elucidate several long-standing textual and interpretive ambiguities.²⁶ It is not necessary to rehearse the arguments here, and I shall return below to the significance of Arrian's "legionary phalanx" for our understanding of the origins and development of the *φοῦλκον*. It suffices to note that Maurice's use of Arrian's *Ectaxis* was in no way derivative, but critically reworked Arrian's text only where applicable to late sixth-century tactics and with an overriding concern for contemporary practical utility.

Maurice's description of a *φοῦλκον* as an anti-cavalry measure differs in detail from the formation he describes operating against enemy infantry, and again not every aspect of the deployment is immediately clear to the modern reader. Whenever Roman infantry oppose cavalry, Maurice requires the front three ranks "to form themselves into a *φοῦλκον*, that is one shield upon another" (εἰς *φοῦλκον* καθίστασθαι, τουτέστιν ἐν ἐφ' ἐν σκουτάριον), or a "shield-wall." It is probable, though nowhere explicitly stated, that in this stationary and strictly defensive tactical context the men were positioned more closely than in the manoeuvrable *φοῦλκον* deployed against infantry, perhaps equating to the traditional one cubit (one and a half feet) spacing the classical Tacticians called *συνασπισμός* (cf. n.19). Such dense, well-shielded formations were essential in generating the collective morale required to stand in the face of charging horsemen. Maurice explains that the front three ranks should "fix their spears firmly in the ground" (ἀντερείδειν γενναίως τῆ γῆ), projecting towards the enemy, though the men of the third rank are later required to thrust or throw their weapons.²⁷ A clue to how these three ranks were positioned is

²⁶I plan to examine this relationship in detail elsewhere.

²⁷For a similar procedure see Syrianus *De strat.* 36.3–8, 14–20. The text of the so-called Περὶ στρατηγικῆς or *De re strategica* section of the *Compendium* of Syrianus Magister (formerly the "Anonymus Byzantinus") is edited separately by G. T. Dennis, *Three Byzantine Military Treatises* (Dumbarton Oaks Texts 9 [Washington 1985]), 1–135 as "The Anonymous Byzantine Treatise on Strategy"; with corrections and attribution by C. Zuckerman, "The *Compendium* of Syrianus Magister," *JÖBG* 40 (1990) 209–224. Describing the manner

offered by Maurice's incidental remark that the men of the third rank are "standing higher" or "more upright" (ὡς ὑψηλότερον ἑστῶτα). The clear implication is that the first and second ranks are lower, probably kneeling and stooping respectively. Maurice nowhere explicitly states this, but, as previously noted, he makes assumptions about the reader's knowledge, and it will be demonstrated below that this arrangement is attested in earlier periods. We can therefore envisage that the first rank knelt, while the second rank crouched, resting the rims of their shields on the shield-bosses of the first rank, and both ranks thrust forward their spears, fixing their spear-butts into the ground. The men of the third rank, "standing more upright," in turn rested the rims of their shields on the shield-bosses of the second rank, and more actively engaged any enemy horsemen who approached. Assuming even large infantry shields of around a metre in diameter, a sloping "shield-wall" constructed by the front three ranks would reach a height of just over two metres, this additional height being necessary to counter the more elevated position of a mounted enemy.²⁸ Maurice writes that the men of the third rank "holding their spears like javelins either stab those coming close or hurl them," meaning they wield their spears overarm and projecting above the shield-wall, ready to thrust or throw them as opportunities arose. This

in which infantry should deploy to repel cavalry, Syrianus similarly has the front three ranks "fix their spears in the ground" (καταθεμένους ἐπὶ γῆς τὰ δόρατα). He initially refers to the "first and second rank" (τὸν πρῶτον καὶ δεύτερον ζυγόν), but later mentions "the aforementioned three ranks" (τοὺς δὲ εἰρημένους τρεῖς ζυγούς). Dennis transl. wrongly renders καταθεμένους ἐπὶ γῆς τὰ δόρατα as "putting their spears down on the ground," and the subsequent clause ἐκ γῆς εἰς χεῖρας ἀναλαμβάνοντες τὰ δόρατα as "picking up their spears from the ground" instead of "taking their spears out of the ground." There seems little reason to mention this action unless the spears remain an obstacle to the enemy, and comparison with *Strat.* 12.A.7, B.16.43–47 supports this translation. For the same misunderstanding, see Livy's (33.8.13) famous distortion of Polyb. 18.24.9, where "lowering" *sarissae* to receive the attack became "grounding" *sarissae*.

²⁸Insofar as the meagre evidence allows conclusions, later Roman shields tended on average to be slightly smaller than a metre: see P. Southern and K. R. Dixon, *The Late Roman Army* (London 1996) 99–103.

arrangement of the first three ranks explains how the men of the third rank, with spears of about two metres in length, were expected to stab the enemy horsemen—in effect the front three ranks were so close together as to operate as a single fighting line. The men of the fourth rank, at a greater remove and unable to stab the enemy with their spears, participated by throwing their weapons over the heads of the first three ranks whenever a target presented itself, and presumably replaced casualties in the battle line.

The term *φοῦλκον* is unattested before Maurice and he is the only late antique author to use it. It is worthwhile reiterating that Maurice's unique use of an unadorned vernacular containing contemporary, Latin-derived technical jargon creates cosmetic differences between the *Strategicon* and earlier texts written in a more polished style and employing a largely hellenistic vocabulary. Maurice's detailed and technical description of the *φοῦλκον* facilitates its recognition in contemporary chronicles and histories, despite the brevity of the former and conventionally classicizing idiom of the latter. Indeed, the *φοῦλκον* appears to have been the standard battlefield deployment for infantry, or at least whenever the sources record infantry operating effectively it is in this formation.²⁹ When confronted by mounted opponents, sixth-century Roman infantry regularly arrayed in a compact defensive "phalanx" fronted by a "shield-wall" bristling with spears. The Syriac *Chronicle* of pseudo-Joshua Stylites reports that near Constantina in 502 some Roman infantry units, abandoned by their own cavalry and facing large numbers of Persian horsemen, "drew up in battle array, forming what is called a 'chelone' or 'tortoise', and fought

²⁹The bibliography on sixth-century Roman infantry is slim. G. Ravegnani, *Soldati di Bisanzio in Età Giustiniana* (Rome 1998) 58–65, has some remarks on infantry deployment, though vitiated by the author's failure to make use of the evidence of the *Strategicon*, because written "later." See J. Haldon, *Warfare, State and Society in the Byzantine World 565–1204* (London 1999) 193–197; P. Rance, "Narses and the Battle of Taginae (552): Text and Context in Procopius," *Historia* (forthcoming).

for a long time,” though ultimately unsuccessfully.³⁰ The word the chronicler uses is a Syriac transliteration of χελώνη, the standard Greek equivalent to Latin *testudo*; I shall return below to the relationship between φοῦλκον and *testudo*. A clearer and more successful example is the battle of Callinicum in 531. After the defeat and flight of the Roman cavalry, a small force of infantry and dismounted cavalry covered the Roman retreat in a manner strikingly reminiscent of Maurice’s φοῦλκον:

the infantry, and few of them indeed, were fighting against the whole Persian cavalry. Nevertheless, the enemy could neither rout them nor otherwise overpower them. For constantly massed together shoulder-to-shoulder into a small space, and forming with their shields a very strong barrier, they shot at the Persians more conveniently than they were shot at by them. Frequently withdrawing, the Persians would advance against them so as to break up and destroy their line, but retired again unsuccessful.³¹

Holding firm in the face of charging cavalry was one of the most psychologically demanding tasks for infantry; not only was late Roman infantry capable of standing up to cavalry attacks but deterring cavalry was actually one of its primary functions. On the sixth-century battlefield infantry retained an important, albeit more passive role, serving principally as a firm bulwark,

³⁰Ps.-Joshua Stylites *Chron.* 51; transl. with comm. F. R. Trombley and J. W. Watt, *The Chronicle of Pseudo-Joshua the Stylite* (Liverpool 2000) 57. The infantry units involved in this action were most probably locally-based *limitanei*.

³¹Procop. 1.18.45–8, πεζοί τε γὰρ καὶ λίαν ὀλίγοι πρὸς ζύμπασαν ἐμάχοντο τὴν Περσῶν ἵππον. οὐ μέντοι αὐτοὺς οἱ πολέμιοι οὔτε τρέπεσθαι οὔτε ἄλλως βιάζεσθαι εἶχον. ἐν χρῶ τε γὰρ ἀλλήλοις ἐς ὀλίγον αἰεὶ ξυναγόμενοι καὶ ὡς ἰσχυρότατα ταῖς ἀσπίσι φραζάμενοι ἔβαλλον μάλλον ἐς τοὺς Πέρσας ἐπιτηδεῖας ἢ αὐτοὶ πρὸς ἐκείνων ἐβάλλοντο. πολλάκις τε ἀπειπόντες οἱ βάρβαροι ἐπ’ αὐτοὺς ἤλαυνον, ὡς ξυνταράζοντές τε καὶ διαλύσοντες τὴν παράταξιν, ἀλλ’ ἄπρακτοι ἐνθένδε ὀπίσω αὐθις ἀπήλαυνον. Setting aside the narrative differences between Procopius’ account and that of John Malalas, the latter also specifically notes this action (*Chron.* 389.43–47), “staying behind with the remaining forces and dismounting they fought a battle on foot, and by conducting themselves tactically they slew many of the Persians. They did not allow them to pursue the fugitives” (ἐπιμείναντες μετὰ τοῦ περιλειφθέντος στρατοῦ ἀποβάντες τῶν ἵππων πεζικὴν μάχην ἐμάχοντο γενναίως, καὶ τακτικῶς χρησάμενοι πολλοὺς ἀπόλεσαν ἐκ τῶν Περσῶν. οὐ συνεχώρησαν δὲ αὐτοῖς καταδιῶξαι τοὺς φεύγοντας).

behind which Roman cavalry, employing highly fluid tactics, could withdraw and regroup if pushed back.³² Given sufficient training and morale, infantry possessed the potential for greater cohesion and more accurate firepower than cavalry, and when combined with archers and slingers the effects on enemy horsemen could be devastating. Narses' deployment against the Ostrogoths at Taginae in 552 offers the most conspicuous example, but for the present purposes the preliminaries to the battle are of greater interest than the main engagement. These centred on a strategic hillock to the left of the Roman line, of which both sides sought control. Narses committed to its defence just fifty regular Roman infantry (ἐκ καταλόγου πεζοῦς), who positioned themselves along a watercourse running at its base.³³ There they defied the repeated attempts of increasingly larger numbers of Ostrogothic cavalry to dislodge them. Procopius' description is worth quoting at length, since although the word φοῦλον was alien to his classicising vocabulary this is again clearly what he describes:

the fifty took up their position, standing shoulder to shoulder and deployed in the form of a phalanx as well as the limited space permitted ... The horsemen accordingly charged upon them with great tumult and shouting, intending to capture them at the first cry, but the Romans deployed together into a small space and forming a barrier with their shields and thrusting forward their spears, held their ground ... By shoving with their shields and by the protection of their spears, which were dense but nowhere tangled, they defended themselves as steadfastly as possible against their assailants; and they purposely made a din

³²For late Roman cavalry withdrawing to the protection of infantry see *e.g.* Amm. Marc. 16.12.37–39; Procop. 1.18.41–48, 5.28.22–29; (probably) Theoph. Sim. 6.9.15. See also Maurice's warning on the limitations of cavalry against infantry formations, 12.B.23.14–20, and 12.A.7.68–77 for the need for a cavalry screen in front of the infantry phalanx to lure enemy cavalry into launching an attack it might not otherwise make; *cf.* Syrianus *De strat.* 36.9–14 for the same ruse.

³³Procop. 8.29.11–21, 32.5–10, esp. 29.11–15 (τις χειμάρρους τοῦ γεωλόφου ἐπίπροσθεν, παρὰ μὲν τὴν ἀτραπὸν). This watercourse has swollen in some of the secondary literature to become a "ravine" or "gully."

with their shields, terrifying the horses, on the one hand, and the men on the other, with the points of their spears. And the horses became excited, because they were greatly troubled by the rough ground and the din of the shields, and also because they could not get through anywhere, while the men at the same time were gradually worn down, fighting as they were with men packed so tightly together and not giving an inch of ground.³⁴

Comparable shield-walls feature in other sixth-century battle narratives, though these are usually framed in the conventional vocabulary of the classicizing historian. The “battle pieces” of Procopius’ continuator Agathias possess a particularly artificial quality not least because the historian sought to display his erudition by citing (sometimes ineptly) the arcane technical terminology of the classical “Tacticians,” which he attempted to apply to what he understood to be the corresponding practices of his own day. It is often doubtful whether Agathias had access to firsthand information and his accounts of battles are for the most part literary constructs, though, as a more positive assessment, his descriptions of infantry combat do not actually contradict other sixth-century sources: “(the men in the front rank) formed a wall of shields; the others pressed themselves together in successive ranks, so that the serried muster continued as far as the rearguards” (τὸν συνασπισμὸν ἐπεποίητο· ἐξῆς δὲ οἱ ἄλλοι ἐς βάθος ἀλλήλοις ἐνέκειντο, ἕως ἐς τοὺς οὐραγοὺς ὁ ξυλλοχισμὸς ἐτελεύτα), or similarly, “then all closing ranks together into a single phalanx and protecting their front with their shields as steadfastly as possible, they fall

³⁴Procop. 8.29.15–21, οἱ πενήκοντα ἔστησαν, ἐν χρῶ μὲν ζυνιόντες ἀλλήλοις, ἐς φάλαγγα δὲ ὡς ἐν στενοχωρίᾳ ... οἱ μὲν οὖν ἵππεῖς θορύβῳ τε πολλῷ καὶ κραυγῇ ἐπ’ αὐτοὺς ἴεντο, ὡς αὐτοβοεῖ ἐξαιρήσοντες, οἱ δὲ εἰς ὀλίγον ζυντεταγμένοι καὶ ταῖς μὲν ἀσπίσι φραζάμενοι, τὰ δὲ δοράτια ἐπανατεινόμενοι ἔστησαν ... τῶν τε ἀσπίδων τῷ ὄθισμῷ καὶ τῶν δορατίων τῇ ἐπιβολῇ πυκνοτάτη οὕση καὶ οὐδαμῇ ζυγκεχυμένη ὡς καρτερώτατα τοὺς ἐπιόντας ἠμύνοντο, ἐξεπίτηδές τε πάταγον ταῖς ἀσπίσιν ἐποίουν, ταύτη μὲν τοὺς ἵππους αἰεὶ δεδισσόμενοι, τοὺς δὲ ἄνδρας ταῖς τῶν δορατίων αἰχμαῖς, καὶ οἱ τε ἵπποι ἀνεχαιτίζοντο τῇ τε δυσχωρίᾳ καὶ τῶν ἀσπίδων τῷ πατάγῳ λίαν ἀχθόμενοι καὶ διέξοδον οὐδαμῇ ἔχοντες, οἱ τε ἄνδρες ἀπεκναίοντο, ἀνθρώποις τε οὕτω ζυμφραζόμενοις μαχόμενοι καὶ τρόπῳ οὐδενὶ εἴκουσι.

upon the still disordered enemy” (τότε δὴ ἅπαντες ἐς μίαν τινὰ φάλαγγα συσπειραθέντες καὶ τὸ μέτωπον ὡς καρτερώτατα ταῖς ἀσπίσι φραζάμενοι ἐμπίπτουσι ξυγκεχυμένοις ἔτι τοῖς πολεμίοις).³⁵ Less still can be made of the rhetorical remarks on Roman infantry that Jordanes puts in the mouth of Attila at the battle of Châlons, noting that “they come together in formation and form a battle line with locked shields” (*Get.* 39, *dum in ordine coeunt et acies testudineque conectunt*). At best this shows that Jordanes, a mid sixth-century author, could characterise, or even caricature, Roman deployment as compact formations fronted by “shield linkage.”

Finally, it is to be noted that even late Roman cavalry, in moments of crisis or simply wherever tactically beneficial, transformed themselves into infantry and also arrayed in a φοῦλκον. A minor action in Lazica in 550 is instructive, where Roman and allied cavalry, finding themselves suddenly outnumbered by Persian horseman, dismounted and

arrayed themselves on foot in a phalanx as deep as possible, and all stood forming a close front against the enemy and thrusting out their spears against them. And the Persians did not know what to do, for they were unable to charge their opponents, now

³⁵Agath. 2.8.4, 3.27.6. Here Agathias employs technical vocabulary drawn from the terminology of the tactical genre: ζυλλοχισμός (*cf.* Asclepiod. 2.5, Ael. 6.1–2, Arr. *Tact.* 7.1–2) and συνασπισμός (Asclepiod. 3.6, 4.3, Ael. 11.4, Arr. 11.4). Elsewhere he explicitly refers to the genre: “making the phalanx ‘at a forward angle’, as the Tacticians might call it,” ἐπικάμπιον ἐμπροσθίαν (ὡς ἂν οἱ τακτικοὶ ὀνομάσσαιεν) τὴν φάλαγγα καταστήσας (2.9.2). For the ἐπικάμπιος see Asclepiod. 11.1, ἐπικάμπιος εἰς τοῦπίσω ἢ καὶ πρόσω. Neither the “authentic recension” of Aelian’s *Tactica Theoria* nor Arrian’s *Ars Tactica* explicitly refers to ἐπικάμπιος τάξις, but describe instead the seemingly identical formation ὑπόταξις: Ael. 31.4, εἴαν τις τοὺς ψιλοὺς ὑπὸ τὰ πέρατα τῆς φάλαγγος ὑποτάσῃ ἐπικάμπιου τάξις ἔχοντας, ὥστε τὸ ὅλον σχῆμα τριπυλοειδὲς εἶναι. Arr. 26.7 has the slight variation ὑπόταξιν δέ, ἐπειδὴν τοὺς ψιλοὺς ὑπὸ τὰ πέρατα τῆς φάλαγγος ὑποτάξῃ τις ὡς ἐς ἐπικάμπιον. The ἐπικάμπιος ἐμπροσθία and ἐπικάμπιος ὀπισθία at Ael. 45.3–46.1 appear only in the “interpolated recension,” dating to the tenth century, in which Byzantine scholiasts sought to elucidate the authentic material, in part using now lost classical material; for these chapters see A. Dain, *L’Histoire du texte d’Élien le Tacticien* (Paris 1946) 92–100, 155–157, esp. fr. J.3 and K.1 (97–98); A. M. Devine, “Aelian’s Manual of Hellenistic Military Tactics,” *Ancient World* 19 (1989) 31–64, at 59, 62.

that they were on foot, nor could they break up the phalanx, because the horses reared up, annoyed by the spear points and the clashing of shields.³⁶

There are numerous other late Roman examples of this tactical expedient and it is expressly what the *Strategicon* enjoins cavalry to do in these circumstances.³⁷

Clearly these descriptions, written in the half century before the compilation of the *Strategicon*, and corresponding closely in detail if not in idiom, describe infantry, and often dismounted cavalry, arrayed in what Maurice calls a φοῦλκον. Indeed, it would not be an exaggeration to say that the φοῦλκον was the archetypal deployment of late Roman infantry. A more complex issue is the extent to which it is possible to identify the φοῦλκον in Roman technical and narrative sources of an earlier date.

Etymology and antecedents

The date and circumstances of the adoption of the term φοῦλκον remain a matter of speculation, but certain points may be clarified. Given the compilatory character of the *Strategicon*, and in particular Maurice's use of earlier documentary material, the first appearance of φοῦλκον in the *Strategicon* is not evidence for the use of terminology that was new at the time of writing, but is instead indicative of the unprecedented vernacular idiom of the treatise and its often unique preservation of Latin technical vocabulary, together with a corresponding

³⁶Procop. 8.8.30–34, ἀπὸ τῶν ἵππων ἀποθορόντες ... ἐς φάλαγγά τε ὡς βαθυτάτην ταξάμενοι πεζοὶ μετωπηδὸν ἀντίοι τοῖς πολεμίοις ἔστησαν ἅπαντες, τὰ δόρατα ἐπανατεινόμενοι σφίσιν. οἱ δὲ βάρβαροι οὐκ ἔχοντες ὅ τι γένωνται (οὔτε γὰρ ἐπιδραμεῖν πεζοῖς γε οὔσι τοῖς ἐναντίοις ἐδύνατο οὔτε αὐτῶν ξυνταράξαι τὴν φάλαγγα οἷοί τε ἦσαν) ἐπεὶ αὐτοῖς οἱ ἵπποι ταῖς τε τῶν δοράτων αἰχμαῖς καὶ τῇ τῶν ἀσπίδων πατάγῃ ἀχθόμενοι ἀνεχαίτιζον.

³⁷Jul. Or. 1.36d, 2.60a; Joh. Mal. 389.43–51; Procop. 1.18.41–8; 8.35.20; Theoph. Sim. 2.4.5–9; Strat. 12.A.7.83–87, B.13.19–20, cf. 7.B.11.45–52; 11.1.64–67, 3.7–9. On this practice in earlier Roman history see M. Gichon, “Aspects of a Roman Army in War according to the *Bellum Judaicum* of Josephus,” in P. Freeman and D. Kennedy, edd., *The Defence of the Roman and Byzantine East* (BAR Int.Ser. 297 [Oxford 1986]) 287–310, at 297–298; J. B. McCall, *The Cavalry of the Roman Republic: Cavalry Combat and Elite Reputations in the Middle and Late Republic* (London/New York 2002) 69–72.

absence of earlier texts likely to have preserved such a technical neologism. Furthermore, those manuscripts of the *Strategicon* which preserve the Latin commands still in use at the time of writing indicate, despite varying degrees of textual corruption, that φοῦλκον is merely a Greek transliteration of the Latin **fulcum*. Although **fulcum* is nowhere attested, the word must have already enjoyed an “institutionalised” usage and, it may be assumed, was part of standard late Roman military vocabulary. At no point does Maurice appear to have deemed it necessary to explain this term or to contextualise it with introductory or exegetical phrases such as τὸ λεγόμενον or τὸ καλούμενον which might ordinarily indicate its foreign origin or anticipated unfamiliarity to the reader.³⁸ As Mihăescu remarks, Byzantine literature contains Greek transliterations of numerous evidently late Latin terms which are nowhere directly attested in earlier Latin sources, literary, papyrological, or epigraphic.³⁹ It follows that there is no reason to assume an especially “eastern” or “Byzantine” scenario for the origin of the term *fulcum* simply on the basis of its initial appearance, transliterated into Greek, in a late sixth-century East Roman treatise, but rather a broader chronological and geographical setting within late Roman warfare.

There is no modern consensus concerning the etymology of *fulcum*. In some measure this results from its frequent appearance in tenth-century Byzantine military literature with a quite different meaning from that understood by Maurice, designating rather a body of support troops, usually cavalry, acting as a protective escort to foraging parties. This later development will be discussed below, though it should be noted here that in the Byzantine usage of an originally Latin term it is not necessary to assume that its original etymology or meaning

³⁸ *E.g. Strat.* 11.4.75 τὰς λεγομένας πλωτάς, 131–132 τοὺς δὲ λεγομένους ῥεφούγους ἐπιστελλομένους, 12.A.7.24 τὰ λεγόμενα τῶν πεζῶν κουνία, 12.B.9.7 καὶ ἄρχοντα, τὸν λεγόμενον ἀρχισαγιττάτορα.

³⁹ Mihăescu, “éléments” III.267.

was understood or preserved. McGeer recently noted that two derivations are current in modern scholarship.⁴⁰ First, Dagron and Mihăescu derived φοῦλκον from the Latin *furca*, which was for McGeer (citing *Strat.* 12.B.14.9 = Leo 7.66) “certainly the image created by its first meaning of a densely formed body of infantry advancing with spears and shields close together.” The second possible derivation relates *fulcum* to the modern German *Volk*, which, according to McGeer, “matches the sense of the term in the tenth-century treatises where it designates a company of men (usually cavalry) following in support of scattered raiding or foraging parties”; though it is unclear what later “German” contacts McGeer envisages as the inspiration for this tenth-century usage.

To take the etymology based on *furca* first; Dagron’s derivation from *furca* appears to draw on the lexical entry of E. Sophocles, “φοῦλκον: *furca*, wedge, a body of troops drawn up in wedge.”⁴¹ This etymology was accepted in a number of older studies, but Sophocles’ definitions of military terminology are frequently unreliable.⁴² Not only is the φοῦλκον/*furca* equation etymologically dubious, but there is no evidence whatsoever that the term *furca* entered Roman military vocabulary, official or vernacular, of any period, either to designate a tactical formation or in any other sense. More to the point, the Latin *furca* simply does not mean a “wedge,” but always a “fork,” literally a two-pronged instrument or artefact; the word is not even attested in the sense of “fork-shaped.”⁴³ Mihăescu himself

⁴⁰E. McGeer, *Sowing the Dragon’s Teeth: Byzantine Warfare in the Tenth Century* (Dumbarton Oaks Studies 33 [Washington 1995]) 71–72.

⁴¹G. Dagron and H. Mihăescu, *Le Traité sur la Guérilla (De velitatione) de l’Empereur Nicéphore Phocas* (Paris 1986) 224 n.18; Sophocles *s.v.* φοῦλκον, citing Maurice, Theophanes, Leo *Tactica*, and Niceph. *De vel.* Sophocles in turn perhaps misunderstood Du Cange’s “cuneus militum.”

⁴²*Furca* accepted by M. A. Triandaphyllidis, *Die Lehnwörter der mittelgriechischen Vulgärliteratur* (Strassburg 1909) 57; H. van den Berg, *Anonymous De obsidione toleranda* (Brill 1947) 92 (p.61.2): “φοῦλκον – proprie ‘cuneus militum.’”

⁴³H. Zilliacus, *Zum Kampf der Welt Sprachen im Oströmischen Reich* (Helsinki 1935) 144–145, while believing φοῦλκον to be a “wedge-shaped attack

earlier refuted the equation between φοῦλκον and *furca*, noting that the transliterated φούρκα is attested in Byzantine literature only in the literal sense of a “fork” used as an instrument of torture, with the cognate verb φουρκίζειν having the orthographic variant φουλκίζειν.⁴⁴ The derivation from *furca* is therefore without validity.

We are left with the alternative, Germanic derivation, and it has much to recommend it. The connection between φοῦλκον and the modern German *Volk* was first noted by Scheffer in his annotations to the *editio princeps* of the *Strategicon*, and this derivation has gained some acceptance.⁴⁵ The earliest attested form is Old High German *folc*, which conveyed different spheres of meaning equating to “people” or “crowd,” “army” or “host,” “warband” or an army’s constituent formations in battle. The military application is obviously of the greatest interest here. It is attested in every Germanic language except Gothic, including the Old English *folc* (“host, army”; cf. *gefylce* “troop, division”), Old Saxon *folc* (“troop, division”), and Old Norse *fólk* (“people, host, troop”) with its derivative noun *fylki* (“array, formation”)

formation” (“keilförmige Anfallsformation”), notes that there is no evidence for *furca* in Roman military terminology. See *TLL s.v. furca*: “instrumentum quoddam biceps.” In a very general sense *furca*, with the generic meaning “fork,” could *in theory* equate to *forceps* or *forfex*. Both these words could, in very particular contexts, refer to a specific military formation, but *furca* itself is not attested in this sense. In any case, *forceps* and *forfex*, “pincers” or “scissors,” designate quite the opposite of a “wedge,” being applied to a concave or V-shaped battle line; cf. Veg. *Epit.* 3.19. The terms *forceps* and *forfex* never appear in narrative histories in this technical sense, though Amm. Marc. 16.11.3, employs *forcipis specie* as a simile to describe a particular strategic situation, by which he means literally a “pincer-like” campaign plan.

⁴⁴Mihăescu “éléments” I.496, “termes” 264–265, citing Joh. Mal. 360.48–49, ἐφούρκισεν αὐτόν; Theoph. *Chron.* 283.3, οἱ δὲ δύο ἔπεσαν ἐκ τῆς φούρκας; Theoph. Cont. 303.17, φούρκας στῆναι προσέταξε ... ἀνεσκόπισεν; Ps.-Codinus *De offic.*, ed. J. Verpeaux (Paris 1966) 85.2, ἀνεσκόπισεν ἐκεῖσε αὐτοὺς ἡγουν ἐφούλκισεν ὅθεν καὶ ὁ τόπος ἐκλήθη Φουλκόληστος. See A. Dain, “‘Touldos’ et ‘Touldon’ dans les traités militaires,” in *Mélanges Henri Grégoire* II (Brussels 1950) 161–169, at 167–168, for similar variants τοῦλδον and τοῦρδον in the MSS. of the *Suda*.

⁴⁵Scheffer 497–498, “Est autem φοῦλκον a *Folck*, quod turbam condensatam denotat, cum primis militum.” So too Du Cange *s.v.*, Mihăescu ed. 307 (= *Strat.* 12.A.7).

and verb *fylkia* (“to array warriors in battle formation”).⁴⁶ Its early influence on Old Slavonic is evidenced in *plūkū* (>**pulku* = “group, band”), which later supplied the standard word for “regiment” or “military unit” in modern Slavic languages.⁴⁷ Although *folc* possessed multiple semantic functions, the earliest linguistic evidence points to this word rarely meaning “army” (a sense usually supplied by *heri* and its cognates) and most frequently designating the smaller military units, contingents, warbands, or fighting formations comprising an army, and *folc* and its cognates are variously registered as glosses for the Latin words *cohors*, *manipulus*, *cuneus*, *caterva*, and *legio*.⁴⁸ The absence from Gothic of a cognate to *folc* points to a West Germanic linguistic sphere. It is tempting to see the fourth or early fifth century as the most likely period for the adoption of the term *folc/fulcum*, when numerous units of *auxilia* were recruited from peoples living east of the Rhine. Their cultural presence in the Roman army in Gaul in the fourth century is signalled by other customs of Germanic origin, such as the *barritus*, the crescendoing war-cry of the western Germani, and the *Schilderhebung*, the elevation of new rulers on a shield, though the degree to which these practices denote a broader “Germanization” is

⁴⁶J. Pokorny, *Indogermanisches etymologisches Wörterbuch* (Bern 1959) 799–800 s.v. *pel-* [D], explains the underlying IE motivation, for which see also Albanian *plogu*. See F. Kluge, *Etymologisches Wörterbuch der deutschen Sprache*, rev. W. Mitzka (Berlin 1963) 825; D. H. Green, *Language and History in the Early Germanic World* (Cambridge 1998) 90–95, drawing substantially on G. Herold, *Der Volksbegriff im Sprachschatz des Althochdeutschen und Altniederdeutschen* (Halle 1941) 184–189. French *foule* (“crowd”) has the same derivation via Old French *folc*.

⁴⁷From OSlav *plügŭ* (>**pulku*) e.g. Polish *pulk*, Russian and Bulgarian *polk*, Czech and Slovak *pluk*, Serbian *puk*.

⁴⁸Herold (*supra* n.46) 184–188; Green (*supra* n.46) 90–92. Herold and Green perhaps underestimate the currency of the sense “army” (equating to Lat. *exercitus*). In addition to the testimony they cite for this usage in Old High German (OHG version of Isid. Sev. *De fide* 4.11, where *celestis exercitus* is translated *himilisca folc*), the Old English translation of Orosius sometimes uses *folc* to render *exercitus*. The evidence of the *Hildebrandslied* for OHG usage also strikes the present writer as wholly inconclusive. Nevertheless, the testimony of Old Saxon and Old Norse, the two most conservative Germanic languages, is compelling.

disputed.⁴⁹ For the present, it seems probable that writing in the 590s Maurice used a word that had gained a broad currency through popular use in the late Roman army, in effect “military slang.”

It would be easy to conclude that the appearance of the *fulcum*/φοῦλκον is indicative of the “Germanization” of late Roman tactics, but such developments are by no means straightforward. While several recent studies have concluded that generalized notions of “barbarization” of late Roman military institutions and practices can no longer be considered an accurate characterisation, this nevertheless remains one of the most deeply-rooted preconceptions about the period, and one which fails to appreciate the long-term focus of army recruitment upon the least Romanized peoples living both within and beyond the imperial frontier throughout the Principate.⁵⁰ It is therefore necessary to question a number of assumptions, including whether the “shield-wall” was characteristic of “Germanic” warfare; whether the Roman infantry *fulcum* described by Maurice was a genuinely new style of fighting unattested in earlier centuries; and how accurate is the direct equation between the meanings of *folc* and *fulcum* in the broader context of Germanic loanwords.

First, does the *fulcum* correspond to an especially Germanic style of fighting? The evidence for the deployment of “shield-walls” by ancient Germanic armies is tenuous, especially before the sixth century.⁵¹ The first clear description comes in

⁴⁹M. J. Nicasie, *Twilight of Empire: The Roman Army from the Reign of Diocletian until the Battle of Adrianople* (Amsterdam 1998) 107–110.

⁵⁰For significant modifications to the traditional “barbarization” thesis see L. M. Whitby, “Recruitment in Roman Armies from Justinian to Heraclius,” in A. Cameron, ed., *The Byzantine and Early Islamic Near East III States, Resources and Armies* (Princeton 1995) 61–124; H. Elton, *Warfare in Roman Europe AD 350–425* (Oxford 1996), esp. 136–152, 265–277; Nicasie (*supra* n.49) 97–106; A. D. Lee, “The Army,” in *CAH XIII* (1998) 232–233; P. Rance, “Combat in the Later Roman Period,” in P. Sabin, et al., edd., *The Cambridge History of Greek and Roman Warfare II* (forthcoming 2005).

⁵¹Before the sixth century, the only possible instance is Caesar’s account of his victory over Ariovistus in 58 B.C., in which he implies some form of shield-

Agathias' account of a minor action near Rimini in late 553 between Narses' mounted retinue and some marauding Franks. Faced with the Roman horsemen, the Franks

ἠθροίζοντο δὲ ἐπὶ σφᾶς ἅπαντες, τό τε ἰππικὸν καὶ οἱ πεζοί, καὶ ἐς φάλαγγα ξυνετάττοντο, βαθειᾶν μὲν οὐ τι μάλα ... καρτερὰν δὲ ὅμως τῷ συνασπισμῷ καὶ τῷ τὰ κέρα ἐν κόσμῳ ξυννευκέναι ... ἐκεῖνοι ταῖς ἀσπίσιν ἄριστα περιπεφραγμένοι ἴσταντο ἀστεμφεῖς καὶ ἀδόνητοι, οὐδαμοῦ τὸ συνεχὲς τῆς τάξεως διασπῶντες.

all massed themselves together, both infantry and cavalry, and deployed in a compact formation, which though not very deep ... was nevertheless made strong by linking shields and drawing in the flanks in good order ... Perfectly protected by their shields, they stood immovable and unshaken, at no point breaking the cohesion of their formation.

All attempts by the Roman cavalry to shoot down the Franks were unsuccessful and they resorted to a feigned flight to lure them into breaking formation.⁵² The wording of Agathias' description reflects the conventional phraseology of classicizing historiography, and perhaps also his own stylistic concerns for prose rhythm and rhyme (*e.g.*, καρτερὰν δὲ ὅμως τῷ συνασπισμῷ καὶ τῷ τὰ κέρα ἐν κόσμῳ), but the deployment of a small force of Franks in this skirmish resembles Maurice's anti-cavalry *fulcum*. The only other possible account of a shield-wall is again by Agathias (2.8.8), who provides a partly fanciful description of a Frankish-Alamannic army deployed in a giant "wedge" at the battle of Casilinum in 554: "the forward part, which came to a point, was covered and compact by being protected on all sides with shields" (τὸ μὲν ἐμπρόσθιον, ὅποσον ἐς ὄξυ ἔληγεν, στεγανόν τε ἦν καὶ πεπυκνωμένον τῷ πάντοθεν ταῖς ἀσπίσι περιπεφράχθαι). Apart from these two sixth-century references, the practice of Germanic armies form-

wall fronting the "customary" Germanic "phalanxes" (*BG* 1.52); this is at least how Cass. Dio 38.49 interpreted the passage in the early third century.

⁵² Agath. 1.21–22 for the whole episode, quoting 6–8.

ing shield-walls is not explicitly attested in antiquity.⁵³ The bulk of the evidence relates to the mediaeval period, and then only to certain peoples, notably the ninth- and tenth- century Anglo-Saxons, and even these reports nowhere suggest an arrangement as sophisticated as the Roman *fulcum* with its multiple tiers of shields.⁵⁴

At the core of this problem lies the degree of discipline and tactical control in ancient Germanic armies. The Germani were undoubtedly capable of arraying in close-order formations and classical sources routinely describe them drawn up *in cuneos* or *cuneatim*, though how literally “wedge-like” these deployments were remains uncertain. That Roman authors conventionally characterized Germanic (and other barbarian) armies in this way in part merely indicates the absence, from a Roman perspective, of a formal battle line composed of ranks and files, and *cunei* probably has no more specific a meaning than separate “bands” or compact “groupings” determined by kinship or tribal filiation. Both military and societal factors, however, would in reality have required the more experienced and better-equipped warriors—nobles with their personal retinues or warbands (Lat. *comites*, OHG *truht*)—to be at the front of these battle formations, and these warriors, relatively few in number, probably provided a tactical spearhead or “point” for the majority of the host levied for the occasion from outside this “professional” group.⁵⁵ In certain circumstances,

⁵³ Another possibility is Procopius’ brief description of Ostrogothic infantry at 5.29.35–36, though the language is generic. Procopius tended to project upon Ostrogothic infantry the field tactics, discipline, and tactical capabilities he would expect of Roman infantry, *cf. e.g.* 8.32.16–18 for his criticism of the Ostrogothic infantry for failing to behave as Roman infantry (ideally) would, thus compounding their failure. See Rance, “Narses” (*supra* n.29).

⁵⁴ For the “shield-wall” in post-Roman Germanic warfare see R. Underwood, *Anglo-Saxon Weapons and Warfare* (Stroud 1999) 89–91, 129–134.

⁵⁵ The classic statement is Tac. *Germ.* 6, *acies per cuneos componitur*; *cf. Ann.* 2.45, *Hist.* 4.16, 5.16; also *Hist.* 4.20.3 for a clear description of a *cuneus* of Batavians long in Roman service. Amm. Marc. 16.12.20 twice notes the “wedge-shaped” formation (*in cuneos ... stetero cuneati*) of the Alamanni in the 350s; *cf.* also Celtiberians in Livy 39.31.3, 40.40.2–3, though *cf.* 28.2.7. For conflicting

these warriors may have linked their shields together to create a compact and cohesive front—this in itself required little if any formal training—but if so this was never a sufficiently regular or distinctive practice for Roman observers to deem it noteworthy or characteristic of Germanic deployment.

The *fulcum* described by Maurice, furthermore, is an altogether more elaborate arrangement, requiring training in specific weapons skills, cooperation in disciplined and well-ordered files, and a considerable degree of command and control, especially if employed during a slow and uniform progress under fire towards the enemy line. If the “shield-wall” of the Frankish “wedge” at Casilinum was anything like the contemporary Roman *fulcum*, it is difficult to square this with the Franks’ advancing “not at a steady pace, nor well-ordered, but, excited by the news they had received, they were gripped by tumult and recklessness” (οὐ μὴν ἡρεμαῖοι οὐδὲ κατὰ κόσμον, ἀλλὰ τοῖς ἀγγέλμασιν ἀνεπτερωμένοι θορύβῳ εἶχοντο καὶ προπετεῖα, Agath. 2.8.7). Even with an appreciation of the ethnographic stereotyping inherent in Roman accounts, all the evidence—written and archaeological—points to Germanic forces relying on the shock tactics of unexpected, massed charges by compact warbands which sought to overwhelm the enemy battle line, or isolated and unprepared detachments, by their speed, suddenness, and psychological impact, rather than the formal, steady advance and sustained *mêlée* that are the context of Maurice’s *fulcum*. Throughout antiquity the limitations of their defensive equipment and offensive weaponry made Germanic forces ill-suited to the style of fighting Maurice describes; in direct confrontations requiring prolonged hand-to-

assessments of the Germanic *cuneus* see H. G. Gundel, *Untersuchungen zur Taktik und Strategie der Germanen nach den antiken Quellen* (diss. Marburg 1937) 1–60, at 11–18; H. Delbrück, *History of the Art of War II The Barbarian Invasions*, transl. W. J. Renfroe (London 1980), 39–56; H. Beck, *Das Ebersignum im Germanischen. Ein Beitrag zur germanischen Tier-Symbolik* (Berlin 1965) 41ff; R. Much, *Die Germania des Tacitus*³ (Heidelberg 1967) 150–151; Goldsworthy (*supra* n.14) 50–51. On the Germanic institution of the *truht* see Green (*supra* n.46) 106–111.

hand combat with Roman infantry Germanic warriors were at a disadvantage in almost every respect—training, armour, weaponry, missiles, and cohesion—even after the acquisition of Roman equipment or imitation of Roman models from the late second century. Furthermore, Roman sources, partly confirmed by archaeology, indicate that Germani in the later period tended to avoid close-quarter engagements or pitched battles altogether, at least when fighting the Romans, in preference for irregular tactics on obstructed or uneven terrain.⁵⁶ Maurice's own analysis of the fighting methods of contemporary Germanic peoples not only omits all mention of shield-walls but characterises their attacks as hasty and undisciplined assaults.⁵⁷ In these circumstances, the *fulcum*, a systematic and tightly-controlled

⁵⁶On Germanic weapons and tactics generally see Gundel (*supra* n.55) *passim*; E. A. Thompson, *The Early Germans* (Oxford 1965) 111–115; Goldsworthy (*supra* n.14) 42–53. The conclusions from archaeological evidence are usefully summarised by M. Todd, *The Northern Barbarians* (Oxford 1987) 140–162, esp. 149–152, 155–161; with additions by N. Zielsing, *Studien zu germanischen Schilden der Spätlatène- und der römischen Kaiserzeit im freien Germanien* [BAR Int.Ser. 505 [Oxford 1989)]; W. Adler, *Studien zur germanischen Bewaffnung. Waffenmitgabe und Kampfesweise im Niederelbegebiet und im übrigen Freien Germanien um Christi Geburt* (Bonn 1993); for the later period specifically see Elton (*supra* n.50) 60–72, 80–82.

⁵⁷*Strat.* 11.3.3–23, “They favour infantry combat and headlong assaults. They deploy in combat, either on foot or on horseback, not to any set measurement or in formation, either in brigades or divisions, but according to tribe or by shared kinship or allegiance ... Either on foot or on horseback, the attacks they make are fierce and uncontrollable ... they have contempt for order” (χαίρουσι δὲ τῇ πεζομαχίᾳ καὶ τοῖς μετ’ ἑλασίας ἐμπέτοις. τάσσονται δὲ ἐν ταῖς μάχαις εἴτε πεζῇ, εἴτε ἐπὶ τῶν ἵππων, οὐ μέτρῳ τινὶ ὀρισμένῳ καὶ τάξει, ἢ ἐν μοίραις, ἢ ἐν μέρεσιν, ἀλλὰ κατὰ φυλὰς καὶ τῇ πρὸς ἀλλήλους συγγενείᾳ τε καὶ προσπαθείᾳ ... τὰς δὲ συμβολὰς, εἴτε ἐπὶ τῶν ἵππων, εἴτε πεζῇ, σφοδρὰς καὶ ἀκατασχέτους ποιοῦσιν ... τάξεως περιφρονοῦσι). Too much should not be made of Maurice's comment that “they make the front of their battle line even and dense” (ἴσον δὲ τὸ μέτωπον τῆς παρατάξεως αὐτῶν καὶ πυκνὸν ἐν ταῖς μάχαις ποιοῦσιν, 16–17); he makes precisely the same comment about the very different battle deployments of both Persians and Avar armies: 11.1.27, καὶ τὸ μέτωπον τῆς τάξεως ἴσον καὶ πεπυκνωμένον ἔχειν; 11.2.51, καὶ ἴσον ποιοῦσι καὶ πυκνὸν τὸ μέτωπον. By this phrase Maurice merely means that these were peoples who deployed in some sort of close-order, as oppose to the Slavs, for example, who always fought in loose array; *contra* Delbrück (*supra* n.55) 42–43, 50, 55, who found here an explicit vindication of his conception of the Germanic *cuneus*; followed by I. Lebedynsky, *Armes et guerriers barbares au temps des Grandes Invasions* (Paris 2001) 62.

linkage of shields by two or three successive ranks to form a substantial, multi-tiered “shield-wall,” is far more reminiscent of traditional Roman tactical procedures like the *testudo*, still attested as a siege technique in the fourth century, than any practice recognisable among their Germanic enemies. Indeed, given the late date of explicit evidence for Germanic shield-walls, the development of close-order tactics among Germanic peoples following Roman models is arguably a more likely long-term pattern in the exchange of military techniques than Roman imitation of Germanic warfare.⁵⁸

In light of these considerations, it is important to establish whether Maurice describes a new Roman practice or whether what he terms a *φοῦλκον* can in fact be identified in earlier Roman military history, and especially in a period when modern historians less readily explain changes in practice and terminology in terms of “barbarization” of Roman military institutions, techniques, and personnel. Recognition of the *φοῦλκον* or its antecedents in earlier Roman *tactica* is obfuscated by certain characteristics of the genre, including its classicizing vocabulary and attachment to ancient literary models, but primarily because of the relatively narrow concerns of the surviving works, which tend to be primarily *poliorcetica*, collections of stratagems or antiquarian treatments of the classical-hellenistic phalanx. In particular, detailed discussions of how Roman infantry should deploy against mounted opponents, which might provide parallels with Maurice’s anti-cavalry *φοῦλκον*, are rare indeed. The only other “technical” treatment of this subject is Arrian’s *Ectaxis*, a version of which, as previously noted, was undoubtedly available to Maurice when he

⁵⁸The subject requires further study. For example, Tacitus (*Ann.* 2.45) remarks that some Germani (apparently the Cherusci) had learned close-order tactics and deployment in their wars with the Romans. Similarly, he also implies (*Germ.* 30) that the Chatti had begun to imitate certain features of the Roman army, even entrenching their encampments. Both the Cherusci and the Chatti were primary targets of Roman campaigns in the first half of the first century A.D.

composed chapter 12.A.7. Written in the context of Arrian's success in repelling an Alan incursion into Cappadocia in A.D. 135, this opusculum outlines a battle plan for the provincial forces available to him.⁵⁹ Whether or not this engagement was ever fought, the *Ectaxis* provides the most detailed account of the deployment of imperial Roman troops in order to repel a frontal attack by a large force of cavalry. Ideally, Arrian hoped to deter the Alans by missiles and archery alone, thus avoiding close-quarters combat altogether (25–26), but should this fail the legionaries, drawn up eight deep in close order, were to form a physical barrier and resort to countermeasures very similar to those in the *Strategicon*:

εἰ δὲ δὴ πελάζοιεν, ἐγχερίμψαντας ταῖς ἀσπίσι καὶ τοῖς ὄμοις ἀντερείσαντας δέχεσθαι τὴν προσβολὴν ὡς καρτερώτατα καὶ τῇ συγκλείσει πυκνοτάτῃ τὰς πρώτας τρεῖς τάξεις ξυνεριδούσας σφίσιν ὡς βιαιότατον οἶόν τε· τὴν τετάρτην δὲ ὑπερακοντίζειν τὰς λόγχας· καὶ τὴν τρίτην παίειν ἢ ἀκοντίζειν τοῖς κοντοῖς ἀφειδῶς ἕξ τε ἵππους καὶ αὐτούς (26).

If [the enemy cavalry] do approach, the first three ranks, closing their shields together and exerting pressure with their shoulders, should receive the attack as steadfastly as possible and locking together very closely, pressing themselves together as firmly as they are able. The fourth rank should throw javelins overhead, while the third rank should strike with their spears or throw them like javelins unstintingly at both horses and riders.⁶⁰

⁵⁹A. B. Bosworth, "Arrian and the Alani," *HSCP* 81 (1977) 217–255, gives the detailed historical context, though Bosworth's reconstruction of Arrian's deployment remains in parts speculative.

⁶⁰The Greek text, based on the single corrupt and lacunose MS., is that of Roos/Wirth (Leipzig 1968), which is sufficient for the present purpose. The phrase "the fourth rank should throw javelins overhead" (τὴν τετάρτην δὲ ὑπερακοντίζειν τὰς λόγχας) has prompted much debate and often extensive emendation, since earlier (16–18) Arrian makes clear that the front four ranks were in fact armed with κοντοί (= *pila*), while ranks five to eight were λογχοφόροι (= *lancearii*). I shall argue elsewhere the case for the small emendation τὴν τετάρτην δὲ ὑπερακοντίζειν τὰς λοιπὰς (τάξεις), that is to say, "the fourth rank should shoot over the heads of the other (ranks)." In the normal usage of ὑπερακοντίζειν the projectile would actually be in the dative, while the ac-

To illustrate the close parallels between the texts it is worth repeating Maurice's regulations (12.A.7.49–60, Greek *supra* 276):

If the enemy [cavalry], coming within a bow shot, attempts to break or dislodge the phalanx ... then the infantry close up in the regular manner. And the first, second and third man in each file are to form themselves into a *fulcum*, that is, one shield upon another, and having thrust their spears straight forward beyond their shields, fix them firmly in the ground ... They also lean their shoulders and put their weight against their shields so that they might easily endure the pressure from those outside. The third man, standing more upright, and the fourth, holding their spears like javelins either stab those coming close or hurl them and draw their swords.

In Arrian's deployment the four ranks to the rear were λογχοφόροι (*lancearii*) armed with javelins (λόγχοι = *lanceae*), which, as in the *Strategicon*, they hurl over the heads of the first four ranks; while stationed at the rear, again as in Maurice's description, the light infantry and cavalry bring their archery to bear at a higher trajectory (*Ect.* 15–21, 26).

Arrian's bald series of instructions leaves many aspects of his *Ectaxis* ambiguous; indeed his failure to explain in detail how these instructions played out on the ground may imply an assumption on his part of the reader's familiarity with the basic procedures he describes. In particular, no modern commentator has successfully explained how the front three ranks "close their shields together and exert pressure with their shoulders" in order to fight as a single battle line. It is very tempting to re-read Arrian's text in light of Maurice's description of an anti-cavalry φοῦλκον of his own period. This would suggest that Arrian's first and second ranks similarly knelt and stooped respectively,

cusative applies to the object or person the projectile overshoots, in this case the other three ranks mentioned in the preceding clause. In addition, I can find absolutely no justification for Mommsen's suggestion that τὴν τρίτην must be τὴν πρώτην, as accepted by Roos. Bosworth (*supra* n.59) 240 n.94 rightly argues that this emendation actually creates far more inconsistencies within the description than it resolves; indeed comparison with the text of the *Strategicon* strongly supports the MS. reading τρίτην.

thrusting forward their *pila* and securing the butt-ends into the ground, while the third rank stood upright. The front three ranks of legionaries would therefore form a “shield-wall” of three tiers of *scuta*, with each successive rank resting the rims of their shields on the shield-bosses of the rank in front, and thus constructing a sloping bulwark *ca* 2 to 2.5 metres in height.⁶¹

That this proposition is at least feasible is indicated by another account of Roman infantry deploying in the face of a powerful cavalry force. Plutarch describes the deployment of Mark Antony’s legionaries against Parthian cavalry in 36 B.C.:

θυρεοφόροι συνέκλεισαν εἴσω τῶν ὄπλων τοὺς ψιλούς, αὐτοὶ δὲ καθέντες εἰς γόνυ προὔβαλοντο τοὺς θυρεοὺς· οἱ δ’ ὀπισθεν ὑπερέσχον αὐτῶν τὰ ὄπλα, κάκείνων ὁμοίως ἕτεροι. τὸ δὲ σχῆμα παραπλήσιον ἐρέψει γινόμενον ...

the legionaries locked the light infantry within their ranks; some [legionaries], dropping down on one knee, positioned their *scuta* in front of them, while those behind [*i.e.* the second rank] covered them with their shields, and others [the third rank] likewise covered them. The appearance closely resembled a sloping roof ...

From behind this “shield-wall,” Antony’s legionaries “struck with their *pila* at close quarters” (τοῖς ὑσσοῖς παίοντες ἐκ χειρός) the foremost Parthian cavalry.⁶² Accepting the different idiom and purpose of each author, and the arms and equipment particular to each period, Plutarch’s narrative broadly corresponds to both Arrian’s *Ectaxis* and Maurice’s φοῦλκον.

The foregoing comparison suggests that Maurice’s late sixth-century φοῦλκον, the contemporary utility and historicity of which is demonstrated by contemporary historical narratives, differed little, *mutatis mutandis*, from the early second-century

⁶¹Surviving examples of legionary *scuta* of the Principate range in height between about 100 cm. and 125 cm. See the helpful survey of Goldsworthy (*supra* n.14) 209–212.

⁶²Plut. *Ant.* 45; *cf.* also 49, “but the soldiers, again covering one another with their shields in the same manner, withstood their assailants who did not dare to come to close quarters” (οἱ δ’ ὀπλίται πάλιν ὁμοίως κατερέψαντες ἀλλήλους τοῖς θυρεοῖς, ὑπέμενον τοὺς βάλλοντας, ἐγγὺς οὐ τολμῶντας συνελθεῖν).

deployment described by Arrian, and even earlier practices dating to the late Republic. Indeed the similarity was such that Maurice was able to adapt Arrian's text to contemporary circumstances and terminology, and given the intervening period and markedly dissimilar idiom Maurice's text retains significant conceptual features of Arrian's original and even traces of verbal influence.⁶³ The deployment Arrian describes in the *Ectaxis* is often characterised as "a one-off stratagem" or "a regional variation," rather than *the* standard Roman tactical response to a powerful force of cavalry.⁶⁴ Maurice's sixth-century reprise of Arrian's text, combined with the appearance of very similar formations in late Roman narratives, implies a continuous Roman tradition in approaching this particular tactical problem, rather than an occasional aberration from "regular" deployment.

Arrian nowhere names the deployment he outlines in the *Ectaxis*, though his phrase "a very close locking together" (τῆ συγκλείσει πυκνοτάτη) may be instructive. In his other tactical treatise, the *Ars Tactica*, he employs σύγκλεισις to mean specifically the locking together of shields or συνασπισμός involved in forming a χελώνη or *testudo*, which he categorizes as one type of "compact phalanx" (φάλαγξ πυκνοτέρα).⁶⁵ Even

⁶³ *E.g.*, Maurice's remark that the front ranks are to "fix [their spears] firmly into the ground" (ἀντερείδεν γενναίως τῆ γῆ). His use of ἀντερείδεν here, and nowhere else in the *Strategicon*, even when he later describes precisely the same action of the front ranks fixing their spear-butts into the ground (12.B.16.45–46), is inspired by the participial ἀντερείσαντες and then ζυνερειδούσας in quick succession in the corresponding passage in Arrian (*Ect.* 26).

⁶⁴ C. M. Gilliver, *The Roman Art of War* (Stroud 1999) 114–117, who nevertheless sets this "one-off stratagem" in the context of regular variation and "unorthodoxy" in Roman tactics. Wheeler (*supra* n.2) does much to contextualise the apparent oddity of Arrian's deployment. See also J. B. Campbell, "Teach Yourself How to be a General," *JRS* 77 (1987) 13–29, at 24–27; Goldsworthy (*supra* n.14) 17–18, 135.

⁶⁵ Arr. *Tact.* 11.6 for τὴν σύγκλεισιν. His description of the *testudo* at 11.4–5: "the men stationed around the edge position their *scuta* in front of them, while the men stationed behind them position theirs above their heads, each man raising his above another man" (οἱ μὲν ἐν κύκλῳ ... ἐστηκότες τοὺς θυρεοὺς προβέβληνται πρὸ σφῶν, οἱ δ' ἐφραστηκότες αὐτοῖς ὑπὲρ τῶν κεφαλῶν ἄλλος ὑπὲρ τοῦ ἄλλου ὑπεραιωρήσας προβάλλεται). This passage does not appear in the corresponding section of Aelian's *Tactica Theoria* and must therefore be

though Plutarch never uses the term, a *testudo* is certainly what he describes operating against Parthian cavalry in 36 B.C., as later authors recognised.⁶⁶ The usage of the term *testudo* was more flexible than is often supposed; as early as the first century A.D. *testudo* and χελώνη might be broadly applied to any compact, well-shielded formation in the field, outside the sphere of siegecraft traditionally associated with these terms.⁶⁷ The more frequent occurrence of battlefield deployments that explicitly resemble a *testudo* from the early third century reflects gradual changes in the deployment and tactics of Roman infantry. A fragment of the near-contemporary Cassius Dio provides a report of the battle of Issus in 194 between the forces of the imperial rivals Septimius Severus and Pescennius Niger: “when they came to close quarters, the Severan forces held forth their shields, some of them in front of them and some of them above them, in the manner of a *testudo*, and thus they came to close quarters with their opponents” (ἐπεὶ δὲ ἐς χεῖρας ἦσαν, τῶν Σεουηρείων τὰς ἀσπίδας τὰς μὲν προβαλομένων τὰς δὲ ἐπιβαλομένων ἐς χελώνης τρόπον, καὶ οὕτω πλησιασάντων τοῖς

Arrian’s own “Romanizing” addition to the Hellenistic model common to both treatises. On the difficult question of the relationship between these two texts see R. Förster, “Studien zu den griechischen Taktikern,” *Hermes* 12 (1877) 426–471, at 426–449; Dain (*supra* n.35) 26–40; P. A. Stadter, “The *Ars Tactical* of Arrian: Tradition and Originality,” *CP* 73 (1978) 117–128.

⁶⁶ Cass. Dio 49.29.4, closely following Plut. *Ant.* 45, identifies this formation as a χελώνη, though his subsequent explanation of the function and operation of the *testudo* at 49.30.1–4 betrays confusion. Dio appears to have misunderstood certain aspects, claiming that *all* the troops knelt down with the purpose of springing up and confounding their opponents. Interestingly, Livy 44.8, describing the application of the *testudo* to siege warfare, reports that it was sloped to allow men to climb up it. He notes that the ranks decreased in height towards the rear, successively crouching lower and finally kneeling down, and that they managed to manoeuvre even in this manner (*stantibus primis, secundis summissioribus, tertiis magis et quartis, postremis etiam genu nixis, fastigatam, sicut tecta aedificiorum sunt, testudinem faciebant*). Cf. the very similar description by Amm. Marc. 26.8.9. This at least indicates that legionaries were trained to position themselves and manoeuvre in such difficult postures.

⁶⁷ *E.g.*, Livy 32.17.13 describes the Macedonian phalanx as a *testudo*. The term *testudo* often meant “shield-linkage” in the broadest sense, equating to συνασπισμός, see Wheeler (*supra* n.2) 307–309.

ἐναντίοις).⁶⁸ The offensive application of an apparently “*testudo*-like” formation in the field on this occasion possibly reflects the circumstances of a civil war, which pitted troops with identical weaponry, training, and tactics against one another, but also the difficult tactical circumstances for the Severan forces. Niger’s army, particularly strong in missile troops, deployed on steep and narrow terrain within the Cilician Gates. The purpose of the *testudo* was to approach this well-defended position under enemy heavy fire, while providing cover for the Severan light troops to the rear of the *testudo* as they shot overhead at the enemy.

Very similar circumstances feature in another likely instance of this deployment by Roman infantry in 272, a report of which is preserved by Zosimus, apparently drawing on contemporary notices of Aurelian’s campaign against Palmyra. After Aurelian defeated the Palmyrene army at Immae and occupied Antioch, the Palmyrene rearguard occupied a prominent hill overlooking the suburb of Daphne, blocking further Roman progress by this commanding position (τῷ ὑπερδεξίῳ τοῦ τόπου). Accordingly, “the command was given to the soldiers to link their shields together and in a dense phalanx make a direct ascent and with the density of their phalanx deflect the missiles and boulders, if (the enemy) should happen to discharge these” (τοῖς στρατιώταις ἐνεκελεύσατο συνασπισαμένοις καὶ πυκνῇ τῇ φάλαγγι τὴν πρὸς τὸ ὄρθιον ἀνάβασιν ποιουμένοις τὰ τε βέλη καὶ τοὺς ὀλοιτρόχους, εἰ καὶ τούτους τυχὸν ἐπαφείεν, τῇ πυκνότητι τῆς φάλαγγος ἀποσεύσασθαι). Making the ascent “according to their orders” (κατὰ τὸ προσταχθέν), the Roman infantry succeeded in driving their opponents from the summit.⁶⁹

⁶⁸Cass. Dio 75.7.5.

⁶⁹Zos. 1.52.1. *SHA Aurel.* 25.1 appears to confuse this action with the battle of Immae. See notes in F. Paschoud, *Zosime, Histoire Nouvelle*² (Paris 2000) I 170–171. The source(s) of this section of Zosimus are uncertain; Dexippus’ historical narrative went up to 268 and his later work on Aurelian related only to the emperor’s “Scythian” wars. The account of the Palmyrene war contains much incidental detail characteristic of a contemporary source, which

The more abundant evidence for fourth-century warfare suggests that by this date Roman infantry routinely deployed in a manner similar to Maurice's "text-book" description of how a *φοῦλκον* should operate on the battlefield. In Ammianus' vivid depiction of the Roman line at Strasbourg in 357, Julian's infantry, armed and equipped in substantially the same manner as Maurice's, first "fashioned a front with their bucklers joined fast together" (*frontem artissimis conserens parmīs*), then "covering their heads with barriers of shields" engaged at close quarters the Alamanni, who "by incessant sword blows broke asunder the tightly-bound structure of shields, which protected our men like a *testudo*" (*scutorum obicibus vertices tegens ... nexamque scutorum compagem, quae nostros in modum testudinis tuebatur, scindebant ictibus gladiatorum assiduis*).⁷⁰ Similarly, against Moorish tribes in North Africa in 373, the Roman infantry "pressed side to side in close order and with their shields closely held together in the form of a *testudo*, stood fast and resisted" (*densetis lateribus, scutisque in testudinis formam cohaerenter aptatis, resiterunt gradibus fixis*, 29.5.48); while against the Goths in 376, "the shields were fixed side to side in the form of a *testudo*, and they stood toe to toe" (*et scutis in testudinum formam coagmentatis, pes cum pede collatus est*, 31.7.12). Ammianus' references to the *testudo* do not denote the shed-like formation more often attested in siege warfare; he is careful to convey that this battlefield deployment possessed "the form of a *testudo*" (*in modum testudinis, in testudinis formam*), and in this his wording is identical to Cassius Dio's (ἐς χελώνης τρόπον).⁷¹ Rather Am-

was probably known to Zosimus through an epitome and/or Dexippus' continuator, Eunapius.

⁷⁰ Amm. Marc. 16.12.36, 44; cf. 38, "in close order and tightly bound one with the other, they stood their ground without stirring" (*conferti illi sibi que vicissim innexi stetissent immobiles*). See the similar description at 14.2.10, "they drew themselves up most expertly for fighting hand-to-hand with a closely-packed structure of shields" (*ad manus comminus conserendas, denseta scutorum compage, semet scientissime praestruerant*).

⁷¹ The nature of the simile is best illustrated by Amm. Marc. 20.7.2, where Shapur II is saved from Roman missiles by his mounted escort's "close array of shields bound together in the form of a *testudo*" (*densitate opertus armorum in*

mianus fashions this classicizing periphrasis to describe the contemporary “shield-wall” that fronted the Roman battle line, or as Galletier and Fontaine comment, “une tortue verticale, où les boucliers forment comme une muraille de métal devant le rang des combattants.”⁷² To some extent the language of these passages reflects Ammianus’ literary interests and stylistic models, but there is no reason to believe that the battle descriptions of this experienced army officer were actually inconsistent with contemporary reality. Accepting the rhetorical contrast between controlled Roman immobility and uncontrollable barbarian onslaught, throughout his historical narrative Ammianus presents this style of fighting, which may already be discerned in the third-century, as characteristic of and unique to Roman troops (regardless of their ethnicity), and distinct from the attacks of their less disciplined adversaries, be they Alamanni, Goths, or Moors.⁷³ The more frequent appearance of these tactics in later Roman warfare possibly relates to increased contact with mounted opponents, especially in the eastern provinces, against whom a more defensive deployment was traditional, but it is also reflective of broader changes in the roles, equipment, and practices of Roman infantry from the early third century, whereby the offensive “shock and charge” of the late Republic and Principate gradually gave way to less aggressive tactics in which compact and less manoeuvrable formations checked enemy attacks while showering their opponents with a sustained barrage of missiles, though the stages

modum testudinis contextorum). By contrast, 20.11.8, 24.4.15 report the actual *testudo* formation in action in the context of a siege.

⁷² *Ammianus Marcellinus, Rerum gestarum libri I* (Paris 1968) 282 n.348.

⁷³ On Ammianus’ stylistic models see P. de Jonge, *Philological and Historical Commentary on Ammianus Marcellinus XVI* (Groningen 1972) 258; Wheeler (*supra* n.2) 315–316. Cf. e.g. Amm. Marc. 31.7.12, *et scutis in testudinum formam coagmentatis, pes cum pede collatus est*, with Livy 28.2, *cum Romani conferti, ut solent, densatis exceperunt scutis, tum pes cum pede collatus*. For rhetoric see G. Sabbah, *La méthode d’Ammien Marcellin. Recherches sur la construction du discours historique dans les Res gestae* (Paris 1978) 72–79, 583–584; J. F. Matthews, *The Roman Empire of Ammianus* (London 1989) 295–299.

of this transformation are imperfectly attested in the sources.⁷⁴ These changes may in turn mirror the essentially defensive strategy and low-intensity warfare of the period, in which the dangers of defeat in a large-scale action on home territory far outweighed the benefits of victory.

Finally, it is worth noting that terms other than *testudo* or *fulcum* may have been used in the late Roman period to describe similar tactical procedures. Appended to Book 12 of the *Strategicon* is a short treatise on large-scale hunting as a useful adjunct to tactical training (12.D). This was originally a separate tract, though undoubtedly close in date to the *Strategicon*.⁷⁵ In the process of its incorporation into the *Strategicon* the compiler made some stylistic and conceptual revisions so that the piece more closely corresponded with the rest of the treatise, but still terminological and idiomatic eccentricities remain which mark its earlier independence. One of these is the word *σύσκουτον*, which appears nowhere else in the *Strategicon*. The author writes that in order to prevent smaller animals escaping from the ever-decreasing circle of mounted archers, infantry should “stand with their shields linked together” (ἴστᾶν σύσκουτα).⁷⁶ This term for “shield-linkage” is clearly a hybrid formed from the preposition *σύν* and *σκοῦτον*, a Greek transliteration of *scutum*, presumably formulated by analogy with *συνασπισμός* (*σύν* + *ἀσπίς*). This is all the more interesting, given that a later Byzantine text explicitly states that *σύσκουτον* was a contemporary popular synonym for *testudo*; the author of the mid tenth-century *Sylloge*

⁷⁴For these tactical developments see Wheeler (*supra* n.2) 314–318; Nicasie (*supra* n.49) 207–214; Haldon (*supra* n.29) 192–193, 205–208; A. R. Menéndez Argüín, “Evolución del Armamento del Legionario Romano durante el s. III d.C. y su Reflejo en las Tácticas,” *Habis* 31 (2000) 327–344; Rance (*supra* n.50).

⁷⁵*Strat.* 12 D, Περὶ κυνηγίων. πῶς δεῖ ἄγρια κυνηγεῖν βλάβης καὶ συμπτώματος καὶ συντριβῆς χωρὶς. This piece is usually, and wrongly, attributed to Urbicius, the early sixth-century *stratège en chambre*, an ascription which derives from the mistaken manuscript tradition that the *Strategicon* itself is by that author. For comment see Rance, “*Simulacra*” (*supra* n.9) 254–258.

⁷⁶*Strat.* 12.D.80–84. See Mihăescu, “éléments” I.492–493. In this phrase *σύσκουτα* appears to be adverbial.

Tacticorum refers to troops deployed “in a single battle formation that is called a ‘tortoise’, which popular parlance now also designates σύσκουτον” (ἐν μόνῃ δὲ ἄρα τῆ τῆς χελώνης καλουμένη παρατάξει ὃ δὴ καὶ σύσκουτον ἢ δημόδης ὀνομάζει φωνή).⁷⁷ The term was also used by several other Byzantine authors and compilers in the sense of “shield-linkage.”⁷⁸ The meaning of σύσκουτον in 12.D appears to be distinct from φοῦλκον in being merely a simple barrier of shields, but the *Sylloge Tacticorum* at least points to a potentially greater diversity in terminology, at different literary registers, than the extant texts imply.

In the foregoing survey it has been argued that Maurice’s *Strategicon* indicates the late Roman adoption of the Germanic word *folc* as a popular designation for a close-order battle formation. Earlier Roman sources suggest that this “*testudo*”-like deployment was not an innovation of the late Roman period, but may be identified, in particular tactical circumstances, from the early second century A.D., and probably even in the late Republic, albeit then just one element in a more extensive tactical repertoire. The indications of a pre-existing Roman tradition, together with broader military and cultural differences between Roman and Germanic armies, make a Germanic inspiration for the late Roman *fulcum* at best unlikely. This conclusion, however, leaves the application of a Germanic loanword to an apparently Roman formation unexplained. Certainty on this point is elusive; Maurice, our only contemporary witness to late Roman usage, wrote in the 590s,

⁷⁷ *Sylloge Tacticorum quae olim “Inedita Leonis Tactica” dicebatur*, ed. A. Dain (Paris 1938) 43.7.

⁷⁸ Du Cange 1494 “scutorum conjunctio” is an unhelpful entry; Sophocles omits the term. Cf. Leo *Tactica* 18.122 (PG 107.976), 19.14 (996) (cf. variants in so-called Leo *De navali praelio* 15, and Nicephorus Uranus *Tactica* 54.13, both edited in A. Dain, *Naumachica* [Paris 1943] 22, 75). The word also appears in some of the various Byzantine abridgements and paraphrases of Polyaeus’ *Strategemata: Excerpta Polyaei* 49.2, in *Polyaei Strategemata*, ed. E. Wölfflin and I. Melber (Leipzig 1887); from which derive both *Strategemata Ambrosiana* 47.1, ed. in J.-A. de Foucault, *Strategemata* (Paris 1949) 60, and *Parecholae* 36 (de Foucault 107).

when this word already enjoyed an institutionalised currency, and so is of only indirect value in determining the circumstances in which it was first adopted, while the Germanic linguistic evidence derives from a still later period. Nevertheless, it is clear that for Maurice at least the defining characteristic of the *fulcum* was the shield-wall, not merely close-order deployment.⁷⁹ In contrast, a shield-wall was never an intrinsic component of the Germanic *folc*, which was a generic designation for a battle formation or a division within a larger host. Even when shield-walls are attested in the much later vernacular literature, *folc* and its cognates do not acquire this sense; a range of more explicitly descriptive terms developed for this phenomenon, such as the Old English *scildweall*, *scyldburch*, or *bordweall* (“shield-wall”), or *bordhaga* (“shield-hedge”) or *wihaga* (“battle-hedge”).⁸⁰ This is not to deny the linguistic connection between *folc* and *fulcum*—etymological borrowings are often founded upon the partial comprehension or misunderstanding of the original sense of the loanword—but the difference in meaning tends to confirm that this is not a clear-cut case of simultaneous tactical and etymological borrowing.

In this context, it is important to consider the number and character of Germanic loanwords in Roman military terminology (whether attested in Latin or indirectly as loans or transliterations in Greek) with an awareness of the complexities of borrowing practices at the varying levels of official nomenclature, technical terminology, or military slang. There are in fact very few Germanic loanwords in this category and this in itself

⁷⁹At *Strat.* 12.A.7.52–53, “the first, second, and third man in each file are to form themselves into a *fulcum*, that is, one shield upon another” (καὶ τὸν μὲν πρῶτον καὶ δεύτερον καὶ τρίτον ἐκάστης ἀκίας εἰς φούλκον καθίστασθαι, τουτέστιν ἔν ἑφ’ ἔν σκουτάριον). Similarly at 12.B.16.33–8 the order *ad fulco* causes the front two ranks of an already compact formation to construct a shield-wall; the remaining ranks take no other action.

⁸⁰See J. Bosworth, *An Anglo-Saxon Dictionary*, ed. and aug. T. N. Toller (Oxford 1882–98) 116–117 *s.v.* *bordhaga*, “clypeorum saepimentum”; *s.v.* *bordweall* “scutorum agger, testudo”; *s.v.* *wihaga*, “phalanx”; also Kempf (*supra* n.1) 365.

marks out *folc/fulcum* as an atypical case.⁸¹ This dearth should not surprise; historically there is a tendency for “foreign legions” to acquire a functional proficiency in the *Heeressprache* of their imperial paymasters, rather than increase the currency of their native vocabulary. The greater prestige, complexity, and technological sophistication of the Roman army, and Roman culture generally, also meant that the traffic of loanwords generally flowed in the opposite direction.

The few Germanic loanwords conform in character to one of several types. First, in some instances the introduction into the Roman army of a genuinely new phenomenon entailed the simultaneous adoption of its original foreign name, a case of borrowed nouns for borrowed things—*e.g.* *tufa* (τούφα; dim. τουφίον), a type of standard or plume; *barritus*, the war-cry of the western Germani.⁸² Second, in contrast to these culturally-specific loanwords, others represent a nominal borrowing only,

⁸¹ Germanic loanwords in Roman military terminology have often been discussed, but no author offers a comprehensive list; see J. Brüch, *Der Einfluss der germanischn Sprachen auf das Vulgärlatein* (Heidelberg 1913) 15–17, 19; E. Gamillscheg, *Romania Germanica: Sprach- und Siedlungsgeschichte der Germanen auf dem Boden des alten Römerreiches*² (Berlin 1970) 18–19; T. Kolias, “Tradition und Erneuerung im frühbyzantinischen Reich am Beispiel der militärischen Sprache und Terminologie,” in M. Kazanski and F. Vallet, ed., *L’Armée romaine et les barbares du III^e au VII^e siècles* (Paris 1993) 39–44, at 40–41; H. Kuhn, “Das römische Kriegswesen in germanischen Wortschatz,” *Zeitschrift für deutsches Altertum* 101 (1972) 13–53, who is largely concerned with Latin influence on German vocabulary, but briefly discusses reverse currents at 43–46; Green (*supra* n.46) 184–186, 189–194.

⁸² *Tufa* was originally a standard, possibly of animal hair, *cf.* Veg. *Epit.* 3.5, Joh. Lyd. *Mag.* 1.8. In Maur. *Strat.* 1.2.12. 24. 44, 12.B.4.3, the diminutive τουφίον means a plume or tassel on the equipment of men and horses; see Kempf (*supra* n.1) 368, 387. The *barritus* was probably introduced to Roman armies by Rhineland *auxilia* in the early fourth century, though reported among the Germani as early as the beginning of the second century, *cf.* Tac. *Germ.* 3; Lact. Plac. *In Stat. Theb.* 4.394; Amm. Marc. 16.7.17; 21.13.15; 26.7.17; 31.7.11, *quam gentilitate [Romanī] appellant barritum*; Veg. *Epit.* 3.18, 24; see A. Alföldi, “Cornuti: A Teutonic Contingent in the Service of Constantine the Great,” *DOP* 13 (1959) 169–179; Nicasie (*supra* n.49) 108–110. Other Germanic loans of this type are πουγγίον or σελλοπυγγίον, types of saddlebag (Maur. *Strat.* 1.2.16, 42; see Mihăescu, “éléments” I.494); *hornatores*, apparently buglers using a “Germanic” horn (*C.Gloss.Lat.* IV 534.37, *Liticin<e>s hornatores cornices aut cornicines*; see Kempf [*supra* n.1] 352, 387). The Germanic etymology of χουζίον, a type of incendiary missile, remains speculative (Maur. *Strat.* 10.1.51 [= Leo *Probl.* 10.6]); see Scheffer 480–481; Mihăescu, “éléments” I.493).

a new word applied to a pre-existing Roman item or practice, though the correspondence may be inexact—*e.g.* *burgus*, a stronghold; *carrago*/καραγός, a baggage train.⁸³ Third, some words or expressions are less straightforward and may be the product of either process—*e.g.* *bandum*/βάνδον, a standard;⁸⁴ *caput porci(num)*, an infantry formation.⁸⁵ Fourth, other late

⁸³ *Burgus* appears to apply to any small-scale defensive installation, without an apparent “Germanic” character, see Kempf (*supra* n.1) 364–365. *Carrago*, a “Gothic” word (Amm. Marc. 31.7.7), has an unclear etymology of which the first element may itself be Latin or Latinised, see Green (*supra* n.46) 185. Fourth-century Roman authors apply *carrago* only to the wagon laagers of the Goths (*SHA Gall.*13.9, *Claud.* 8.2, 5, *Aurel.* 11.6; Amm. Marc. 31.7.5–7); and apparently described but not named by Zos. 1.45.1 (following Dexippus?) writing of the 250s; though “all barbarians” according to Veg. *Epit.* 3.10 (*cf.* Amm. Marc. 31.2.18 for the same practices among the Alans). Two centuries later, Maur. *Strat.* 12.B.7.10, 18.2, 22.99.122, 23.4; C.2, is the first attested use of *καραγός* in a Roman context, but apparently refers to a traditional Roman baggage train without Germanic features; see Kempf 347, 365; Mihăescu, “éléments” I.498.

⁸⁴ During the fifth century *bandum* (βάνδον), from the Gothic *bandwa* or *bandwo*, or Lombardic *bando*, became the most common term for a military standard (Procop. 4.2.1, 10.4; Theoph. Sim. 3.4.4; Paul. Diac. *Hist.Lang.* 1.20; *C.Gloss.Lat.* II 28.40, V 505.7; Maur. *Strat. passim*, see also the otherwise unattested βανδιφερ [= Lat. **bandifer*] in *Strat.* 3.5.7). Like the former word *vexillum*, *bandum* came by extension to apply also to the body of troops following the standard, though this usage is not attested before the *Strategicon*, throughout which βάνδον designates both any type of standard and the smallest tactical unit. Given the later general application of *bandum* to all styles of Roman military standard, it is difficult to determine whether the loan took place in the context of the Roman adoption of a specific type of “Germanic” standard, or was merely a nominal borrowing. Suggestive of the latter is Paul. Diac. 1.20, who equates *bandum* with *vexillum*, and Procop. 4.2.1, who possibly refers to the traditional *vexillum praetorium*. On the other hand, the βάνδα in the *Strategicon* appear to be a new type of “flag,” in the modern sense, rather than the *vexillum*-style “banner” suspended from a horizontal cross-piece. See Kempf (*supra* n.1) 348–349, 368–469; G. T. Dennis, “Byzantine Battle Flags,” *ByzF* 8 (1982) 51–59.

⁸⁵ Some late fourth-century Roman writers refer to an apparently “wedge-shaped” infantry formation which contemporary soldiers’ slang designated “the pig’s head”—*caput porci*, *caput porcinum* or perhaps simply *porcus* (Amm. Marc. 17.13.9; Veg. *Epit.* 3.19; possibly Augustine *De dial.* 6). Two centuries later Agath. 2.8.8 describes a giant Frankish-Alamannic “wedge” in similar terms, though the aptness of his usage and the historicity of his whole account are uncertain. Some earlier scholars pointed to the occurrence of the *svínfylking* or “swine array,” a seemingly sharply-pointed “wedge” of troops mentioned in mediaeval Scandinavian literature, in no case predating the eleventh century. On this basis they assumed the fourth-century Roman *caput porci(num)* to be a Latin translation of a similar term common to earlier Germanic peoples. I plan to examine the validity of these assumptions in a separate study.

Roman military terms have had a Germanic etymology thrust upon them which now seems doubtful or straightforwardly wrong—*e.g.* τοῦλδος, later τοῦλδον, another term for a baggage-train;⁸⁶ *drungus* (δροῦγγος), a cavalry deployment;⁸⁷ σκοῦλκα, reconnaissance or sentry duty.⁸⁸

The evidence for a long-standing Roman tradition of “shield-walls” suggests that the second of these types is the most likely model for the dynamics of the loan *folc/fulcum*, especially as the linguistic evidence points to different conceptions among Germanic- and Latin-speakers. On the one hand, the general scarcity of Germanic loanwords suggests that in this rare instance Germani recruited into the Roman army continued to employ a word from their own language precisely because it

⁸⁶ τοῦλδος is another late term for the army’s baggage-train and the standard terminology in Byzantine treatises (first attested Urbicius *Tacticon* 11, but very likely a later interpolation; Maur. *Strat. passim*, esp. Bk. 5; Theoph. Sim. 2.4.1); see P. Collinet, “Sur l’expression ΟΙ ΕΝ ΤΟΙΣ ΤΟΥΛΔΟΙΣ ΑΠΕΡΧΟΜΕΝΟΙ ‘ceux qui partent dans les bagages,’” in *Mélanges Charles Diehl* (Paris 1930) I 49–54; Dain (*supra* n.44) 161–169.

⁸⁷ Historians of the late Roman army have long assumed a Germanic derivation for *drungus* (δροῦγγος), a compact, non-linear cavalry deployment suited to irregular operations, but for over a century philologists have almost unanimously granted the Gaulish origin of this word; see Rance (*supra* n.9).

⁸⁸ Throughout the *Strategicon* σκοῦλκα, σκουλκεύειν, and σκουλκάτωρ are standard terms associated with reconnaissance, scouting, military intelligence (σκοῦλκα also in Theoph. Sim. 6.9.14; *Chron.Pasch.* 724, 730; and in Syriac, Joh. Eph. *HE* 6.10). Some MSS. of Cassiod. *Variae* 2.20 refer to *sculcatorias* [*naves*], seemingly “observation vessels,” though J. Rougé, “Sur un mot de Cassiodore: *Exculcatoriae–Sulcatoriae–Sulcatoriae*,” *Latomus* 21 (1962) 384–390, argues for the reading *sulcatorias*, apparently “freight ships.” Maurice’s σκουλκάτορες clearly correspond to the *exculcatores* in Veg. *Epit.* 2.15, 17; *Not.Dign.Occ.* 5.173 = 7.20, 5.175 = 7.122, 5.207. The verb προσκουλκεύειν (*Strat.* 4.3.101, 9.5.90, *cf.* Joh. Mal. 253.68–70 προσκουλκάτορες) implies unattested Latin **prosculcare*; *cf.* Amm. Marc. 17.10.10 for *proculcatores* (J. C. Rolfe [Loeb ed.] is unjustified in emending this hapax to *procuratores*; *cf.* ed. W. Seyfarth [Stuttgart/Leipzig 1999] II 53). Most philologists have preferred to derive σκοῦλκα (via Latin **sculca*) and cognate terms from a Germanic root (*cf.* English *skulk*), though the linguistic case is disputed; certainly no novel “Germanic” quality can be recognised in these long-established Roman practices. Furthermore, the regular appearance of *proculcator* in the recently-published ostraca from Bu Njem in Libya (dating A.D. 253–259) pushes this and related terminology back a century and a half, making a late borrowing and the Germanic derivation unlikely: see R. Marichal, *Les Ostraca de Bu Njem (Libya Antiqua Suppl. 7* [Tripoli 1992]) 68–70, with ostraca nos. 1, 7–11, 15, 19, 20, 22, 25, 27, 29, 132(?).

retained a meaning and significance for them in their new cultural surroundings. That is to say, they applied the Germanic word *folc* to the Roman deployment that most resembled their own way of fighting—a close-order array, fronted by better-equipped and more experienced warriors, designed to engage the enemy in close-quarters combat. The underlying linguistic motivation was therefore recognition and familiarity, not innovation. On the other hand, to judge from Maurice’s usage, Latin-speakers conceived this new word current among Germanic *auxilia* as having a specialist or technical meaning associated with this particular deployment and came to understand the shield-wall or “*testudo*” as intrinsic to the meaning of *folc-fulcum*. There are too many variable factors to determine whether the “institutionalisation” of the Germanic-derived term *fulcum* necessarily reflects an overwhelming presence of Germanic warriors in late Roman armies (and a current school of thought thinks not), though it does perhaps indicate that ethnically-Germanic infantry units were favoured for and more frequently employed in this style of fighting, just as Roman military recruitment had always targeted different ethnic groups according to their combat specialties.

Later Byzantine development

Other than Maurice, the only author to use the term *φοῦλκον* in a late antique context is Theophanes Confessor (writing *ca* 810–814), in his account of Heraclius’ campaigns against the Persians (622–628), which occurred a generation after the composition of the *Strategicon*. Throughout this section of his *Chronographia* Theophanes is not an original writer but based his narrative for the most part on the contemporary panegyrics of George of Pisidia, and Theophanes’ text can therefore preserve elements of his early seventh-century source. In this particular passage, however, Theophanes’ source is unknown and his usage of *φοῦλκον* possibly reflects developments of the two centuries up to the time of writing. Theophanes writes that at the battle of Nineveh in 627 the Persian commander Rhazates

“arrayed his forces in three φοῦλκα” (παρετάξατο τρισὶ φοῦλκοις).⁸⁹ Here Theophanes, who uses the word nowhere else, appears to mean simply a battle line divided into three broad divisions rather than Maurice’s *testudo*-like infantry formation. Theophanes himself elsewhere reports this tripartite deployment by Persian armies, employing non-technical language to designate the three “divisions” (εἰς τρία μέρη), and he notes that the Roman line was similarly divided into three “phalanxes” (ὁμοίως εἰς τρεῖς φάλαγγας); indeed, sixth- and early seventh-century Roman sources indicate that this was a regular practice of Persian armies.⁹⁰ Theophanes therefore uses the word φοῦλκον differently than does Maurice, as simply a generic term for a large body of troops, whether Roman or foreign.⁹¹

In this context it is worth noting that in the text of the *Strategicon* in the mid tenth-century codex *Mediceo-Laurentianus gr.* 55.4 the command αὐτὸς φοῦλκῶ attracts the marginal gloss ἐπὶ τὴν παραταγὴν, the standard tenth-century terminology for “in battle formation.” This rather unhelpful gloss, similar in sense to Theophanes’ usage, points to the difficulty that one Byzantine reader had with the earlier usage, even when presented with

⁸⁹Theoph. *Chron.* 318.15–16; transl. C. Mango and R. Scott (Oxford 1997) 449, “drew up his army in three dense formations.”

⁹⁰Theoph. *Chron.* 305.17–22. Maurice, *Strat.* 11.1.22–7, 2.40–43, records the same deployment. Theoph. *Sim.* 3.7.17 records that the Romans and Persians τρισσοῖς συντάγμασι διεκόμουν τὸν πόλεμον; at 5.10.5 Vahram Chobin κατεκόσμη ... τρισὶ λόγοις. The tripartite division of the Roman and Persian lines is also mentioned at Joh. Mal. *Chron.* 380.95–96; Procop. 1.14.32, 2.25.16, 4.3.4–5; Theoph. *Sim.* 1.9.7; 2.3.1–3; 3.7.17, 14.2–8; 4.9.2; 5.9.8; 8.2.10, 3.2, 3.5, 3.9; Georg. Pis. *Exp.Pers.* 3.186.

⁹¹For another possible instance of Theophanes’ generic usage of a technical military term see *Chron.* 217.26–27: τούτῳ τῷ ἔτει ἐκίνησαν οἱ Βουλγάρες δύο ῥήγες μετὰ πλῆθος Βουλγάρων καὶ δρούγγου εἰς τὴν Σκυθίαν καὶ Μυσίαν. A δρούγγος in this period was the official army nomenclature for a “brigade,” but earlier any unit of infantry or cavalry. The text is uncertain; καὶ δρούγγου is omitted in two MSS. (**d** and **h**), though this probably reflects no more than later scribal confusion regarding this word. De Boor’s emendation to the personal names Βούλγαρ καὶ Δρούγγ (i.e., δύο ῥήγες) is unlikely.

Maurice's explicit description of what a φοῦλκον was.⁹² It is possible that *fulcum* had always possessed more than one meaning, both Maurice's close-order deployment of infantry fronted by a shield-wall, and more generally any battle array. Certainly the latter sense corresponds more closely to the original Germanic derivation. Given the limited evidence, and the two-century interval between Maurice and Theophanes, certainty on this point is impossible, but such multiple usage would not be unusual for late Roman and Byzantine military terminology. The late Roman tactical deployments *cuneus* (κου-νίον, ἔμβολον) and *drungus* (δροῦγγος), for example, not only changed their meanings over several centuries, but even in the same period could apply to different practices and phenomena. In each case, whether used in a vernacular, technical, unofficial, or "institutionalised" context, they respectively retained their core sense of "wedge" and "grouping."⁹³

Theophanes' broader meaning is consistent with the appearance of the term in the later historical narrative of "Theophanes Continuatus" (writing *ca* 970). The context is the campaigns of Nicephorus II Phocas against Ali ibn-Hamdun in the late 950s. While the author characterises the Byzantine forces with the rather φοῦλκον-like description "they all advanced briskly towards the enemy, protecting themselves with their shields and defending themselves with their spears," in this instance φοῦλκα is a very general designation for non-Roman military formations, namely "the formations and forces and φοῦλκα of the godless Hamdun."⁹⁴ The two references in Theophanes and his continuator are the only occurrence of this term in Byzantine

⁹²See Scheffer 526, citing N. Rigault, *Glossarium τακτικὸν μιξοβάρβαρον* (Paris 1601): "Ubi παραταγή haud dubie παράταξις, id est globus, multitudo militum."

⁹³For the multiple usage of both terms see Rance, "*Drungus*" (*supra* n.9).

⁹⁴Theoph. Cont. 6.41 (460.2–7), πάντες τομῶς ἐχώρουν πρὸς τοὺς πολεμίους ταῖς ἀσπίσι περιφραζάμενοι καὶ τοῖς δόρασιν ἀμυνόμενοι καὶ κατὰ κράτος τοὺς Ἀγαρηνοὺς ἀφανίζοντες. καὶ ἦν ἰδεῖν θάμβος καὶ ἔκπληξιν τοῖς ὀρώσιν τὸν νικητὴν Νικηφόρον τὰς παρατάξεις καὶ δυνάμεις καὶ τὰ φοῦλκα τοῦ ἀθέου Χαμβαδά συγκόπτοντα καὶ ἀπορραπίζοντα.

historical narratives, and while it is possible that these civilian annalists were ignorant of the correct usage, or that the continuator merely followed Theophanes' usage, we shall see below that the meaning of φοῦλκον in technical military literature also varied considerably in the three centuries following the compilation of the *Strategicon*.

The battle formation Maurice calls a φοῦλκον is also described in middle Byzantine tactical treatises. The earliest of these are two works ascribed to the Emperor Leo VI (886–912), the so-called *Problemata* and *Tactica* or *Tactical Constitutions*. The *Problemata*, the first work Leo composed in this genre, is preserved only in *Mediceo-Laurentianus gr.* 55.4.⁹⁵ It takes the form of a “military catechism,” in which the compiler poses questions which he then answers with excerpts from Maurice's *Strategicon*, for the most part near-verbatim and maintaining the original order of the text. This treatise is devoid of originality and its primary value is as a source for establishing the text of the *Strategicon* distinct from the tradition directly preserved in extant manuscripts. Although the compiler was selective in his choice of extracts, it remains unclear to what extent the contents of the *Problemata* genuinely reflect late ninth-century practice; continued references to Avars and Persians do not inspire confidence in its contemporary utility. For the present it suffices to note that in answer to the question “How do they advance when the archery is about to commence?” (πῶς περιπατοῦσιν ὅτε ἡ τοξεία ἄρχεται γίνεσθαι;) the compiler reproduces Maurice's description of the φοῦλκον operating against enemy infantry with only very minor changes, though he omits his anti-cavalry version.⁹⁶

Leo VI compiled his *Tactica* (τῶν ἐν πολέμοις τακτικῶν σύντομος παράδοσις) at the very beginning of the tenth century, ca 908, and consequently in the period between the compositions

⁹⁵ *Leonis VI Sapientis Problemata*, ed. A. Dain (Paris 1935).

⁹⁶ Leo *Problemata* 12.29 (pp.82–83). Leo's excerpt reproduces Maurice 12.B.16.30–51, of which his introductory question paraphrases lines 30–31, φοῦλκῳ περιπατοῦσιν, ὅταν ... μέλλῃ ἄρχεσθαι ἢ τοξεία γίνεσθαι.

of Theophanes and his continuator. It is a systematic exposition on all aspects of warfare in twenty books (διατάξεις).⁹⁷ The *Tactica* has a complex textual history; two recensions are identifiable, the first of which is further subdivided into manuscripts preserving two distinct stages of the text's early history. These two "stages" of the first recension most probably represent respectively the text as Leo himself left it and the text as edited by or under the direction of his son Constantine VII Porphyrogenitus (913–959) soon after Leo's death.⁹⁸ The current state of

⁹⁷For date see J. Grosdidier de Matons, "Trois études sur Léon VI," *Trav Mém* 5 (1973) 181–242, at 193–194. The latest events referred to are the Bulgarian war of 894–896. For bibliography: G. Moravcsik, *Byzantinoturcica* (Berlin 1958) 402–406; Dain, *Strat.* (*supra* n.12) 354–357; S. Tougher, *The Reign of Leo VI (886–912): Politics and People* (Leiden 1997) 168–172.

⁹⁸For the MS. tradition see R. Vári, ed., *Leonis Imperatoris Tactica* (Budapest 1917–22) I xi–xxxv; Dain (*supra* n.35) 134–147, and "Inventaire raisonné des cents manuscrits des 'Constitutions tactiques' de Léon VI le Sage," *Scriptorium* 1 (1946–47) 33–49 (aug. G. Andrés, *Scriptorium* 11 [1957] 261–263); Dain, *Strat.* (*supra* n.12) 354–357 (note that the schema at 372 is very misleading); Tougher (*supra* n.97) 168–169 appears to confuse "manuscripts" with "recensions." Dennis, ed. 22–23, 36–39, identifies "three redactions," but without clarification. Dain identified two recensions of importance for establishing the text of the *Tactica*. The first or "Laurentian" recension comprises two groups of manuscripts reflecting two distinct stages of early textual development. The first stage (Dain's "premier état") is represented by the mid tenth-century *Mediceo-Laurentianus gr.* 55.4, which preserves what Dain called "une sorte de 'préédition'" or "l'état primitif du texte" (= Vári's text "a"). This is probably the text as Leo himself left it (*ca* 908). The second stage of the first recension (= Vári's "a correctus"; Dain's "second état") is best represented by *Vindob.phil.gr.* 275 and *Paris.gr.* 1385, and contains significant changes principally to the internal arrangement of the work, which Dain considered "l'état définitif." The archetype was probably the text as edited by or under Leo's son, Constantine VII (913–959). A MS. of this second or "definitive" stage of the first recension was the archetype of the second or "Ambrosian" recension. This archetype was produced no more than fifty years after the *Tactica* was originally compiled, and very probably less than thirty, by an editor who was a contemporary of Constantine VII. MSS. of the second recension contain some modifications in vocabulary and syntax, though not so extensive a revision as to warrant being called a "paraphrase." Vári identified a "third recension," which he called *Recensio Constantiniana*, preserved in some MSS., which purports to be a further re-edition of Leo's *Tactica* by "Constantine son of Romanus," that is Constantine VIII (1025–28). Dain subsequently proved that this "recension" is in fact a detached section of the *Tactica* written by the general Nicephorus Uranus (*ca* 950–1011), an extensive and largely derivative military encyclopaedia produced in the first decade of the eleventh century, and now preserved only as separate sections spread across various MSS.; the first part of this compilation (chs. 1–55) is a long paraphrase of Leo's *Tactica*, almost in its entirety, using a MS. of the second recension. See A. Dain,

publication poses certain problems for this study. The most recent (but incomplete) edition is that of Vári, who throughout preferred the authority of the *Mediceo-Laurentianus gr.* 55.4 (= **M**), the famous collection of classical and byzantine military treatises produced during the reign of Constantine VII. Although this codex is undoubtedly the earliest witness to Leo's text, some readings in **M** are unsatisfactory and variant manuscript readings will be introduced where appropriate.⁹⁹

Leo nowhere specifies that he made use of the *Strategicon*, but the core of the *Tactica* is a reprise of Maurice, whom Leo must have included among "the more recent authors" (οἱ νεώτεροι or νέοι), as distinct from the "classical" authors or "ancients" (οἱ ἀρχαῖοι or παλαιοί).¹⁰⁰ In many passages Leo makes few if any modifications to Maurice's text and although there are signs of the avoidance of obvious anachronism, the practical value of Leo's work is often difficult to gauge; modern scholarship has been generally critical of its idealism and naïvete.¹⁰¹ Perhaps the

La "Tactique" de Nicéphore Ouranos (Paris 1937) 40–46; the text of *Recensio Constantiniana* was printed by J. Lami, *Jo. Meursii opera omnia* VI (Florence 1745) 1211–1409.

⁹⁹The edition of Vári (*supra* n.98) concludes at 14.38, with Book 18 edited in Vári, "Bölcs Leó Hadi Taktikájának XVIII Fejezete," in G. Pauler and S. Szilágyi, *A Magyar Honfoglalás Kútfői* (Budapest 1900) 11–89. The only complete edition is *PG* 107.669–1120, which reprints the Greek text of Lami (*supra* n.98) 529–920, itself a re-edition of J. Meursius, ed., *Leonis imp. Tactica sive de Re militari liber* (Leyden 1612), based on the second or "Ambrosian" recension, which Lami emended with readings from *Mediceo-Laurentianus gr.* 55.4. I have followed Vári where available; where unavailable or where enumeration differs I have given the *PG* enumeration in parentheses.

¹⁰⁰Leo *Tact.* 14.112 contrasts Onasander (28), a genuine "ancient," with εἴρηται τε τοῖς νεωτέροις, which appears to refer to Maurice 7.B.15. See also Leo *Tact.* 4.58 (Vári), οἱ νεωτέροι μέχρις ἡμῶν; *cf.* 15.1 (*PG* 885), ἄπερ ἐκ τε παλαιῶν καὶ νέων ἀνθολογήσαμεν; 15.28 (*PG* 893), οἱ τε παλαιοὶ στρατηγοὶ καὶ οἱ πρὸ ἡμῶν.

¹⁰¹A. Vogt, "La Jeunesse de Léon VI le Sage," *RHist* 174 (1934) 389–428, esp. 408, concludes that the *Tactica* is a study of the army of the past as a model for how the present *should* be. Dagron and Mihăescu (*supra* n.41) 145, 152, consider it naïve. J. F. Haldon, "Some Aspects of Byzantine Military Technology," *BMGS* 1 (1975) 11–47, at 45, comments that Leo "tended to confuse facts with ideals." For more favourable views of Leo's awareness of contemporary developments see P. Karlin-Hayter, "'When Military Affairs were in Leo's Hands': A Note on Byzantine Foreign Policy (886–912)," *Traditio* 23 (1967) 15–40, esp.

most important role of Leo's *Tactica* was the revival of interest in military literature after a hiatus of three centuries. As in the *Problemata*, Leo omits Maurice's description (12.A.7) of how a φοῦλκον should deploy against cavalry. In its treatment of the φοῦλκον as deployed against other infantry, the *Tactica* for the most part repeats the corresponding section of the *Strategicon*.¹⁰² The few differences are instructive, however, as they hint at the contemporary reality behind Leo's ordinances. As would be expected, the Latin commands preserved in some manuscripts of the *Strategicon* are universally replaced in Leo's *Tactica* by contemporary Greek equivalents; *iunge* becomes ζεῦξον, while πύκνωσον supplants *ad fulco*, though it is unclear whether these are genuine commands current in the army of Leo's day or merely a Byzantine copyist's approximate equivalents to the late Roman expressions.¹⁰³ More significantly, Leo's alterations suggest that he did not fully understand aspects of Maurice's text, even though he had earlier reproduced the same passages in his *Problemata* almost verbatim and without apparent difficulty. For example, Maurice's instructions for the front rank to close up "so that they are shield-boss to shield-boss" (ἵνα οἱ μὲν ἔμπροσθεν τεταγμένοι ἐκ πλαγίου εἰς τὰ βούκουλα ἀλλήλοις ἐγγίζουσιν) becomes "so that they are shield to shield" (ἵνα οἱ μὲν ἔμπροσθεν τεταγμένοι {καὶ} ἐκ πλαγίου εἰς τὰ ἄρματα ἀλλήλοις ἐγγίζουσιν). The word τὰ ἄρματα was derived from

21–23; T. G. Kolias, "The *Taktika* of Leo VI the Wise and the Arabs," *Graeco-Arabica* 3 (1984) 129–135; Tougher (*supra* n.97) 170–172.

¹⁰²Leo *Tact.* 7.59, 64–68; see Vári I 179–183.

¹⁰³The commands ζεῦξον and πύκνωσον are given in codex **M**; while **A**, **P**², and **V** render the latter σφίγξον. The command πύκνωσον as the equivalent to *ad fulco* not only loses the reference to φοῦλκον as a specific formation, but is also intrinsically confusing, as the manoeuvre πύκνωσις ("closing up") actually corresponds to the command *iunge* in Maurice's *Strategicon*. Furthermore, the tenth-century Greek paraphrase of the *Strategicon* in codex **A**, itself produced within at most fifty years of Leo's *Tactica*, renders *ad fulco* (12.B.16.33) by the more literal φοῦλκον ποιήσατε; while *iunge* is in different places rendered both σφίγξατε (12.B.16.22) and ἔνωσον (24.13). See B. Leoni, *La Parafraresi Ambrosiana dello Strategicon di Maurizio. L'arte della guerra a Bisanzio* (Milan 2003) 367, 411.

the Latin *arma*, literally “weapons,” though from the early Principate employed to designate a “shield.”¹⁰⁴ Leo appears not to understand Maurice’s reference to “shield-bosses” (τὰ βούκουλα), which is almost certainly late Roman terminological usage; the limited evidence suggests that by the tenth century βούκουλον had come metonymically to mean “shield” *in toto*. It is possible that Leo’s textual alteration also reflects changes in shield design and construction in the intervening period.¹⁰⁵

In his subsequent description of the φοῦλκον Leo omits the reference to τὰ βούκουλα altogether and exhibits further terminological confusion:

Maurice 12.B.16.33–38

καὶ τῶν ἔμπροσθεν κατὰ τὸ μέτωπον τεταγμένων πυκνούτων τὰ σκουτάρια αὐτῶν μέχρι τοῦ ἐγγίξιν τοῖς βουκούλοις κατασκέποντες προσπεπλασμένως τὰς γαστέρας αὐτῶν μέχρι τῆς κνήμης,

οἱ δὲ παρεστῶτες αὐτοῖς ὄπιθεν ὑπερανέχοντες τὰ σκουτάρια αὐτῶν καὶ ἀναπαύοντες εἰς τὰ βούκουλα τῶν ἔμπροσθεν σκέπουσι τὰ στήθη καὶ τὰς ὄψεις αὐτῶν καὶ οὕτως συμβάλλουσιν.

Leo 7.66 Vári (= 7.73 PG)

καὶ τῶν ἔμπροσθεν κατὰ τὸ μέτωπον τεταγμένων πυκνούτων τὰ σκουτάρια αὐτῶν μέχρι τοῦ ἐγγίξιν ἀλλήλοις κατασκέποντες προσπεπλασμένως τὰς γαστέρας αὐτῶν μέχρι τῆς κνήμης ἤγουν τοῦ λεγομένου σκέλους,

οἱ δὲ παρεστῶτες αὐτοῖς ὄπιθεν ὑπερανέχοντες τὰ σκουτάρια αὐτῶν καὶ ἀναπαύοντες εἰς τοὺς ἔμπροσθεν σκέπουσι τὰ στήθη καὶ τὰς ὄψεις αὐτῶν καὶ οὕτως συμβάλλουσιν.

¹⁰⁴Leo *Tact.* 7.64. Meursius is hopelessly wrong in rendering εἰς τὰ ἄρματα ἀλλήλοις ἐγγίζωσιν as “intra currum complexum quasi contineantur”; as Scheffer 525 notes, “ineptissime.” For τὰ ἄρματα see Mihăescu, “éléments” I.490–491; Koliás, *Waffen* 100–101. For *arma* as “shield” see e.g. Amm. Marc. 20.7.2.

¹⁰⁵For βούκουλον as *pars pro toto* “shield” see Koliás, *Waffen* 101–103. Leo describes different types of circular shield at *Tactica* 5.2, 6.25–26, 19.57. The *Sylloge Tacticorum* 38.1, however, describes some infantry armed with shields which were roughly kite-shaped, which would certainly have been more awkward in a *testudo*. Niceph. *Praec.mil.* 1.3 (p.14.28–29), followed verbatim by Niceph. Ur. *Tact.* 56.3 (p.90.32–33), has shields of unspecified shape and at least six *spithamai* (140 cm.), presumably in height and again possibly not circular. For detailed discussion see Koliás, *Waffen* 88–131.

The text here is Vári's, based primarily on codex **M**. **M** gives ἀναπαύοντες εἰς τοὺς ἔμπροσθεν, "resting (their shields) on the men in front"; comparison with Maurice's original text demonstrates that this is corrupt. The variant readings in **A**, **P¹**, and **V**, rejected by Vári, make much better sense: ἀναπαύοντες (αὐτὰ add. **P¹**) εἰς τὰ τῶν (τοῦ **A**) ἔμπροσθεν σκουτάρια, "resting (them) on *the shields of* the men in front."¹⁰⁶ Similarly, **M** later contains a corrupt text of the instruction to the front ranks to fix their spears in the ground in order to throw darts and javelins at the enemy. Maurice wrote εἰ μὲν ἔχουσι μαρτζοβάρβουλα ἢ ῥιπτάρια, ἀναπαύοντες τὰ κοντάρια εἰς τὸ χαμαὶ ῥίπτουσιν ἐκεῖνα ("if they have *martiobarbuli* or missiles then, fixing their spears into the ground, they throw these"); for Leo's *Tactica* Vári preferred the improbable reading in **M**: εἰ μὲν ἔχουσι ματζούκια ἢ τζικούρια ἢ ῥιπτάρια, εἰς τὸ χαμαὶ ῥίπτουσιν αὐτά ("if they have *matzoukia* or *tzikouria* or missiles, they throw these into the ground"). Why are Leo's infantry throwing their missiles into the ground?¹⁰⁷ **A**, **P¹**, and **V** contain a clearer text which omits the awkward εἰς τὸ χαμαί. These three codices represent the second or so-called "Ambrosian recension," whose archetype was produced not more than fifty years after the *Tactica*'s original compilation *ca* 908, and probably less than thirty.¹⁰⁸ In both the passages cited it

¹⁰⁶Vári 181. Codices: **A** = *Amb.gr.* B 119 suppl. (139); **P¹** = *Barb.gr.* 276 (II 97) [originally one codex with *Paris.gr.* 2442]; **V** = *Vat.gr.* 1164.

¹⁰⁷Vári 182 (*PG* 7.74). The corresponding passage in Leo's *Problemata* (12.29) contains the same error, εἰς μὲν ἔχουσι μαρτζοβάρβουλα ἢ ῥιπτάρια εἰς τὸ χαμαὶ ἐκεῖνα. The occurrence of this corrupt reading in two of Leo's works, both based on Maurice's *Strategicon*, means that this error must therefore have been common to MSS. of the "third recension" of the *Strategicon*, that is, those MSS. used by Leo in the compilation of his tactical works; see Dennis ed. 36–39. It appears to be a straightforward case of the copyist's error *saut du même au même* when reading the words ῥιπτάρια, (ἀναπαύοντες τὰ κοντάρια) εἰς τὸ χαμαί. In his *Tactica* Leo updates Maurice's text with contemporary weaponry: *matzoukia* and *tzikouria* were types of throwing mace and throwing axe respectively, for which see Koliai, *Waffen* 167–169, 176–177.

¹⁰⁸Codex **A** was formerly dated to the early eleventh century, but C. M. Mazzucchi, "Dagli anni di Basilio Parakimomenos (cod. Ambr. B 119 sup.)," *Aevum* 52 (1978) 267–316, plausibly argued that it was prepared *ca* 959 at the

appears that this editor tidied up the text of Leo's *Tactica* contained in a manuscript belonging to the first or "Laurentian" recension, in the first instance correcting an omission, apparently by reference to Maurice's original text, in the second instance deleting a garbled clause altogether.

A, **P¹**, and **V** also contain an additional sentence not found in the "Laurentian recension," which appends to the phrase φούλκῳ περιπατεῖν the following gloss: ἤγουν τοὺς ὀπίσω σκέποντας τὰς τῶν ἔμπροσθεν κεφαλὰς τοῖς σκουταρίοις, καὶ οἰοινεὶ κεραμωθέντας περιπατεῖν, "to advance in a *fulcum*, that is to say, when those to the rear cover the heads of those in front of them with their shields, and advance as if roofed with tiles."¹⁰⁹ Vári rightly confines this comment to his apparatus as an interpolation, but as this gloss is common to all the manuscripts of the second recension it must date to within a generation of Leo's death and thus reflects the opinion of a contemporary editor. Indeed, the insertion of this additional remark into a text otherwise drawn almost verbatim from Maurice's *Strategicon* is entirely consistent with Leo's methodology. There can be no doubt that this gloss, containing the rare verb κεραμωθέντας, "roofed with tiles," was inspired by the description of the ancient Roman *testudo* in Onasander's *Strategicus*.¹¹⁰ This first-century text was another important literary model for Leo in the composition of the *Tactica* and he frequently inter-

direction of Basil the *Parakoimomenos* to promote his candidature for command of the projected Cretan expedition of the following year. The text of Leo's *Tactica* in both **A** and the lost parent of both **P²** and **V** (which Dain designated *Mazoneus*) derives from the common archetype referred to here.

¹⁰⁹ Leo *Tact.* 7.59. The gloss is cited by Rigault (*supra* n.92) 205–206 *s.v.* φούλκῳ (*sic*); cited by Scheffer 498.

¹¹⁰ Onas. *Strat.* 20.1, "the front-rankers are to advance in close order, with shields the height of a man ... and those who follow and the ones behind them, even to the last man, carrying their shields above their heads, when they come within range; for *thus roofed in, so to speak*, they will suffer no danger from missiles" (οἱ μὲν πρωτοστάται πυκνοὶ πορευέσθων ἔχοντες ἀνδρομήκεις θυρεοὺς ... οἱ δὲ μετὰ τούτους καὶ οἱ κατόπιν τούτων ἄχρι τῶν τελευταίων ὑπὲρ κεφαλῆς ἀράμενοι τοὺς θυρεοὺς τέως ἔχόντων, ἄχρι ἂν ἐντὸς γένωνται βέλους· οὕτως γάρ, ὡς εἰπεῖν, κεραμωθέντες οὐθὲν πείσσονται δεινὸν ὑπὸ τῶν ἐκηβόλων).

polated brief excerpts from Onasander's work into corresponding passages of Maurice's *Strategicon*.¹¹¹ The insertion of καὶ οἰοινεὶ κεραμωθέντας περιπατεῖν suggests that a near-contemporary editor, and one seemingly familiar both with Leo's working methods and the genre as a whole, equated the φοῦλκον described by Maurice with the shed-like *testudo* described by Onasander, or that he felt it necessary or helpful to elucidate the former by reference to the latter. This supplementary clarification should perhaps be seen in the context of the confusion in some manuscripts of Leo's *Tactica* regarding just who is covering whose head.¹¹²

It is difficult to be sure whether Leo and/or his editor(s) fully understood the φοῦλκον as outlined in the *Strategicon*, or the distinction between it and reports of an ancient shed-like *testudo* they found in earlier Roman texts. This is especially so given Leo's singularly eccentric use of the term compared to all other middle Byzantine texts: Theophanes and his continuator, writing respectively one hundred years before and sixty years after the *Tactica*, and the technical military treatises produced throughout the second half of the tenth century nowhere use the term in the same sense as Leo. Nor is it clear which troops Leo envisaged for these manoeuvres, whether *themata* or *tagmata*; the narrative sources of the period are insufficient to confirm the contemporary deployment of infantry in a φοῦλκον, but the overall tenor of the evidence points to infantry being of relatively poor quality in Leo's day, as a result of long-term changes in the nature of Byzantine warfare and broader

¹¹¹For Leo switching between the texts of Maurice and Onasander when both treat the same topic, see e.g. *Tact.* 7 Περὶ γυμνασίας καβαλλαρικῆς καὶ πεζικῆς, combining Maurice *Strat.* 12.B.11–16 and Onas. *Strat.* 10.4. See Rance, "Simulacra," (*supra* n.9) 242–244.

¹¹²At 7.67 P² and V read οἱ δὲ ὀπισθεν αὐτῶν ἐστῶτες, τὰς κεφαλὰς αὐτῶν σκέποντες μετὰ τῶν σκουταρίων αὐτῶν instead of τὰς κεφαλὰς ἑαυτῶν; that is, the rear ranks are wrongly said to cover the heads of *those in front of them*, rather than, as correctly, *their own* heads.

strategic contexts.¹¹³ In this particular instance it seems more appropriate to concur with the more negative critics of Leo's *Tactica* as being derivative and retrospective, in character with tenth-century encyclopaedism, rather than a realistic assessment of contemporary practices or an original contribution to the genre.

The various works comprising the rich tenth-century corpus of Byzantine military literature frequently employ the term *φοῦλκον* but in a way that leaves no doubt that a different deployment is meant. This divergent usage first appears in the treatise on guerrilla warfare *Περὶ παραδρομῆς* or *De velitatione* ascribed to Nicephorus II Phocas (963–969). The author possessed a detailed knowledge of Leo's *Tactica* and its tactical precepts.¹¹⁴ Yet throughout he employs *φοῦλκον* to designate a body of troops in formation, apparently infantry or cavalry, but more often the latter, sent out to protect smaller parties (collectively τὸ σκόρπισμα) engaged in foraging and pillaging, accompanying them into designated localities in the morning, remaining at hand during the day, and escorting them back to camp in the evening. This sense is clear from the often-repeated formula “a *φοῦλκον*, whose role is to protect them while they are dispersed for plundering” (*φοῦλκον, τὸ εἰς φυλακὴν τῶν διασκορπιζομένων πρὸς λείαν ... ὑπάρχον*). A *φοῦλκον* might also be stationed outside the camp to protect grazing horses or livestock.¹¹⁵ The author mentions *φοῦλκα* only in the context of

¹¹³Haldon (*supra* n.29) 197–200, 208–215.

¹¹⁴References are to the edition and Engl. transl. in Dennis (*supra* n.27) 137–239, as “Skirmishing”; see also Dagron and Mihăescu (*supra* n.41). For knowledge of Leo's *Tactica* cf. *De vel.* 20.11–12, “as described in the book on generalship composed by the celebrated and most wise Emperor Leo” (καθὼς ἡ συντεθείσα στρατηγικὴ βίβλος παρὰ τοῦ ἀοιδίμου καὶ σοφωτάτου βασιλέως Λέοντος διαλαμβάνει). This refers to *Tact.* 11.25 and/or 17.83.

¹¹⁵Quoting ch. 9, p.172.87–88; cf. ch. 14, p.194.108, *φοῦλκω ... τῷ εἰς φυλακὴν ἐπακολουθοῦντι τῶν ἐξελαυνόντων*; ch. 17, p.206.52–53, *τῶν φοῦλκῶν τῶν πολεμίων, τῶν ἰσταμένων εἰς φυλακὴν τῶν ἐταίρων αὐτῶν*; ch. 18, p.212.16–17, *τὰ φοῦλκα ... τὰ εἰς φυλακὴν αὐτῶν ἐξερχόμενα καὶ πόρρω τοῦ φοσσάτου ἰστάμενα*; ch. 19, p.214.8–9, *πρὸς φυλακὴν δηλαδὴ τῶν ἐξελαυνόντων πολεμίων ἐπακολουθοῦσι*; ch. 22, p.228.23–24, *εἰκὸς δὲ ἐστὶ καὶ τὸ*

invading Arab forces, and his recommendations for surprise attacks on Arab encampments or dispersed raiding parties are premised on the potential presence of such a φοῦλκον coming to the rescue and how Byzantine troops should counter it.¹¹⁶ These protective escorts were not unique to Arab tactical arrangements nor Arab in origin, however; the author merely uses a Greek term to describe what was a standard feature of both Arab and Byzantine armies.¹¹⁷

The term φοῦλκον is employed in the same sense in the anonymous treatise on campaigning, usually designated by Vári's title *De re militari*, which was composed within a generation of *De velitatione*, with which it has many obvious parallels and employs a very similar idiom and technical terminology.¹¹⁸ This is a work of practical utility by an experienced author, who explains the essential procedures for offensive operations of a large imperial army in hostile territory, especially the Balkan theatre, and is addressed to the emperor, perhaps rhetorically and traditionally, though possibly to a young Basil II (reigned 976–1025). The author enjoins the general, "each day let φοῦλκα be dispatched to protect the men who go out to collect

λεγόμενον φοῦλκον εἰς φυλακὴν αὐτῶν ἵστασθαι. Dennis (*supra* n.27) 173 n.3 appears to envisage only the involvement of infantry; Dagron (*supra* n.41) 224 n.18, "Dans le *De velitatione* et le *De re militari*, le φοῦλκον est toujours un élément de fantassins ou de cavaliers bien groupés et prêts à intervenir pour protéger des fourrageurs ou des pillards dispersés."

¹¹⁶Ch. 9, p.172.87–90; ch. 10, p.178.122–125; ch. 14, pp.194.108–196.111; ch. 17, p.206.50–54; ch. 18, p.212.16–25, 38–41; ch. 19, p.214.7–12; ch. 22, p.228.21–31, 39–44.

¹¹⁷The "Muslim" oath, μὰ φοῦλκι τῶν φοῦλκῶν, preserved in early twelfth-century Euthymius Zigabenus, *Panoplia dogmatica* 28b (*PG* 128.1345–46, transl. "Nae per phulcos phulcorum"), and cited by Du Cange *s.v.* φοῦλκον, appears to be a misunderstanding and/or corruption. F. Sylburgius, *Saracénica sive Moamethica: in quibus Ismaeliticae seu Moamethicae sectae praecipuorum dogmatum Elenchus* (Heidelberg 1595) 24, explains that this should be the Greek transliteration φέλεκ, signifying the heavens or celestial spheres, thus in Latin "circulum circulorum." He must have in mind Arabic *falak al-afalak*, "sphere of spheres," "high heavens."

¹¹⁸For text and Engl. transl. see Dennis (*supra* n.27) 241–327, as "Campaign Organization and Tactics."

forage and to pasture the horses” (ἐκάστη ἡμέρα φοῦλκα εἰς φυλακὴν τῶν τε εἰς συλλογὴν χόρτου ἐξερχομένων καὶ τῶν τοὺς ἵππους νεμόντων στελλέσθωσαν).¹¹⁹ Broadly the same usage is found in *Praecepta militaria* also ascribed to Nicephorus II (written ca 965), and in the reworking of the same material in the *Tactica* of Nicephorus Uranus (ca 1000).¹²⁰ This conceptual continuity is only to be expected, given that *De velitatione* and *Praecepta militaria* were both products of Phocas’ efforts to provide a “theoretical, instructional complement” to his practical military measures. In the context of raiding enemy territory, Nicephorus Uranus again specifies that the general must retain a sizeable force “formed as a φοῦλκον in order to protect the men in the pillaging force of the raiding party” (ἐν τάξει φοῦλκου πρὸς τὸ φυλάσσειν τὸν λαὸν εἰς τὸ σκόρπισμα τοῦ κούρσου).¹²¹ In a slightly different sense, but still consistent with contemporary usage, both authors also use the term in relation to the deployment of προκουρσάτορες, light cavalry employed as scouts and skirmishers. The commander of the προκουρσάτορες is required to disperse the majority of his troops to seek out the enemy’s strength and positions and open preliminary skirmishes, but he should retain roughly a third “as a φοῦλκον,” in effect a reserve force in close-order formation able to assist their comrades should they run into trouble.¹²² In a

¹¹⁹Ch. 22, p.308.4–5; cf. similarly ch. 23, p.308.5–11, νυκτὸς σὺν τοῖς ἐξ ἔθους ἀποστελλομένοις φοῦλκοις καὶ ἕτερον ἱππικὸν μάχιμον στείλάτω.

¹²⁰For editions of both texts see McGeer (*supra* n.40), with 171–180 for a survey of the historical context, relationship, and character of these two works, and their connection with *De re militari*.

¹²¹Niceph. Ur. *Tact.* 63.5 (p.144.59–60).

¹²²For the term προκουρσάτορες see McGeer (*supra* n.40) 67, 292–293. For their deployment “as a φοῦλκον” cf. Niceph. *Praec.mil.* 4.2 (p.40.18–21), “if there are five hundred men, their commander ought to keep three *banda* with him as his own φοῦλκον, that is to say 150 men, and distribute the rest as best he can in order to learn the enemy’s strength. If there are three hundred, he should keep one hundred with himself and use the other two hundred for the same purpose” (ὁ δὲ ἀρχηγὸς αὐτῶν, εἰ μὲν εἰσι πεντακόσιοι, ὀφείλει ἔχειν μεθ’ ἑαυτοῦ εἰς ἑἴς τὸν ἴδιον φοῦλκον βάνδα τρία, ἧτοι ἄνδρες ρν’. τοὺς δὲ λοιποὺς διαιρῆσαι, καθὼς δύναται, διαγνῶναι τὴν δύναμιν τῶν ἐχθρῶν. εἰ δ’ εἰσι τριακόσιοι,

related context, φοῦλκα feature in night-time patrols around the perimeter of Byzantine encampments.¹²³ Similarly, the anonymous author of the tenth-century *De obsidione toleranda* writes, “with respect to enemy attacks, it is necessary to estimate their occasion and hour and to send *patrols* outside the fort, though the enemy should on no account become aware of this beforehand, lest they dig pits in the ground and hiding men in them ambush and injure our men” (πλὴν κατὰ τὰς τῶν πολεμίων ἐπιθέσεις δεῖ καταστοχάζεσθαι τοῦ καιροῦ καὶ τῆς ὥρας καὶ φοῦλκα προεξάγειν τοῦ κάστρου, μήποτε προαισθόμενοι τοῦτο οἱ πολέμιοι ὑπὸ γῆν ὀρύξωσι βόθρους καὶ ἐπὶ τούτοις λαὸν κατακρύψαντες ἐνεδρεύσωσι καὶ τραυματίσουσι τοὺς ἡμετέρους).¹²⁴

McGeer correctly notes that in all these texts we see φοῦλκον “used in meanings unattested in the military treatises before the mid-tenth century.”¹²⁵ Again it is important to appreciate, however, that new terminology is not necessarily indicative of a new phenomenon. In the late sixth century Maurice clearly describes, and in very similar language, identical protective escorts guarding foraging parties:

When some men go out on a plundering expedition, not all of them are to be occupied in pillaging, but they must be divided into two—those who are engaged in plundering, and the majority

ἔχειν μεθ’ ἑαυτοῦ ῥ’, τοὺς δὲ διακοσίους ὁμοίως ποιεῖτω). This is repeated with minor variations at Niceph. Ur. *Tact.* 61.2 (p.118.21–26).

¹²³Niceph. Ur. *Tact.* 62.78–82 (p.138), “Give instructions to both the generals and the officers that all through the night pairs of generals will conduct a patrol around the entire entrenchment beyond the infantry. Have one proceed in front and the other behind with their *escorts*” (πρόσταξον δὲ καὶ τοῖς στρατηγοῖς καὶ τοῖς ἄρχουσιν ἵνα ὅλην τὴν νύκτα συνδύο στρατηγοὶ ποιῶσι τὸ κέρκετον περιγυρεῦντες ὅλον τὸ φασσάτον ἔξωθεν τῶν πεζῶν. περιπατεῖτω δὲ ὁ εἰς ἔμπροσθεν καὶ ὁ ἄλλος ὀπίσθεν μετὰ τοῦ φοῦλκου αὐτῶν).

¹²⁴*Anonymus De obsidione toleranda* 61.1–5, ed. H. van den Berg (Leiden 1947) 92.

¹²⁵McGeer (*supra* n.40) 175; *contra* Mihăescu, “termes” 264–265, who appears not to recognise a difference, “avec le même sens technique et précis”; similarly Dennis (*supra* n.27) 173 n.3, who conceives the meaning of φοῦλκον in the tenth century as being identical to that in the *Strategicon*.

who escort them in close formation (συντεταγμένως) as their guard, whether the attack is against a country, an enemy entrenchment, a herd of beasts, a baggage train, or any other objective. Do this also when the whole army collectively undertakes a plundering expedition, again so that not all the men are occupied in pillaging, but if an opportunity for foraging supplies should arise, some must engage in foraging, others in close formation must escort them, otherwise, if all the available men were occupied in pillaging or foraging, some surprise attack or ambush would be undertaken by the enemy and our soldiers would not be able to rally themselves.¹²⁶

This type of escort in force, to which Maurice applies no specific terminology, is precisely what mid tenth-century authors designate a φοῦλκον. In fact this was a standard procedure for Roman armies dating back at least to the early Principate, and the later Byzantine usage merely reflects changes in terminology rather than practice.¹²⁷ Given the difficulties we have seen in the testimony of Leo's tactical writings, it is impossible to be certain how and when φοῦλκον came to mean the mounted escorts or patrols attested in mid tenth-century military literature, distinct from the battle formation for infantry described in Maurice's *Strategicon*, and the evidence of the intervening period perhaps points to long-

¹²⁶ *Strat.* 9.3.50–61, χρή τοὺς εἰς πραΐδα ἀπερχομένους μὴ πάντας εἰς διαπραγῆν ἀσχολεῖσθαι, ἀλλὰ διακεκριμένους εἶναι· καὶ τοὺς μὲν αὐτῶν πραιδεῦν, τοὺς δὲ πλείους αὐτῶν συντεταγμένως εἰς φυλακὴν αὐτῶν παρακολουθεῖν ... δεῖ τοὺς μὲν συλλέγειν, τοὺς δὲ συντεταγμένως παρακολουθεῖν κτλ. It is perhaps possible to identify a similar practice observed by Roman forces in Procop. 2.19.11–18, *Chron.Pasch.* 717, and among the Persians in ps.-Zach. Mytil. *HE* 9.5.

¹²⁷ Onas. *Strat.* 10.7–8, “When (the general) sends out foraging parties, he is to attach to the light troops and unarmed men a combat force of both cavalry and infantry, who shall not involve themselves in the foraging but remain in formation and guard the foragers, so that their return march may be safely accomplished” (αὐτός γε μὴν ὅτ’ ἂν ἐπὶ τὴν λείαν ἐκπέμπῃ, τοῖς ψιλοῖς καὶ ἀνόπλοις συνταττέτω μαχίμους ἵππεις καὶ πεζούς, οἱ περὶ μὲν τὴν λείαν οὐκ ἀσχολήσονται, μένοντες δὲ ἐν τάξει παραφυλάξουσι τοὺς προνομεύοντας, ἵν’ ἢ σφισιν ἀσφαλῆς ἢ ἀποχώρησις). How old these procedures were is unclear, though they do not appear to have been observed by Caesar in Britain in 54 B.C. (Caes. *BG* 4.32)

term multiple usage, though the underlying concept of a compact body of troops arrayed for combat is consistent. As noted previously, the original derivation from the Germanic *folc* need not have any bearing on the meaning of φοῦλκον in the tenth-century texts, whose authors were likely to be ignorant of its etymology. The study of Roman and Byzantine armies, however, provides other examples of considerable flexibility in terminological usage while nevertheless retaining the core sense specific to each term (*e.g.*, *cuneus*, *drungus*/δροῦγγος). The variant meanings of φοῦλκον over this four-hundred-year period therefore correspond to the broad development of late Roman-Byzantine military vocabulary.

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