

Vegetius on *Liburnae*: Naval Terminology in the Late Roman Period

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Flavius Vegetius Renuatus, who wrote at some time between the years 383 and 450,¹ provides much information about the Roman military in his well-known treatise, the *Epitoma Rei Militaris*. Despite this, a good deal of confusion remains about how much of the information that he presents pertains to his own age, and how much pertains to an earlier era. Indeed, the confused nature of much of the material contained within the *Epitoma*, which ostensibly seeks to provide solutions to Rome's flagging martial prowess, has caused many scholars to question the accuracy of much of what Vegetius wrote. A particularly fine example of this is provided by Vegetius' discussion of naval vessels called *liburnae* or, in the standard English translation, Liburnian galleys. These vessels receive considerable attention in that part of book 4 devoted to naval warfare, which is usually referred to as the *praecepta belli naualis* (which begins at *Epit.* 4.31.1). But what does Vegetius mean by the term *liburna*? This article seeks to determine three things: a) what Vegetius meant when he used this word, b) how much of Vegetius' treatment of *liburnae* may be used as evidence for naval combat in the Late Empire, and c) how much of what he writes was gleaned from earlier sources. In short, it is hoped that the present discussion will explain some of the more puzzling — and oftentimes contradictory — Vegetian references to the naval craft under investigation, in addition to providing a case-in-point study of the way military terminology can change its meaning over time, or be used in both specific and general senses.

1. *Liburnae* of the present

As stated above, much of Vegetius' rather brief compendium of ancient naval wisdom is devoted to the usefulness and construction of the *liburna*,² a vessel which our author

¹ All dates in this paper are A.D. unless otherwise indicated. Abbreviations follow the 'Liste des périodiques' in *L'Année philologique*. Others abbreviations are as per *OCD*³. In addition: BAR = British Archaeological Reports (Oxford); Lewis & Short = C.T. Lewis and C. Short, *A Latin Dictionary* (Oxford 1879); and *OLD* = P. Glare (ed.), *Oxford Latin Dictionary* (Oxford 1986). The date of Vegetius is subject to debate but is not of vital importance here. My views on the matter have been expressed elsewhere; see M.B. Charles, 'Vegetius on Armour: The *pedites nudati* of the *Epitoma Rei Militaris*', *AncSoc* 33 (2003) 127-67; and id., 'Mattiobarbuli in Vegetius' *Epitoma Rei Militaris*: The *Iouiani* and the *Herculiani*', *AHB* 18 (2004) 9-21. M.D. Reeve's new OCT edition has been used throughout this article: *Vegetius. Epitoma Rei Militaris* (Oxford 2004). Naturally, I would like to thank *SCP*'s two expert readers for helpful advice and useful criticism, all of which, it is to be hoped, has improved the final product.

² Vegetius also mentions the existence of *liburnae* at *Epit.* 2.1.4. On the *liburna*, see S. Panciera, 'Liburna', *Epigraphica* 18 (1956) 130-56; and s.v. 'Liburna' in *Diz. Epigr.* R.C.

(almost certainly erroneously³) held was the key to Marcus Julius Agrippa's success against the fleet of Antony and Cleopatra at the battle of Actium in 31 B.C. (*Epit.* 4.33.2). But were vessels called *liburnae* still being constructed in Vegetius' day? This has been the subject of some dispute in scholarly circles, particularly as some believe that the use of galleys had generally fallen into abeyance by the Late Empire.⁴ With regard to this, the following statement is clearly of interest:

Liburnia namque Dalmatiae pars est Diadertinae subiacens ciuitati, cuius exemplo nunc naues bellicae fabricantur et appellantur liburnae (*Epit.* 4.33.4).

One should pay especial attention to the tense of the verbs *fabricantur* and *appellantur*, and the presence of *nunc*. These three words, and the *nunc* in particular (note that Vegetius' choice of verb tense can be misleading, for he often uses the historic present), would seem to indicate, *pace* Courtois,⁵ that 'warships' (*naues bellicae*) called *liburnae* were still being built in the time of Vegetius.⁶ This is certainly how Milner, for one, interprets the lines in question: 'ships of war are built today on their model [i.e. according to the methods of the Liburni] and are called liburnae'.⁷ So far so good. The conclusion that can be drawn is as follows: some sort of military vessels called *liburnae* were still being constructed when the *Epitoma* was written. Although one cannot be absolutely certain, it seems most likely that Vegetius, when he referred to *naues bellicae* at *Epit.* 4.33.4, was thinking of galleys. As will be seen below, Vegetius may not always refer to

Anderson, *Oared Fighting Ships: From Classical Times to the Coming of Steam* (London 1962) devotes a chapter (4) to these vessels; see especially 31-6. See also H.D.L. Viereck, *Die römische Flotte. Classis romana* (Herford 1975) 34-7.

³ C.G. Starr, *The Roman Imperial Navy 31 B.C.-A.D. 324* (Westport, CT 1975) 55. Apart from Vegetius, the poet Horace (*Epod.* 1.1-4) has also played a part in establishing the popular myth that Actium was the victory of Octavian's agile fleet of *liburnae* over bulkier adversaries. Cf. Plut. *Ant.* 65.7-8; and App. *B.C.* 5.111. See also W.W. Tarn, 'Battle of Actium', *JRS* 21 (1931) 193, n. 8. Tarn later defended his views on Actium in 'Actium: A Note', *JRS* 28 (1938) 165-8. Although he disagrees with Tarn on many points, G.W. Richardson, 'Actium', *JRS* 27 (1937) 154, n. 7 admits that Tarn was 'no doubt right in saying that Octavian's fleet was substantially the same as that which had defeated Sextus Pompey'. E. de Saint-Denis, *Le rôle de la mer dans la poésie latine* (Lyon 1953) 262-3 also provides commentary on the matter.

⁴ C. Courtois, *Les Vandales et l'Afrique* (Aarlen 1964) 206 writes of the 'la disparition presque totale des vaisseaux longs' in late antiquity. It is difficult to determine exactly what Courtois means by this. Does he concede that very small numbers of galleys still existed? A. Guillemin, *La marine de guerre antique* (Paris 1993) 19 writes that the trireme had disappeared but the bireme remained, though in small numbers. See also M. Reddé, *Mare Nostrum: les infrastructures, le dispositif, et la marine militaire sous l'empire romain* (Rome 1986) 65.

⁵ Courtois (above, n. 4) 205-7.

⁶ Yet if *liburnae* were still being built, why does our author give, from 34 to 36 of book 4, a reasonably elaborate digression about how the *liburna* should be constructed? Pure pedantry, perhaps, and a signal to his audience that he has researched *all* areas of warfare.

⁷ N.P. Milner (trans.), *Vegetius: Epitome of Military Science*² (Liverpool 1996) *ad loc.* On this passage, see E. Sander, 'Die Quellen des Buches IV 31-46 der Epitome des Vegetius', *RMPH* 99 (1956) 160-1, who notes that the similar Zos. 5.20.6 should not be used to demonstrate any connection between the two writers.

oared vessels when he writes of *liburnae*, but, on this occasion, there remains no great room for doubt, particularly since he links his *naues bellicae* with the Liburni, a people famous for their use of light galleys in antiquity. This is enough for now.

2. *Liburnae* of the past

So far we have seen that *liburnae* still existed in late antiquity. However, in chapter 37 of the same text, Vegetius presents us with the following information, which, as one would do well to recognise, does not seem to pertain to late antiquity:

*Quod ad magnitudinem pertinet, minimae liburnae remorum habent singulos ordines, paulo maiores binos, idoneae mensurae ternos uel quaternos, interdum quinos, sortiuntur remigum gradus. Nec hoc cuiquam enorme uideatur, cum in Actiaco proelio longe maiora referantur concurrisse nauigia, ut seniorum etiam uel ultra ordinum fuerint (Epit. 4.37.1-2).*⁸

On this occasion, *habent* seems to be historic present, for Vegetius, when he writes that the *liburnae* of standard size (i.e. *idoneae mensurae*) have — rather than had — three or four rows of oars, can hardly be relating the situation of his own time. Furthermore, that Vegetius adds that the above ‘should not seem enormous to anyone’ (*nec hoc cuiquam enorme uideatur*)⁹ suggests that the contemporary reader might be surprised to hear that galleys had four or five *gradus*, which is unlikely to have been the case if such vessels still existed in Vegetius’ time. In this context, one should note Zosimus’ assertion, probably made very early in the sixth century, that the art of building triremes had been forgotten many years ago (5.20.3-4). Consequently, it should hardly surprise that few scholars believe in the existence of triremes in the fifth century, let alone even larger polyremes.¹⁰ And some, such as Courtois, do not seem to be entirely convinced that late-Roman galleys existed at all.¹¹ Moreover, it has often been held that the victory of Constantine’s smaller thirty-oared craft (τριακόντοροι)¹² over the larger triremes of Licinius in 324 off Callipolis (modern Gallipoli) brought about the demise of the three-banked galley in the ancient world.¹³ However, the existence or otherwise of triremes in late

⁸ Cf. Flor. 2.21.5-6: *quippe a senis in nouenos remorum ordines, ad hoc turribus atque tabulatis adleuatae castellorum uel urbium specie, non sine gemitu maris et labore uentorum ferebantur Caesaris naues a binis remigum in senos nec amplius ordines creuerant.* As W.W. Tarn, ‘The Greek Warship’, *JHS* 25 (1905) 205 notes, *a senis in nouenos remorum ordines* and *a binis remigum in senos ordines* refer to the same system: ‘it was indifferent which phrase was used’.

⁹ Translation of Milner (above, n. 7) *ad loc.* It is disappointing that Milner fails to provide any useful commentary on these lines.

¹⁰ But cf. C. Torr, *Ancient Ships* (Cambridge 1895) 16. Cf. also Paul. Nol. *Carm.* 24.73: *quadriremis machinae*. Claudian writes *triremim* at *VI. Con. Hon.* 135. This was obviously written after 324, yet *triremim* could be attributed to poetic licence. Reddé (above, n. 4) 586-7 draws our attention to Philostorgius’ *σὺν δυοῖν ... τριήρεσιν* (*H.E.* 12.13), although he holds that the language is anachronistic.

¹¹ See above, n. 4.

¹² τριακόντερος in some texts.

¹³ E.g. D. Kienast, *Untersuchungen zu den Kriegsflotten der römischen Kaiserzeit* (Bonn 1966) 139. See Zos. 2.23.3-2.24.2. Note that Reddé (above, n. 4) 579 questions Kienast’s use of Zosimus. See also 582ff. of the same work. On Constantine’s ships, see Viereck

antiquity, which I have discussed elsewhere,¹⁴ is not really the most important aspect of the problem. Happily enough, greater enlightenment is provided by Vegetius' reference to even larger galleys.

That Vegetius, at *Epit.* 4.37.1-2, was writing about the past is also clearly demonstrated by his belief that what were once incorrectly called a 'four-banked ship' or quadrireme and 'five-banked ship' or quinquereme would have had *quartos* and *quinos gradus* respectively for rowing. Of course, it was acceptable for a Latin author to follow the standard idiom and use *ordo* and number to designate the size of a galley (and Vegetius actually does this at *Epit.* 4.37.1). But Vegetius, by referring to *gradus*, clearly implies multiple levels of oars.¹⁵ Milner translates the word as 'ranks', Stelten as 'rows', Baatz as 'Ränge' and Müller as 'Reihen'; Giuffrida Manmana does not directly translate the word in question but provides 'ordine' and 'file' on the two occasions that *ordo* appears.¹⁶ While Bockius, following Vegetius, groups '*gradus; ordines*' together as synonyms (with the accompanying translation of 'Ränge'), this should not be taken to mean that the two words, to a better-informed Latin writer, were equivalent in a maritime context.¹⁷ Now it is almost universally accepted that the ships described by Vegetius did not have four or five levels of rowers: the numeric element in the word referred to internal rowing arrangements (i.e. the number of men in each μέτρον or *interscalmium*), not the number of banks or levels of oarsmen.¹⁸ Thus while Vegetius uses *gradus* and *ordines* interchangeably to describe the same thing, this was not really correct, for it seems clear

(above, n. 2) 71. With regard to this issue, it must be pointed out that one cannot be certain that all Licinius' ships (i.e. those sent by the Ionians, Cyprians and Carians, etc.) were triremes. I thank one of *SCP*'s readers for this important observation.

¹⁴ M.B. Charles, 'Transporting the Troops in Late Antiquity: *Naves onerariae*, Claudian and the Gildonic War', *CJ* 100 (2005) 283-4.

¹⁵ Triremes, quadriremes and quinqueremes were officially termed *trieres* (*CIL* 6.1063,3 line 17; 6.3095, line 4; 6.32771, lines 5-6; 9.41, line 8; and 9.43, line 2), *quadrieries* (*CIL* 6.1063,3 line 15; 6.1064,3 line 20; and *AE* 1927.3), and *penteres* (*CPL* 193, line 5). Cf. the use of *NAVISTETRERIS LONGA* on a graffito from Alba Fucens of a Roman galley (end of the first century B.C., or beginning of the first century A.D.). Similarly, *biremis* often served, in literature of the early Principate, as a substitute for the official classification of *liburna*; see L. Casson, *Ships and Seamanship in the Ancient World* (Princeton, NJ 1971) 142, n. 6; and Starr (above, n. 3) 52 and 62, n. 6.

¹⁶ Milner (above, n. 7) *ad loc.*; L. Stelten (ed. & trans.), *Flavius Renatus Vegetius. Epitoma Rei Militaris* (New York 1990) *ad loc.*; D. Baatz (trans.) (with R. Bockius), *Vegetius und die römische Flotte* (Mainz 1997) *ad loc.*; F.L. Müller (trans.), *Publius Flavius Vegetius Renatus. Abriß des Militärwesens* (Stuttgart 1997) *ad loc.*; and C. Giuffrida Manmana (trans.), *Flavio Vegezio Renato. Compendio delle istituzioni militari*² (Catania 1997) *ad loc.*

¹⁷ R. Bockius, 'Vegetius und die Klassifizierung römischer Kriegsschiffe in der kaiserzeitlichen Flotte', in Baatz and Bockius (above, n. 16) 44.

¹⁸ e.g. Baatz (above, n. 16) 15; A. Köster, *Das Antike Seewesen* (Berlin 1923) 144; W.W. Tarn, *Hellenistic Military and Naval Developments* (Cambridge 1930) 129-30; and J.S. Morrison and R.T. Williams, *Greek Oared Ships 900-322 B.C.* (Cambridge 1968) 291. Note that some of Lucan's references to rowing arrangements are the most difficult of all to reconcile with contemporary theory, e.g. 3.530-1: *quasque [i.e. naues] quater surgens extructi remigis ordo | commouet*. From this, it is difficult not to imagine ships 'driven by four tiers of rowers', as J.D. Duff, *De Bello Civili*, Loeb Classical Library (Cambridge, MA-London 1928) *ad loc.* translates.

that earlier writers such as Florus (at 2.21.5-6)¹⁹ do not use the latter word to describe 'rows' or 'banks'. Using the above logic, it now becomes easier to explain language such as Silius Italicus' assertion that Marcellus' ship was propelled *senis ... | pulsibus* (*Pun.* 14.487-8). This ship was probably of the same configuration as one propelled *bis ternis ratis ordinibus* (*Pun.* 14.574), i.e. a ship which would have once been called a 'six-banked galley'. Note, too, Lucan's description of a ship being propelled *uerberibus senis* (3.536).

Thus it may be seen, for example, that ancient quinqueremes, described at *Epit.* 4.37.1, did not have five banks of oars, as Vegetius seems to suggest with *quinos gradus*, but one, two or three banks of oars depending on how many men were allocated to operate each of the great sweeps. Tarn, in his disquisition on Hellenistic navies, thinks that the oars of a quinquereme or πεντήρης were on one level, with five men to each oar.²⁰ He makes reference to a passage in Livy in which quinqueremes are described *cum ... ordine remorum* and not *cum ... ordinibus remorum* (24.34.7), and invites the reader to compare Polyb. 8.4(6).2, possibly Livy's source. On the other hand, Morrison and Williams hold that, on the pre-Alexandrian πεντήρης, there were 'three men to one oar and two to the other in each "room"' (μέτρον), i.e. a two-banked ship.²¹ However, for later 'fives', Morrison opts for a ship with 'double manning at two of the three levels, single manning at one'.²² Baatz follows this line of reasoning.²³ A further view is provided by Casson, who believes that the 'five' was initially a three-banked ship, but, by the time of the Carthaginian wars, the Roman quinquereme had evolved into a ship with a single bank, as Tarn suggests.²⁴ Whatever the case may be, it seems abundantly clear that, despite Vegetius' assurance to the contrary, no quinquereme ever had five banks.

So while ancient biremes did have two banks of oars, and ancient triremes possessed three, Vegetius, in exactly the same way as some of his modern counterparts,²⁵ made the erroneous assumption that a quadrireme would have four banks of oars, a quinquereme five, and so on.²⁶ Moreover, he simply did not understand the earlier use of *ordo* to refer

¹⁹ See above, n. 8.

²⁰ Tarn (above, n. 18) 125-129. These views were expressed earlier in id. (above, n. 8) 155-6; and id. 'The Oarage of Greek Warships', *The Mariner's Mirror* (1933) 67-8 and 70.

²¹ Morrison and Williams (above, n. 18) 291. See also Viereck (above, n. 2) 55-6.

²² J.S. Morrison and J.F. Coates, *Greek and Roman Oared Warships* (Oxford 1996) 270.

²³ Baatz (above, n. 16) 15.

²⁴ Casson (above, n. 15) 101. See also Anderson (above, n. 2) 22-5, who notes inconsistencies in Tarn's argument for quinqueremes with oars on one level and points out that Tarn himself ([above, n. 18] 156) quoted another passage from Livy in which it is asserted that a Roman quinquereme was worked *pluribus remorum ordinibus* than a Carthaginian trireme (see Livy, 28.30.11). It could be argued that what Livy refers to on this occasion is not the number of levels or banks of oars, but the number of men comprising each group of oarsmen (i.e. the number of men in each 'room'). This interpretation is consistent with the sort of language found at Flor. 2.21.5-6.

²⁵ A good example of this is Torr (above, n. 10) 5ff. For the history of this problem, see L.T. Lehmann, *The Polyeric Quest: Renaissance and Baroque Theories about Ancient Men-of-War* (Amsterdam 1995) *passim*.

²⁶ W.L. Rodgers, *Greek and Roman Naval Warfare* (Annapolis 1937) 256 provides a useful summary of the problem. It is ridiculous to imagine that the super-galleys of the Hellenistic navies had as many banks as their names suggest. For a convenient discussion of these

to the number of men in each 'room'. While there remains no clear representational evidence to support the existence of ships with more than three banks of oars, such evidence exists for galleys of both two and three levels of oars (the former are especially numerous). In addition, the construction and generally successful operation of a reconstructed trireme, viz. the *Olympias*, has demonstrated beyond any doubt that vessels of this specification did indeed have three banks of oars.²⁷ To show that the numeric element of the ship-type does not necessarily indicate the number of banks, let us consider the massive τεσσαρακοντήρης of Ptolemy IV Philopator (*regnauit* 221-203 B.C.).²⁸ It is impossible to believe that this oar-propelled monstrosity, which may have been a sort of giant catamaran,²⁹ had the forty distinct banks of oars that the description of Callixeinus in Athenaeus and that of Plutarch might initially suggest.³⁰ The Vegetian reasoning simply does not work for galleys of this size. From our author's complete ignorance of the rowing arrangements of the larger polyremes,³¹ it seems reasonable to infer that ships larger than triremes no longer existed when the *Epitoma* was written. Clearly enough, the *liburnae* that Vegetius describes as *nunc ... fabricantur* at 4.33.4 of the treatise are not always equivalent to those that are described elsewhere in the *praecepta belli naualis* (e.g. at the above-cited *Epit.* 4.37.1-2).

3. One man's *nauis* is another's *liburna*

It is important to note that heavily equipped vessels larger than a trireme, the great majority of which were designed to perform the dual function of missile ship and boarding platform, would, *contra* Vegetius, almost certainly not have been called *liburnae* in their pre-Augustan heyday. However, that Vegetius thought of the ancient *liburna* as a vessel of significant size is reinforced by his reference, at *Epit.* 4.43.3, to the *moles* of the *liburna*. Now *moles* is not a quality that one immediately associates with a swift and lightly constructed galley. So why does Vegetius call all the polyremes that he mentions *liburnae*? The solution to the problem must be as follows: the *liburna*, to Vegetius, is not a definite species of vessel but rather a generic term for any substantially sized military 'galley'.³² As Baatz rightly points out: 'Das Wort bezeichnet ... allgemein das Kriegsschiff'.³³ Let us see how this confusion may have arisen.

polyremes, and the ancient evidence for their existence, see Casson (above, n. 15) 97ff. Note, too, the thoughts of Köster (above, n. 18) 143-s50.

²⁷ For a discussion of this vessel, see J.S. Morrison, J.F. Coates and N.B. Rankov, *The Athenian Trireme: The History and Reconstruction of an Ancient Greek Warship*² (Cambridge 2000) *passim*.

²⁸ See Ath. 5.203e-204b, and Plut. *Demetr.* 43.5. For a modern analysis, see A.W. Sleeswyk and F.J.A.M. Meijer, 'Quantitative Analysis of the Oarage of Philopator's "Forty"', *Mnemosyne* 50 (1997) 185-98.

²⁹ That this is so is suggested by elements of Callixeinus' description. Other references to double-hulled vessels, albeit of a more temporary nature, are found at App. *Mith.* 4.26; Livy, 24.34.6-7; and Polyb. 8.4(6).2 (the latter two *loci* describe the same incident).

³⁰ Cf. Torr (above, n. 10) 8: 'Philopator built a ship of forty banks'.

³¹ Müller (above, n. 16) 315 holds that Vegetius wrote the passage in question 'Mit einer gewissen Naivität'. Cf. Sander (above, n. 7) 159-60.

³² See Baatz (above, n. 16) 11 and 15; Müller (above, n. 16) 315; Reddé (above, n. 4) 585-6; and Viereck (above, n. 2) 56. Although Torr (above, n. 10) 16 is almost certainly incorrect when he writes that 'about 400 A.D.' there still existed warships 'of every rate from those of

The *liburna* proper, as Vegetius himself admits, was of a certain type of construction. Although Vegetius does not mention the specific tactical qualities of traditional *liburnae*, Orosius' *triremes uelocitate Liburnicis pares* (6.19.8) seemingly demonstrates, as Tarn suggests, that the Liburnian was normally swifter than even the smallest of three-banked galleys.³⁴ According to the general scholarly consensus and the testimony of Vegetius (*Epit.* 4.33.4), this type of galley originated among the Liburni, a piratical people of Dalmatia. In its original form, the vessel was probably similar in appearance to an early Greek τριακόντορος or πεντηκόντορος, a relatively small galley with only a single bank of oars on each side of the hull, i.e. the sort of ship that Homer's heroes might have employed.³⁵ By the time of the late Republic, however, the single-banked vessel described above — now styled *liburna* — had evolved into a bireme, a warship with two banks of oars on each side of the hull.³⁶ The earliest reference to a Roman *liburna* is found in the military writings of Caesar (*B.C.* 3.9.1), while the next reference is found in Appian's description of the battle of Naulochus in 36 B.C. (*B.C.* 5.111: λιβυρνίδος). It seems natural to assume that both these authors, especially Caesar, use the term to describe a specific type of naval vessel.

But Tacitus and Suetonius, writing in the reigns of Trajan and Hadrian respectively, tended, as Starr points out, 'to use the term [*liburna*] as a loose synonym for warship'.³⁷ One might well adduce Suetonius' assertion that the emperor Gaius *fabricauit ... deceris Liburnicas* (*Calig.* 37.2). With this sort of thing being written by an author of some renown, it is little wonder that, by the latter stages of the Empire, the confusion of the terms *nauis* and *liburna* had become almost complete.³⁸ This, then, is the tradition that

one bank to those of five banks', he does recognise that Vegetius (n. 44, same page) uses *liburna* as a 'generic term' for galley.

³³ Baatz (above, n. 16) 15. In contrast, both Lewis & Short and the *OLD* (s.v. *Liburna*) rigidly define *liburna* as a light, fast-sailing galley.

³⁴ Tarn (above, n. 3 [1931]) 193, n. 5. For a convenient résumé of other references to the qualities of the traditional *liburna*, see Panciera (above, n. 2) 143-4.

³⁵ Casson (above, n. 15) 142 believes that the *liburna* was a type of λέμβος, which word could be used to designate vessels of varying size, from skiffs to small galleys. Still, the term generally refers to a craft of exceptional speed and manoeuvrability constructed after the fashion of the Illyrians. See also Viereck (above, n. 2) 35 and 77-8. Philip V of Macedon appears to have been the first to employ λέμβοι in a regular navy (Polyb. 5.109.3). These vessels were used in naval engagements from 201 B.C. (see Polyb. 16.2.9, 16.4.2 and 16.4.8). Antiochus III had 200 of these galleys in 197 B.C. (Livy, 33.19.10) and Nabis, the Spartan tyrant, had an unspecified number in 192 B.C. (Livy, 35.26.1). It was around this time that the potential of small galleys became obvious to the Romans (see Livy, 31.45.10, 32.21.27 and 42.48.8).

³⁶ App. *Ill.* 1.3: Ῥωμαῖοι τὰ κοῦφα καὶ ὀξέα δίκροτα Λιβυρνίδας προσαγορεύουσι. Note that J.S. Morrison, 'Hellenistic Oared Warships 399-31 B.C.', in R. Gardiner (ed.), *The Age of the Galley: Mediterranean Oared Vessels since Pre-Classical Times* (London 1995) 72 would translate ὀξέα as 'pointed' instead of the 'swift' of H. White (trans.), *Appian's Roman History II*, Loeb Classical Library (Cambridge, MA-London 1912) *ad loc.* See also Luc. 3.534: *ordine contentae gemino ... liburnae*, with Panciera (above, n. 2) 140-1.

³⁷ Starr (above, n. 3) 54.

³⁸ On the Suetonian reference, see Panciera (above, n. 2) 142. Morrison and Coates (above, n. 22) 265 write that 'Vegetius uses the word *liburna* as a compendious term for warships in general'. Note that Zosimus (5.20.3) uses Λίβερνα [*sc.* πλοῖα] to refer to ships used in a naval engagement in the year 400. As F. Paschoud (ed. & trans.), *Zosime. Histoire nouvelle*

our author follows. Certainly, it will be seen by the reader that Vegetius, in chapters 44 and 46 of the text, uses the words *navis* and *liburna* quite interchangeably.³⁹ Indeed, that *liburna*, by the Late Empire, was more or less synonymous with *navis militaris* is also suggested by the mid-fourth-century *De Rebus Bellicis*. The Anonymus, who designed a vessel propelled by oxen-driven paddles, called his ship a *liburna* (*DRB* 17.1-3). This vessel, which, according to the accompanying illustrations, would have resembled a kind of paddle steamer, was intended to be of a large size, for the Anonymus tell us that the ship, *pro magnitudine sui*, was to be powered by oxen rather than by men (*DRB* 17.1-2). Furthermore, we are assured that this craft would be of great utility in a naval battle, for its large size (*moles*), combined with the power generated *pro machinis*, would be sufficient to crush all enemy ships with which it came into contact (*DRB* 17.3). And the Latin for ‘enemy ships’? *Aduersarias liburnas*, of course (*DRB* 17.3).

The term *liburna*, unfortunately, is not found in the *Notitia Dignitatum*,⁴⁰ an enigmatic document listing the military dispositions of the Empire that was compiled at some time after Theodosius I’s death in 395. But, under the command of the *dux Pannoniae primae (et Norici ripensis)*,⁴¹ we find an officer entitled *praefectus legionis quartaedecimae geminae militum liburnariorum cohortis [quintae] partis superioris, Carnunto* (*Occ.* 34.26). Here, *liburnarii* presumably refers to men (i.e. *milites*) who equipped *liburnae* serving on the Danube. The *classis Histricae*, so the *Notitia* tells us, was stationed nearby *Arrunto siue Vindomanae [a Carnunto translata]* (*Occ.* 34.28). In such a context, *liburnarii* seems to refer not just to soldiers — or rather marines — who fought on vessels called *liburnae* in the strictest sense of the word,⁴² but to any combatants who plied the Danube in oar-propelled vessels, the greater portion of which were probably more specialised riverine craft such as *lusoriae*.⁴³ Similar references are found in the same chapter of the *Notitia*.⁴⁴ Finally on this theme, Eutropius, writing in the second half

III.1, Collection Budé (Paris 1986) 162 writes, ‘pour [Zosime] ... la Liburne est tout simplement un bâtiment relativement rapide’.

³⁹ For discussion on the Anonymus’ maritime invention, see M.W.C. Hassall, ‘The Inventions’, in id. (ed.), *De Rebus Bellicis Part I: Aspects of the De Rebus Bellicis*, BAR International Series 63 (Oxford 1979) 84-9; S. Reinach, ‘Un homme à projets du Bas-Empire’, *RA* 5.16 (1922) 242-50; and E.A. Thompson (ed. & trans.), *A Roman Reformer and Inventor: Being a New Text of the Treatise De Rebus Bellicis* (Oxford 1952) 50-4.

⁴⁰ Likewise, a word-search of the *Res Gestae* reveals that Ammianus also failed to mention *liburnae* specifically. Cf. Amm. 26.8.8, which describes an action of 365: *rostratae ... naues*.

⁴¹ The complete title of the *dux* is given at *Occ.* 5.138.

⁴² *Liburnarius* is found neither in the *OLD* nor in Lewis & Short.

⁴³ Vegetius, at *Epit.* 4.46.9, tells us that *lusoriae* rather than *liburnae* were used to guard the Danube *cotidianis ... excubiis*. Likewise, we find the following at *Epit.* 2.1.4: *classis item duo genera sunt, unum liburnarum, aliud lusoriarum ... classibus maria uel flumina*. Danubian *lusoriae* are also found at *Cod. Theod.* 7.17.1, which hails from the fifth century. Note too Amm. 17.2.3 and 18.2.12.

⁴⁴ *Occ.* 34.27: *praefectus legionis decimae et quartaedecimae gemina[rum] militum liburna[rio]rum, Arrabonae*; *Occ.* 34.37: *praefectus [legionis] secundae Italicae militum liburnariorum, Iouiaco*; *Occ.* 34.40: *praefectus legionis primae Noricorum militum liburnariorum cohortis quintae partis superioris, Adiuuense*; *Occ.* 34.41: *praefectus legionis liburnariorum primorum Noricorum, Faftanae*. Note also the following from the *Notitia Urbis Constantinopolitanae: liburnam marmoream, naualis uictoriae monumentum* (5.11-

of the fourth century, informs us that *quinto anno primi belli, quod contra Afros gerebatur, primum Romani C. Duillio et Cn. Cornelio Asina consulibus in mari dimicauerunt paratis nauibus rostratis, quas liburnas uocant* (Brev. 2.20). That Eutropius uses *liburnae* to mean galleys or ‘men-of-war’ in a very general sense is clear, for the galleys used by Rome in the First Punic War, as Panciera points out, were not light and manoeuvrable craft but *navi pesanti*.⁴⁵ Again, we find compelling evidence that the term *liburna* often simply refers to ‘oared naval vessels’ rather than to any specific type of *nauis longa*.

4. *Liburnae* as transports

We have seen so far that Vegetius uses *liburna* to describe any sort of galley and that, in this, he is not alone. But what is even more puzzling is that Vegetius provides references to *liburnae* being used as troop transports, an idea which does not readily accord with our perception of the normal use of galleys in late antiquity. Witness the following: *qui cum exercitu armatis classibus uehitur turbinum signa debet ante praenoscere; procellis namque et fluctibus liburnae grauius quam ui hostium saepe perierunt* (Epit. 4.38.1). And again: *sed quia maior adhibenda cautela est quando exercitus nauigat cum liburnis quam cum priuatarum mercium festinat audacia* (4.39.10).

Consequently, it might initially appear that Vegetius, unlike the author of the *De Rebus Bellicis*, envisages the *liburna* as a general-purpose vessel, i.e. troop carrier and fighting galley, rather than a dedicated man-of-war. Of course, this may be a lack of understanding on Vegetius’ part rather than an accurate assessment of his sources. Let us first pursue the latter possibility. The broad-beamed *quadriremes* and *quinqueremes* of the Early Empire that Vegetius anachronistically calls *liburnae* would have been able to carry a reasonable number of troops.⁴⁶ That Vegetius may have misunderstood sources that described such galleys carrying soldiers into battle could be suggested by his discussion of Actium. Agrippa’s ships, which Vegetius calls *liburnae* (Epit. 4.33.2), were certainly not mere *naues onerariae* — they were full-fledged combat vessels able to assume a fighting rôle in a naval battle. While the sources tell us that the oared vessels of both Octavian and Antony were deployed with a rather large complement of soldiers (including land-based legionaries and members of Octavian’s *cohortes praetorianae*),⁴⁷ these soldiers were intended to take an active part in the battle as marines. Such men were weapons rather than extraneous cargo.⁴⁸

12). This ‘marble Liburnian’ probably refers to an oared warship in a very general sense.

⁴⁵ Panciera (above, n. 2) 133.

⁴⁶ Tarn (above, n. 3 [1931]) 178 holds that ‘120 men to a quinquereme was a usual figure in Roman fleets’. Even a smaller galley, as Rodgers (above, n. 26) 514 deduces, could carry eighty soldiers.

⁴⁷ Plutarch (*Ant.* 64.1) says that Antony embarked 20,000 heavy infantry and 2,000 archers. Orosius (6.19.8), relying on an unnamed source, states that his opponent embarked eight legions and five praetorian cohorts. For commentary, see Richardson (above, n. 3) 156; and Rodgers (above, n. 26) 530.

⁴⁸ However, it is possible that Antony’s shipboard troops were intended to be evacuated to Egypt or elsewhere in the event of an imminent Augustan victory, for his ships, contrary to usual procedure, carried their sails into battle (Plut. *Ant.* 64.4).

On the other hand, it might be argued that, by the time of the Late Empire, the word *liburna* could be used to describe vessels that performed two very different functions. *Liburna* could be employed to denote a warship in the traditional sense (i.e. a *navis longa* or galley), but it could also be used to describe the ships used to transport soldiers to the more isolated remnants of the Empire. The latter function, as I have argued elsewhere, was normally fulfilled by sailing vessels rather than by galleys,⁴⁹ and it is pertinent to note that Zosimus, in his description of the contest between Constantine and Licinius, writes of πλοῖα πολεμικά and ναῦς φορτίδες (2.22.1).⁵⁰ The first term designates men-of-war, i.e. galleys, while the latter is used to designate transport ships (probably sailing vessels given that they are contrasted with τριακόντοροι), which Zosimus says were used to ferry an army composed of some 120,000 infantry.⁵¹ One should note, too, that a text generally believed to hail from the reign of Theodosius I provides us with the following: *cum legiones Constantini per liburnas uenire uidissent* (Anon. Val. *Pars Prior* 5.28). This is consistent with Vegetius' use of *liburnae* in the context of troop-transport. Although Vegetius' meaning is not always especially clear, it does seem that he used *liburnae*, not only as a compendious term for warships, but also as a compendious terms for ships in general, including, it might well be argued, the exclusively sail-propelled *naues onerariae* normally used for troop-transport. Of the two possibilities outlined, this appears the more likely.

5. *Liburnae* envisaged as combat vessels

Finally, it will be well to look at some of the ways in which Vegetius describes *liburnae* being used in combat, information which he presumably gleaned from sources of the Republic and Early Empire. It seems clear that, when he uses *liburnae* in such a context, he refers to oared vessels rather than those driven exclusively by sail.

Although Vegetius sometimes appears to indicate that many contemporary Roman vessels were little more than troop-transports, he emphasises, in the latter chapters of his naval *praecepta*, the significance of the ship as an *instrument* of war rather than simply as a *conveyance* of military power. At 4.43.3 of the *Epitoma*, he describes the importance of the ram in naval warfare: *liburnarumque moles non uentorum flatibus sed remorum pulsu aduersarios percutit rostris*. It should be noted that Vegetius, in the period of the Late Empire, was not the only advocate of the ram.⁵² Yet, apart from an isolated reference in Zosimus relating to the suppression of the rebel Gainas' 'fleet' of hastily built σκεδίας in 400 (5.21.3), when was the last time that a Roman fleet had participated in a ramming contest? It is doubtful whether ramming tactics would have had any real place in the suppression of isolated examples of piracy. A single pirate vessel, swiftly retreating from the scene of its crimes, does not present an easy target for the ram. Rather, ramming tactics belong to set-piece fleet engagements between organised

⁴⁹ On *naues onerariae* in late antiquity, see Charles (above, n. 14) 271-99.

⁵⁰ Cf. Zos. 2.26.1, where, according to Paschoud (above, n. 38) I² (2000) 92, n. 'a', the genitive plural of ναῦς is used with two adjectives in order to designate transports and warships respectively: νεῶν καὶ φορτίδων καὶ πολεμιστηρίων.

⁵¹ The fleet of transports was supposedly more than 2,000 strong (Zos. 2.22.1).

⁵² The anonymous author of the *De Rebus Bellicis*, as mentioned above, also seems to suggest the efficacy of this device, and the illustrations that complement the extant manuscripts of the text clearly show a ram jutting forward from the prow of his paddle-powered *liburna*.

foes, the like of which had not really been seen since Constantine's day. Despite this, the ram, it might readily be imagined, could still be used with telling and devastating effect in the initial stages of a naval battle, i.e. at that stage when massed fleets were being ranged against each other and before the grappling iron could come into play.

Chapters 44-46 of the text provide a further insight into the manner in which Vegetius thought that naval power should be used. These sections, apart from chapter 45 (which treats of basic naval strategy), incorporate advice of a largely tactical nature and list the various types of artifices that might be employed in a ship-versus-ship combat scenario. Vegetius, in his discussion of catapults, incendiary devices and boarding-tactics, is describing set-piece naval situations. At *Epit.* 4.44.1, Vegetius states that naval warfare demands *machinas et tormenta*. The marines must be adequately protected with body armour, large shields, helmets and even greaves (*Epit.* 4.44.3). In addition to *falces et arpagones*, various missile weapons must be employed (*Epit.* 4.44.5). War must be waged *sagittis missilibus fundis fustibalis plumbatis onagris ballistis [et] scorpionibus* (*Epit.* 4.44.5). After the initial contact, bridges (*pontes*, there is no mention of the *coruus*) should be thrown across in order to facilitate boarding (*Epit.* 4.44.5). This is where the armoured marines come into play. Incendiaries must also be launched against the enemy ships (*Epit.* 4.44.7). Of special interest is the following: *in maioribus etiam liburnis propugnacula turresque constituunt, ut tamquam de muro ita de excelsioribus tabulatis facilius uulnerent uel perimant inimicos* (*Epit.* 4.44.6). This is not simply advice on weapons or armour; this sentence deals with structural concerns.

As noted above, the sort of set-piece naval combat described by Vegetius in the *praecepta belli naualis* may not have been witnessed since 324.⁵³ For many years, imperial vessels would have found themselves chasing pirates and smugglers rather than well-organised enemy *classes*. Even the naval battle waged in 400 between the Byzantine commander Fravitta and the rebel 'forces' of his fellow Goth Gaïnas, whose men were attempting to traverse the Hellespont, seems to have been a rather nondescript affair from a naval perspective.⁵⁴ So who is the enemy that Vegetius envisages in these three chapters? If one accepts that the text in question, as Goffart has previously and (in this writer's mind) quite forcefully argued, was written during one of the two periods in

⁵³ According to the generally accepted interpretation of Zosimus (especially 2.23.3), 200 triremes of Licinius under the immediate command of his admiral Abantus were ranged against Constantine's 80 smaller vessels (τριακόντοροι) at the Hellespont (on the size of the vessels, see *Zos.* 2.22.1-2 and 2.23.3). For a discussion of the significance of the battle, see C. Courtois, 'Les politiques navales de l'empire romain', *RH* 186 (1939) 226-7; Kienast (above, n. 13) 138-9; and Morrison, Coates and Rankov (above, n. 27) 8-9. See also Reddé (above, n. 4) 579 and 582ff. Although modern scholarship makes much of the supposedly different size of the combatant vessels, one of *SCP*'s anonymous readers quite rightly pointed out that Zosimus does not highlight the significance of the differing ship-types. Instead, he focuses on the tactics involved.

⁵⁴ Various versions of the battle are reported, but the general consensus seems to be that a collection of hastily built vessels (Socrat. *H.E.* 6.6.32: σχεδίας συμπήξαντες; Zosimus also calls them σχεδίας at 5.21.3) were routed by a fleet — or at least a squadron — of imperial warships (νηϊτή στόλω; Philostorg. *H.E.* 11.8). See also *Chron. Pasch.* 400-1; *Jord. Rom.* 320 (*MGH:AA* 5.1, 41); Marcell. *Chron.* 400 (*MGH:AA* 11, *Chron. Min.* 2, 66); and Sozom. *H.E.* 8.4.19-21.

which the Vandals were accepted as *foederati*,⁵⁵ the opponent that Vegetius imagines may be none other than the Vandal ruler Genseric. This naturally represents a rather controversial assertion (for the traditional view is that the text was addressed to Theodosius I),⁵⁶ but it would not be entirely foolish to suggest that the *praecepta belli naualis*, which finds itself unhappily, if not hastily, appended to a lengthy discussion on siege warfare, may have been a last-minute inclusion prompted by the author's growing disquiet at the Vandal situation.⁵⁷

In sum, the ostensibly confusing information that Vegetius presents about *liburnae* need not prevent us from drawing some defensible conclusions. Indeed, we are able to establish that the term *liburna*, by the Late Empire, had manifold meanings, and that a Latin writer was not beholden to employ merely one of those meanings within the context of a single work. A critical inspection of the *Epitoma* certainly reveals this to be the case. Our findings may be summarised thus. First, ships called *liburnae* were still being constructed at the time of the *Epitoma*'s composition, and these *liburnae* — or at least a portion of them — were galleys descended from the type first built along the Dalmatian coastline many centuries earlier. If this were not so, Vegetius surely would not have associated Illyrians with the *naues* which *nunc ... fabricantur* at *Epit.* 4.33.4. Secondly, Vegetius was unaware of the rowing arrangement of those polyremes that he describes at *Epit.* 4.37.1-2. His apparent belief that galleys had four, five, six and more banks of oars was derived from a faulty interpretation of earlier literature and demonstrates that vessels larger than triremes probably did not survive until Vegetius' era. However, Vegetius gives us no reason to infer from his testimony that three-banked vessels were no longer constructed (although this certainly remains a moot point). Thirdly, it is clear that, according to Vegetius, all oared vessels might be described as *liburnae*, which appears to be consonant with the practice of other Latin authors and even Greek ones (such as Zosimus). Fourthly, vessels not propelled by oarsmen might also be designated *liburnae*, a practice which is probably again in line with that of contemporary writers. When Vegetius describes troops being transported across the Mediterranean in *liburnae*, he could possibly have sailing vessels or *naues onerariae* in mind. Such ships were

⁵⁵ W. Goffart, 'The Date and Purpose of Vegetius' *De Re Militari*', *Traditio* 33 (1977) 86-7. E. Birley, 'The Dating of Vegetius and the *Historia Augusta*', in id. (ed.), *The Roman Army: Papers 1929-1986* (Amsterdam 1988) 68 = *Bonner Historia-Augusta-Colloquium 1982/83* (Bonn 1985) 67 also leans toward this view: 'the age of Aëtius but also of Merobaudes seems to fit the background of Vegetius — specifically, after the treaty of the peace with the Vandals in 442'.

⁵⁶ For this view, see especially S. Mazzarino, *Trattato di storia romana* II (Rome 1956) 487-9 and 542-3; V.A. Sirago, *Galla Placidia e la trasformazione politica dell'Occidente* (Louvain 1961) 467-75 and 493; A. Chastagnol, 'Végèce et l'Histoire Auguste', in *Bonner Historia-Augusta-Colloquium 1971* (Bonn 1974) 59-80; T.D. Barnes, 'The Date of Vegetius', *Phoenix* 33 (1979) 254-7; and G. Sabbah, 'Pour la datation théodosienne du *De Re Militari* de Végèce', *Centre Jean Palerne, Mémoires II* (Saint-Étienne 1980) 131-55.

⁵⁷ It has even been suggested that the *praecepta belli naualis* was originally conceived as 'un tratado independiente'. On this, see L. Rubio, 'El ms. *Scorialensis* L.III.33: nuevos datos para una futura edición del *Epitoma Rei Militaris* de Vegetius', *Emerita* 41 (1973) 209-23. I have briefly discussed this possibility, confidently rejected by Reeve (above, n. 1) liii, at *BMCR* 2004.11.16.

normally the first-choice troop-transport in the ancient world, although galleys — especially the larger varieties — could also perform this function on occasion. Thus Vegetius effectively demonstrates the dual use of military technology, i.e. that *liburna* not only had a specific military sense but also a rather more general one. In addition, we see how the meaning of certain military words changed throughout Roman history. Just as *legio* in the fourth and fifth centuries meant something rather different to its meaning in Trajan's time, so too did the meaning of *liburna* change.⁵⁸ Language is rarely if ever static. While the specific meaning of *liburna* seems to have remained, the word, by Vegetius' day, encompassed a much greater variety of meanings, to the extent that it was, in its most general sense, more or less synonymous with the equally general *navis*.

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⁵⁸ With regard to ancient naval technology, one might well adduce *εικόσσορος*, which, though once having the literal meaning of 'twenty-oared ship', came, in time, to be 'applied indiscriminately to sailing ships of all sizes including Hiero's superfreighter', as Casson (above, n. 15) 169, n. 5 points out. On this particular vessel, which had three masts and was named the *Syracusia*, see Ath. 5.206d-209b, with commentary by Casson (above, n. 15) 185-86; and R.P. Duncan-Jones, 'Giant Cargo-Ships in Antiquity', *CQ* 27 (1977) 331-2.