

Athens' Peacetime Navy in the Age of Perikles

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IN THE eleventh and twelfth chapters of his biography of Perikles, Plutarch gives some details of the policies developed by the Athenian statesman to relieve the plight of the poor of Athens. Some men, he says, were sent as settlers to the newly-created *klerouchies* in the empire. Others, both skilled and unskilled workmen, were employed in constructing the great monuments rising on the Akropolis and in other parts of Attika. Perikles also, Plutarch says, (11.4), caused sixty triremes to be manned and equipped for eight months of each year for the purposes of giving pay to the crews and of training them for war. I shall undertake to show that this number is wrong and that it should be emended to sixteen. I wish also to discuss how the sixteen ships may have been used and what implications such a standing navy has for our understanding of the financial history of Athens.

There is no reason to doubt that the essential point in Plutarch's statement is correct, that is, that the Athenian *dēmos* did receive naval training. The contemporary Old Oligarch says they did (1.20) and Thucydides makes Perikles say the same thing (1.142.7–9). Training was necessary both for the steersmen and for the simple oarsmen, who had to row in strict unison while seated in close quarters on board ship.¹ Learning to row at the different speeds ordered by the *keleustai*, handling the long, heavy oars while changing from "all ahead" to "all astern," and bringing all the oars on one side rapidly inboard to practice the side-swiping tactic sometimes used against an enemy—all this required a certain skill which only practice could give. Where Plutarch found this information is impossible to say. But, as an honest man, he will have found it somewhere, for he did not invent his facts, but depended on his considerable reading to

¹ The oarage of a trireme is accurately described by J. S. Morrison, "Notes on Certain Greek Nautical Terms," *CQ* 41 (1947) 122–35, and by L. Casson, *The Ancient Mariners* (New York 1959) 93–4.

supply them. He read, we know, the *Atthis* of Hellanikos, a contemporary of Perikles, Krateros' collection of Athenian decrees with its learned commentary, and Philochoros' *Atthis*, and, perhaps, his *Attic Inscriptions* too.² One or more of these sources no doubt contained some such detailed information—based on an Athenian decree of the *Boulē* and *Dēmos*—on the fleet as Plutarch gives us. Philochoros was capable of recording events with great exactitude. He tells us that in 445/4 the Athenians received a gift of 30,000 *medimnoi* of grain from Egypt, which was shared between 14,240 citizens.³ While Plutarch's basic information is correct, therefore, the number of ships must be corrupt.

Modern scholars who have commented on this passage have contented themselves with a few simple observations, that, for example, the ships went out for only eight months because sailing during the winter was difficult.⁴ Others have computed the number of men or the sum of money required for such a fleet. Perrin estimated that the crews of sixty ships would have amounted to 12,000 men. Böckh and Gomme calculated their cost at 480 talents a year.⁵ But none of these scholars took the next step of comparing these figures with what is known of Athens' total population or income. Had they done so, I believe, they would have seen that the number sixty is impossibly high.

Let us examine the financial aspect first, and proceed to do so by estimating the cost of manning sixty ships in the most conservative way. Let us allow that one crew amounted only to 191 men drawing pay, instead of following the usual rule-of-thumb number of 200. There would be a trierarch (who will not have been paid), six ship's officers, ten marines, a flute-player (a slave, perhaps, and not paid wages, but still an expense), possibly four sailors to handle the sails

² Hellanikos: Plut. *Alc.* 21.1; Krateros: Plut. *Aristid.* 36.2; Philochoros: Plut. *Nic.* 23.5.

³ For Philochoros' reputation see L. Pearson, *Local Historians of Attica* (Philadelphia 1942) esp. 109, 123, 135; and F. Jacoby, *Atthis* (Oxford 1949) *passim*. The grain is from *FGrHist* 328 F 119 = Schol. *Ar. Vesp.* 718. These figures have been generally accepted, as by A. W. Gomme, *The Population of Athens* (Oxford 1933) 16–7.

⁴ As R. Flacelière and É. Chambry on this passage in the Budé ed. (Paris 1964).

⁵ Crews: B. Perrin, *Plutarch's Cimon and Pericles* (New York 1910) 226. Cost: A. Böckh, *Die Staatshaushaltung der Athener*³ I (Berlin 1886) 357; A. W. Gomme, *A Historical Commentary on Thucydides* II (Oxford 1956) 42 (hereafter cited as GOMME, *Comm.*). K. J. Beloch, *Griechische Geschichte*² II (Strassburg 1916) 331, put it as 240 talents, since he allowed pay of only three obols a day instead of a drachma.

and steering oars, and 170 oarsmen.⁶ A fleet of sixty ships will have required 10,200 men to row, 600 *epibatai* and 660 other ranks, a total of 11,460 men. If each one received a drachma a day, which most authorities agree was the rate of pay at this time,⁷ the cost *per diem* will have been 1 talent, 5,460 drachmas, very nearly two talents. The minimum cost for eight months will have been something like this. Eight lunar months amount to 236 days, allowing for four full months of thirty days and four hollow months of twenty-nine. Let us suppose, too, that the crews were not paid on every one of those days, because the ships had to be in port for upkeep or repair, because some religious festival was in progress, because the Assembly was holding some important session, or for some other reason. Thus, perhaps a third of this time, around 76 days, should be subtracted from the 236, leaving 160 days of active service for which pay was given. Of course, the actual number of days without pay may well have been much less. At 1 talent, 5,460 drachmas a day for 160 days, the cost would be 305 talents, 3,600 drachmas as a minimum figure for sixty ships. The true figure no doubt lies between this and the 480 talents of Böckh and Gomme.

In 432/1, the annual income of Athens, from both domestic and foreign sources, was about 1,000 talents.⁸ When Perikles inaugurated the training program, however, the income of the state was certainly less. Miltner thought that the program, as a democratic reform, would have been begun about 453–450 B.C.,⁹ and this may be right, but I should be inclined to put it right after the Peace of Kallias or even after the Thirty Years Peace of 445, by which time the founding of the great series of *klerouchies* was coming to an end, and there were prospects for a lengthy period of peace. That was just the time to start regular paid training. The exact date, however, does not matter—the system was certainly in operation by 445/4, and Athens' revenue was certainly less than in 432/1. We know of two considerable items of income which did not exist in 445/4. One was the annual installment of 50 talents paid as war indemnity by Samos from 439 on, and the second was the revenue, whatever it was, that came in

⁶ For crews of triremes see F. Miltner in *RE* 16 (1935) 2030–1 s.v. NAUTAI, and A. Köster and B. Veith, *Heerwesen und Kriegsführung der Griechen und Römer* (München 1928) 188–91.

⁷ A. Böckh, *op.cit.* (*supra* n.5) I.340–2, 357, collected the evidence; Gomme *Comm.* II 42, 46–7, 275 gives it a recent discussion.

⁸ Xen. *Anab.* 7.1.27.

⁹ In *RE* 19 (1937) 759 s.v. PERIKLES 1.

from Amphipolis after 437. The authors of *ATL* think that it was in the neighborhood of 70–75 talents, but this strikes me as too high, at least for 432/1, when Amphipolis had been settled for only five years. A third source of income, the *phoros* of the allies, in the early 440's varied between 360 and 375 talents; about 443 it rose to around 390 talents and then remained approximately constant.¹⁰ Therefore, if we take these three items together as 125 talents (50 from Samos, 60 from Amphipolis and 15 more of tribute), Athens' income at the time the training program was begun and was budgeted for was around 875 talents. The cost of the Annual Squadron, as I shall call it, would have been more than a third of this on the lowest possible estimate, or more than half on the highest, if it comprised sixty ships.

We must, therefore, consider the yearly charge for the Annual Squadron along with what is known of other expenditure at Athens at this time. The non-naval outlay was certainly considerable. Work was in progress on numerous temples and costly monuments. The Parthenon required about 500 talents to complete, and the Propylaia about 200.¹¹ Pheidias' gold and ivory statue of Athena consumed the enormous sum of 750 talents.¹² Not all of the money for the embellishment of the Akropolis came from public funds, since a certain amount was contributed by private individuals.¹³ But such contributions will have been relatively tiny, so that we can count the whole cost as an expense of the state, remembering that we do not know how much was spent for things like landscaping. Work on the Akropolis, therefore, buildings and statue together, absorbed during the seventeen years of construction an average annual expense of 85 talents at least. Actually, most of the expense fell in the 440's, when gold was purchased for the statue and when most of the stone for the

¹⁰ Samian indemnity: B. D. Meritt, H. T. Wade-Gery and M. F. McGregor, *The Athenian Tribute Lists* III (Baltimore 1950) 307, 327 n.7, 334–6 (hereafter cited as *ATL*). Gomme, *Comm.* II.33, has argued that the annual amount was larger but the arguments in *ATL* fit the evidence much better. Amphipolis: *ATL* III.309 n.45, 339 n.58. *Phoros*: *ATL* III.338.

¹¹ R. S. Stanier in an interesting article, "The Cost of the Parthenon," *JHS* 73 (1953) 68–76, estimates the costs of these two buildings. The Parthenon, he thinks, cost 460 talents, but he says that it may have cost more, depending on certain factors affecting his calculations. He even mentions 680 talents as possible. I have chosen to round off 460 as 500 talents.

¹² *IG* I² 354, as republished by W. B. Dinsmoor, "The Final Account of the Athena Parthenos," *ArchEph* 1937, 507–11, and modified by Gomme, *Comm.* II.25.

¹³ In year 10 of the Parthenon two individuals, Eupher [.] and Sauponos contributed money: *IG* I² 348.

Parthenon was quarried and hauled to Athens. Simultaneously, there were under construction the Temples of Nemesis at Rhamnous, of Poseidon at Sounion, of Hephaistos in the Agora, and of Ares in or near the city of Athens, as well as the Telesterion for the celebration of the Mysteries at Eleusis.¹⁴ We do not know how much these buildings cost, nor how they were paid for. Even if we assume, as is commonly done, that the money came from old accumulated treasure of these gods, we still have to consider the expenditure for them part of state expense. Xenophon's figure of 1,000 talents includes the income of the other gods as well as that of Athena. We are not concerned here only with the Sacred Treasure of Athena, or with the chest of the Hellenotamiai, or with any single treasure, but rather with the total annual income of the state. I concede that the expense of building these other temples could have come from accumulated treasure; but even so the expense both of constructing the temples and of training the fleet was expected to go on for a very considerable period of time—probably thirty years or so—and, in the long run, expenditure obviously could not exceed income. In the case of these temples, then, if we estimate very conservatively that each of these five buildings, including cult statue and other ornamentation, cost 100 talents to build, and allow twenty years for carrying out the work, this will have involved an average annual outlay of around 40 talents. Additional to these temples, there were also the new Odeion, whose cost is not known. Work on the platform for the Temple of Athena Nike on the Akropolis consumed another unknown sum of money down to 431. Some inexpensive preparations for the construction of the Erechtheion were possibly made between 435 and 432. The Chalkotheke, just to the west of the Parthenon, may have been completed during the first years of our period. One or more half life-size, gold-plated statues of Nike were made in the 430's. The value of the gold used was 28 talents of silver, and the cost of making them will have increased the amount paid out for them to at least 30 talents each.¹⁵ There was other expenditure for more mun-

¹⁴ Recent discussion of the dates and other details of these buildings include those of W. H. Plommer, "Three Attic Temples," *BSA* 45 (1950) 66–112, and C. H. Morgan, "The Sculptures of the Hephaisteion," *Hesperia* 32 (1963) 91–108.

¹⁵ Athena Nike: W. Wrede, "Mnesikles und der Nikepyrgos," *AthMitt* 57 (1932) 74–91; Erechtheion: J. M. Paton, *The Erechtheum* (Cambridge [Mass.] 1927) 452–6; Chalkotheke: G. P. Stevens, *The Setting of the Periclean Parthenon* (*Hesperia* Suppl. 3, Baltimore 1940) 7–9; J. P. Barron, "Religious Propaganda of the Delian League," *JHS* 84 (1964) 47; Nike:

dane construction, such as the middle Long Wall, completed perhaps in 443/2, and the other fortifications, like those on the north-western frontier.¹⁶

In addition to expenditure on public works, other annual payments had to be met. These included pay for the jurymen, which amounted to 60–70 talents a year. The five hundred *bouleutai* received 20–25 talents a year. The cavalry was subsidized by the state to the extent of some 40 talents a year.¹⁷ Annual charges for maintenance of the navy included the building of new triremes to replace those which inevitably wore out or were wrecked. We are not certain how many new ships were built every year. The *Anonymus Argentinensis* says that ten new triremes were constructed annually.¹⁸ By the 430's, this would have been too small a number, however, to have maintained the strength of the Athenian navy. Thucydides says that Athens had 300 warships on her navy lists in 431. Kolbe thought that the average length of life of a trireme was twenty years, basing his estimate on a study of the naval inscriptions of the fourth century.¹⁹ To maintain a strength of 300 ships would therefore require fifteen new hulls a year. Perhaps, however, before the Samian War the Athenians had fewer than 300 ships, and, as a result of the loss of the services of the Samian fleet in 439, the number of new ships built was increased from

H. A. Thompson, "A Golden Nike from the Athenian Agora," in *Athenian Studies presented to William Scott Ferguson* (HSCP Suppl. 1, Cambridge [Mass.] 1940) 183–210.

¹⁶ L. Chandler, "The North-West Frontier of Attica," *JHS* 46 (1926) 1–21; R. L. Scranton, "The Fortifications of Athens at the Opening of the Peloponnesian War," *AJA* 42 (1938) 525–36. J. R. McCredie, *Fortified Military Camps in Attica* (*Hesperia* Suppl. 11, Princeton 1966) does not discuss the fortifications of the north-west frontier, but lesser camps in the interior of the country, mostly of Hellenistic date.

¹⁷ Pay for holding state office is discussed by C. Hignett, *A History of the Athenian Constitution* (Oxford 1952) 219–20. *Ar. Vesp.* 663 says that the jurymen of that time received 150 talents a year, but that was after 425 B.C., when their pay had risen from two to three obols a day. *ATL* III.345 and n.97 say, rightly I think, that this is a theoretical maximum and not the actual amount spent. Hence, in the 440's and 430's the cost of the juries was perhaps 60–70 talents. Members of the *Boulē* received, probably, one drachma daily when in Prytany, otherwise five obols, but this is not certain (Hignett, *loc.cit.*). M. N. Tod, in *CAH* V (Cambridge 1927) 30, estimated the cost of pay for *dikastai* and *bouleutai* together at 100–110 talents a year after the rise in pay in 425.

¹⁸ I have used the text as restored by H. T. Wade-Gery and B. D. Meritt, "Athenian Resources in 449 and 431 B.C.," *Hesperia* 26 (1957) 164. The ships are from lines 10–11.

¹⁹ W. Kolbe, "Zur Athenischen Marineverwaltung," *AthMitt* 26 (1901) 377–418. F. Miltner, in *RE* Suppl. 5 (1931) 920 s.v. *SEEWESEN*, mentions a forty-year old ship (*Plut. Phil.* 14.3) and an eighty-year old one (*Livy* 35.26.5). J. Labarbe, *La loi navale de Themistocle* (Paris 1957) 127 n.4, and Casson, *op.cit.* (*supra* n.1) 98, follow Kolbe.

ten to fifteen to compensate. How much a new trireme cost the state is also uncertain. It was one or two talents, but we do not know how much of this the trierarchs had to contribute.²⁰ But we can still estimate the expense of new ships within limits: if the state paid one talent for each of ten ships, it was 10 talents; if two talents for fifteen, 30 talents. I shall summarize the amount of all annual expenses in a moment.

There is one last considerable amount of Athenian income which, while it cannot be reckoned as an expenditure, was still not available for financing the Annual Squadron. This was the amount of money set aside every year during this period and added to the Sacred Treasure of Athena. The Decrees of Kallias prove that by 434/3 the Athenians had amassed the sum of 3,000 talents and transferred it to the Akropolis.²¹ We cannot be sure how much was set aside annually for this purpose, because we do not know when the Athenians began to accumulate the money. The authors of *ATL* have argued for the year 449/8, and claim that exactly 200 talents was the amount set aside each year. Gomme has vigorously attacked this view, and, I believe, has shown that *ATL* were wrong to posit an exact sum.²² The actual sum may have been as much as 300 talents a year, that is, the amount left over after all expenses of the Hellenotamiai had been met. That amount would be the figure if we assume that there was a surplus only in years of peace. Since wars were fought in 447/6, 446/5, 441/0, and 440/39, there would have been, reckoning from 449/8, ten payments into the Sacred Treasure. I do not mean to imply that 300 talents was an exact sum, but rather that in one year, say, 287 talents were left over, in another 313, and so on. On the other hand, 300 talents may be too much; the surpluses may have been accumulated from 454/3, when the core of Athena's treasure was brought from Delos, and some surplus may have existed in some of these war years. If this is so, then a minimum of 150 talents will still have been set aside.

²⁰ Gomme, *Comm.* II.33 n.1; N. G. L. Hammond, *A History of Greece* (Oxford 1959) 326. Triremes grew more complicated after Salamis and Mykale (Thuc. 1.14.3; Plut. *Cim.* 12.2, and see Gomme, *Comm.* I [Oxford 1945] 125, 222 and 278 on these passages). This and the gradual fall in the value of money in the fifth century may account for the differences between our sources.

²¹ *IG I²* 91–2, now superseded by the text in *ATL* II D1–2.

²² *ATL* III.326–9; A. W. Gomme, "Thucydides ii 13, 3," *Historia* 2 (1953) 1–21; *Comm.* II. 26–33.

In summary, then, the known annual expenditure of Athens during the 440's, conservatively estimated, and with certain items omitted, was as follows:

<i>Dikastai</i>	60-70 talents
<i>Bouleutai</i>	20-25
Akropolis	85
Other temples	40
Cavalry	40
Triremes	10-30
Annual accumulation	150-300
TOTAL	<hr/> 405-725

These figures do not include many other items of public outlay, whose amounts cannot be estimated with reasonable probability. These include maintenance and improvement of the fortifications, not only of the ring walls of Athens and Peiraieus but of the three Long Walls, the frontier fortifications from Eleusis to Rhamnous, and the *fortini* along Athens' west coast from Peiraieus to Sounion.²³ Maintenance of the naval dockyards at Peiraieus and of the arsenal was necessary, as of the ships in reserve and their equipment, including sails, rigging, tackle and oars. Personnel to be paid in connection with this were the 500 dockyard guards. Perhaps they served in relays of 50 per prytany. There was also the cost of cult and festivals; a celebration of the Panathenaia in 415, for example, cost 9 talents. Many priests and priestesses received an annual salary. The Akropolis had to be cared for and maintained, and pay found for fifty guards. There were the 300 Skythian archers. The empire required 700 paid administrators at home and more overseas. Some garrisons overseas had to be supported. In Attika, roads had to be kept up, money found to maintain the orphans of Athens' wars, and a dole provided for the physically disabled.²⁴ The total amount of all these unknown expenses will have been considerable, and, with the other, known figures, make clear that it was an impossibility for Athens to keep an

²³ For the frontier fortifications see n.16 above; for the *fortini*, C. W. J. Eliot, *Coastal Demes of Attica* (Toronto 1962) 41-2, 129-35.

²⁴ Panathenaia: IG I² 302 = M. N. Tod, *Greek Historical Inscriptions*² (Oxford 1946) no. 75, lines 60-2 (hereafter cited as Tod). Priests: as, for example, the priestess of Athena Nike, IG I² 24 = Tod no. 40, who was supposed to receive 50 drachmas yearly. Watchmen: Arist. *Ath.Pol.* 24.3. Orphans: Thuc. 2.41.1. Disabled: Arist. *Ath.Pol.* 49.4; Lys. 24.

Annual Squadron of sixty ships in commission for eight months during the 440's, when her income was about 875 talents.

In the second place, the matter of manpower must be considered. Sixty triremes required 10,200 oarsmen and 1,260 other ranks. I suppose that most of the men, but not all, were *thētes*, so that we should imagine that perhaps 10,000 men of the thetic class would have to serve in these ships for two thirds of a year. But the number of *thētes* in Athens in 431 was around 18,000,²⁵ so that the Annual Squadron will have required more than half the available number. We cannot assume that the ships were manned in part by metics and foreigners, for Plutarch states quite specifically that the crews were citizen.

There were other demands being made simultaneously on the manpower of the *thētes*. Gomme has roughly calculated that between 2,200 and 3,300 men were required as unskilled labor for the Akropolis buildings, being engaged to quarry stone, cut wood and transport these materials from outlying districts to the city.²⁶ Of course, many of these men were no doubt *zeugitai*, metics and slaves, but these numbers do not include the manpower needed for the construction of the other buildings going up in Attika, nor the considerable number of men who must have been at work (no doubt many of them slaves) as stevedores in the civil port of Peiraieus, as seamen in merchant ships, as porters in the markets at Peiraieus and Athens, in the mines at Laureion with their attached smelters, or in the numerous small workshops in Attika which manufactured pottery, tiles, furniture, bricks, clothing, weapons and so on. Above all, we should also consider that by no means all the *thētes* were even able to row in the fleet; some were no doubt too old and some physically handicapped.²⁷

Therefore, because Athens had neither the financial strength nor the citizen manpower to equip a fleet of sixty ships year after year in peacetime, we must reject Plutarch's high figure and emend it. The most attractive number, palaeographically, is sixteen, whether we assume that the number was written out in full, or noted with letters or acrophonically. Thus, ΕΚΚΑΙΔΕΚΑ was mistaken for ΕΞΗΚΟΝΤΑ

²⁵ Gomme, *op.cit.* (*supra* n.3) 16-7, 25-6.

²⁶ Gomme, *Comm.* II.46-7.

²⁷ A. W. Gomme, "The Athenian Hoplite Force in 431 B.C.," *CQ* 21 (1927) 142-51; and now see, too, B. Baldwin, "Medical Grounds for Exemptions from Military Service at Athens," *CP* 62 (1967) 42-3.

or $\overline{\Gamma}$ for $\overline{\Xi}$, or $\Delta\Pi$ for $\Phi\Delta$. Whether the mistake was due to a slip of Plutarch's fallible memory or to the carelessness of some copyist is impossible to say.

There is, I think, good supporting evidence that the Athenian peacetime navy numbered sixteen ships in commission. In the summer of 440 B.C. news of the gravest import suddenly reached the city. The recently established democracy in Samos had been overthrown, the island was in revolt, and the Persian fleet was said to be advancing from Phoenicia in support of the rebels (Thuc. 1.115.5–116.1). A certain Karystian said that the Samians were preparing a secret engine, and received the reward of Athenian citizenship for his report. This was no doubt a crisis of the most serious dimensions. Remembering it years later, Thucydides said that the Samians had seemed to be about to overthrow Athens' control of the sea.²⁸ This remark, I am sure, accurately reflects the anxiety that excited the Athenian citizens on the day that the news—already at least three days old—was brought to the Assembly. It would be at least another three days before their fastest ships could reach the theater of operations.²⁹ What was vital for Athens was to act decisively and quickly, to send ships at once to summon help from Lesbos and Chios, to send other ships at once to discover if the dreadful rumor of a new Persian war was true, and, if so, to discover the whereabouts of the Persian fleet. Then, Samos herself must be attacked without delay, lest the revolt spread. And this, in fact, is what Thucydides said they did.

We must remember that whatever the number of ships kept in commission during the summer, they would be the first to be sent out when crisis threatened. Only they were immediately available with full complements and all equipment on board. It would take some days to launch additional triremes from the ship-sheds and to enroll full crews for them. But the ships already in commission had crews in a higher state of training and in better physical condition than ships suddenly provided with crews hurriedly taken from civil life. Strength of arm and back, stamina and practiced skill were the necessary qualities for the oarsmen who had the dangerous task of searching for the Persian fleet.

Thucydides says that the Athenians, confronted with the danger, dispatched a fleet of sixty ships against Samos. But, more specifically,

²⁸ Thuc. 1.116.1; the Karystian: *Ar. Vesp.* 282–3 and schol.

²⁹ L. Casson, "Speed under Sail of Ancient Ships," *TAPA* 82 (1951) 136–48.

he says (1.116.1) that this squadron was made up of a main body of forty-four ships, under Perikles' command, which followed out an advance force of sixteen ships, which sailed for Chios and Lesbos to call for naval assistance, and for Karia to find the Persians. The Athenians, then, did not have sixty ships ready in commission, but only sixteen.

A somewhat similar case occurred seven years later. In approximately July 433, the Athenians made a defensive treaty with Kerkyra. Almost at once they decided to send a squadron of warships to support their new ally, since an attack upon her by Korinth seemed imminent. Korinth and her allies had assembled no less than 150 triremes against 110 older and weaker Kerkyrean vessels. On the thirteenth day of Prytany I, the Athenian Assembly voted to dispatch ten ships. A second squadron of twenty, which more nearly equalized the numbers of ships on both sides, was voted on the last (37th?) day of the same Prytany.³⁰ In this case, it is true, the matter was less urgent and dangerous than the scare of 440 over Samos. But still, speed of decision must have been required, for the danger that the Korinthians might take immediate action was certainly felt in Athens. Korinthian ambassadors had even guardedly threatened war. As it turned out, the second contingent of twenty arrived barely in time.³¹ No doubt, the decision to send ships to Kerkyra was complicated by many issues. Aside from the sharp difference of opinion between those who had originally voted for the alliance and those who had voted against it, there were factional disputes and the family rivalry between Perikles and Lakedaimonios, son of Kimon, one of the generals embarked in the first ten ships. Plutarch (*Per.* 29.1–2) preserves an echo of this quarrel. The point is that Perikles and his advisers must have felt that only rapid and large-scale action could save Kerkyra from defeat or even, by a show of overwhelming force, avert war with Korinth. Perhaps we should think that the first squadron of ten was sent out as rapidly as possible, while it was left to a subsequent session of the Assembly to decide whether additional ships should be sent, and, if so, how many. In any case, it looks again as if no more than sixteen ships were immediately available, since only ten ships sailed on day thirteen. From consideration, therefore,

³⁰ Size of fleets: Thuc. 1.46.1; the dating of the two contingents and their size: Thuc. 1.44.1, 45.1; *IG I² 295* = Tod no. 55.

³¹ Threats: Thuc. 1.39.3, 40.2; arrival: Thuc. 1.51.4.

of the Samian and Kerkyrean incidents, it is clear that our sources contain no hint whatsoever that the Athenians ever had anything like sixty ships manned and ready in peacetime.

It is thus reasonably certain that Plutarch's number sixty must be emended to sixteen. These ships will have needed only 3,056 men to man them instead of 11,460. Even this smaller number is about a sixth of the thetic class. Its cost will have been about 130 talents a year. I shall return to this last point presently. This peacetime squadron of sixteen, incidentally, is not to be confused with the twenty guard-ships mentioned in the *Constitution of Athens* ascribed to Aristotle. That document (24.3) says explicitly that they were employed in war-time.³²

How can this number sixteen be explained? I believe that our sources mention these sixteen ships in three widely separated places. There are the ten new ships constructed annually, probably four ships used to collect tribute, and the two state triremes, totalling sixteen. This evidence is not absolutely compelling, because the tribute-collecting ships *might* have included the *Salaminia* and *Paralos*.

As mentioned above, the *Anonymus Argentinensis* says that in the 440's Athens was building ten new ships a year. It would have been a sensible procedure to commission the new vessels and try them out under service conditions to test their water-tightness and to see whether the rowing benches were securely and correctly placed, whether the mast rested accurately in place and could easily be taken out and resteped according to need, and whether the sails, rigging and other equipment were sound. Then, after eight months of shaking down, the ships could be assigned to the reserve of "new ships" on the naval lists.³³ The next year the next batch of triremes would receive the same treatment. I am inclined to believe the *Anonymus* is right for the 440's, and that in those years the Athenians considered ten new ships all that they needed to build after the Peace of Kallias. They may have captured a good many off Cyprus in 450/49 and others in the fighting in 447-445. Ten is also a number that suggests some kind of equalization among the tribes. In naval matters the Athenians certainly often thought in multiples of ten. Against Samos there was a first squadron of sixty (16+44), which was later

³² Gomme, *Comm.* I.460-1, for once is inexact and thinks these twenty may be in some way the same as Plutarch's sixty.

³³ Thuc. 2.24.2; IG II² 1604, line 25: *Κῆραϊστῆρ Κωνή*.

reinforced by an additional forty, and to Kerkyra they sent first ten and later twenty ships. This would seem to have been due to a wish to equalize the risks and the receipt of pay among the tribes. The annual ten new ships may have been commanded by trierarchs drawn one from each tribe.

So far as training in these ships is concerned, the Athenians could have drilled more than the 1,700 oarsmen required by having the men serve in relays. If the crews were changed each month, 13,600 oarsmen could receive training in a single year's time.

Four tribute-collecting ships are probably to be inferred from the Decree of Kleinias of *ca.* 447 B.C. This decree directs that four men be appointed each spring, after the allies had paid their *phoros*, to collect arrears. Two men were sent to Ionia and the Islands and two to the Hellespont and Thrake "with fast triremes." I assume that each man had one trireme.³⁴ These would not be brand-new ships, because one would not know whether a freshly-built vessel was fast until it had been tried out. It is a reasonable conjecture that these same ships could have been used in the fall to announce the assessed *phoros* due at Athens the following spring. And we can easily imagine other tasks these ships could have performed at other seasons of the year. Peiraieus and the Euripos each may have required a guardship, possibly in commission a longer time than eight months, and there were also despatches and pay chests to be carried to garrisons overseas, embassies to be transported, and the like. Possibly the trierarchs of these four ships were drawn from the tribes in rotation, like the secretaries of some of the administrative boards.

Last, we know from our literary sources that in the fifth century Athens maintained two special triremes, the *Paralos* and *Salaminia*. These ships were used for missions of unique importance and great moment, so that mere tribute-collecting would appear to be excluded from their duties. Since we know that they were commanded not by trierarchs but by nauarchs and that each ship was assigned a treasurer, we may infer that they were in commission all year round, the state bearing the entire expense of their upkeep.³⁵

³⁴ IG I² 66, now revised in *ATL* II D7 = Hicks and Hill, *Sources for Greek History*² (Oxford 1951) no. 46, lines 25–31. During the Archidamian War the size of the tribute-collecting squadrons was larger; in 430 B.C. Melesandros commanded six such triremes, and in 428 General Lysikles and his colleagues twelve (Thuc. 2.69.1, 3.19.1).

³⁵ A. Köster, *op.cit.* (*supra* n.6) 183, collects the ancient evidence; for details see Thuc. 6.53.1, 61.4; Plut. *Per.* 7.7; Arist. *Ath.Pol.* 56.7.

At this point the objection might be raised that if the Athenians could not afford to support sixty ships in peacetime, how could they find the money and the manpower to operate as many as the 300 ships which Thucydides says were in existence at the start of the Archidamian War? The answer is simple. In the first place, the Athenians never manned as many as 300 ships at one time. In the summer of 431 they set aside 100 of their best triremes to be used only in case the active fleet was overwhelmed in a naval disaster. Only once, apparently in summer 430 B.C., were there as many as 250 ships simultaneously in full commission, and of these 50 came from Chios and Lesbos.³⁶ Usually, then, the number of active ships was much less than 300. In the second place, the large fleets of up to 100 ships which were dispatched to devastate the coastal districts of the Peloponnesos did not remain in commission for as long as eight months but only for two months or less.³⁷ These annual attacks by big, expensive naval squadrons and also the operations sustained during wartime winters at Naupaktos and in Sicily,³⁸ had by 421 B.C. gradually used up most of the money in the war chest which the Athenians had put into reserve in peacetime.³⁹ It was only by keeping the Annual Squadron small that the Athenians had been able to build up the Sacred Treasure of Athena. Manpower for the wartime fleets was found by the Athenians by supplementing their own citizen crews with mercenaries drawn from the allied states.⁴⁰

If all the foregoing is correct, we can now roughly estimate the cost of the standing navy in the years from 448 (or 445) to 431 B.C. I shall now revert to the traditional number of 200 for a trireme's crew, and thirty days for a month, because we cannot hope for exact accuracy in making these estimates. At a drachma per day per man, the crew of one trireme was paid a talent a month. Therefore, the cost of

³⁶ The 300 ships: Thuc. 2.13.8; the 100 best ships: Thuc. 2.24.2; the 250: Thuc. 3.17.1. I accept the dating and explication of this passage proposed by F. E. Adcock, "On Thucydides III, 17," *CambHistJ* 1 (1923-5) 319-22, and accepted by Gomme, *Comm.* II.272-3. The 50 ships: Thuc. 2.56.2.

³⁷ The first fleet dispatched in 431 sailed in June: Thuc. 2.17.4, 23.2 and Gomme, *Comm.* II.79-80. It returned in August: Thuc. 2.31.1,3 and Gomme, *Comm.* II.92.

³⁸ Naupaktos: Thuc. 2.69.1, 83.1, 90.1, 102.1, 103.1; 3.7.1-3, 69.2, 75.1, etc. Sicily: Thuc. 3.86.1,5, 88.1,4, 90.1, etc.

³⁹ *ATL* III.326-45; Gomme, *Comm.* III.687-9.

⁴⁰ Thuc. 1.121.3, 143.1-2.

ten ships used eight months for training was	80 talents
four ships used ten months for administrative duties was	40 talents
and that of the <i>Salaminia</i> and <i>Paralos</i> was	24 talents

YEARLY TOTAL: 144 talents

If we deduct a certain amount for festival days and the like, we might put the cost at 120 talents a year. The expense for new ships between 448 and 440 was about 10 talents a year; from 439 to 431 it rose to about 15 talents. From 448 to 440, therefore, the expense of the standing navy was about 130 talents; from 439 to 431 it was near 135.

A final word on the implications of all this for our understanding of the financial history of Athens. I offer these remarks tentatively, because our knowledge of this subject is incomplete. It is usually held that the general cost of the Athenian fleet was borne by the tribute-paying allies after 450 or so. We cannot be sure that every item of expense was, but we can safely assume that a large proportion of the expenditure was. Meritt, Wade-Gery and McGregor have argued that the cost of the navy was a burden of the allies before the Peloponnesian War, but are necessarily vague about how long before.⁴¹ I am now making the assumption that the Athenians decided to use the *phoros* to support their whole fleet in 449/8, when the Peace of Kallias was sworn and when considerable sums of money were diverted from Athena's Treasure for the rebuilding of the Akropolis. Assuming, then, that the *phoros* was used to pay for the standing navy, as it was outlined above, a surplus could have been accumulated more or less as follows. The Hellenotamiai received the *phoros* from the allies, deducted a sixtieth of it to be given as first-fruits (*aparchē*) to Athena, spent what was necessary (130–135 talents) on the fleet, or additionally upon campaigns, and set aside the remainder. An accumulation over the years could have come about as follows:

YEAR	<i>Phoros</i>	<i>Aparche</i>	AMOUNT		ACCUM.	REMARKS
			NAVY	SAVED	TOTAL	
449/8	000	0	000	000	000	No tribute collected
448/7	360	6	130	224	224	
447/6	364	6	130	178	402	50 tal. for Boiotian expedition
446/5	375	6	130	189	591	50 tal. for Euboian expedition

⁴¹ ATL III.89 and Thuc. 1.99.3.

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YEAR	Phoros	Aparche	NAVY	AMOUNT ACCUM.		REMARKS
				SAVED	TOTAL	
445/4	375	6	130	239	830	
444/3	375	6	130	239	1,069	
443/2	390	6½	130	253½	1,322½	
442/1	390	6½	130	253½	1,576	
441/0	390	6½	130	213½	1,789½	40 tal. for Samian expedition
440/39	390	6½	?	0	1,789½	All income for Samian War
439/8	390	6½	135	248½	2,038	
438/7	390	6½	135	173½	2,211½	75 tal. for Amphipolis and <i>periplous</i> of the Black Sea
437/6	390	6½	135	248½	2,460	
436/5	390	6½	135	248½	2,708½	
435/4	390	6½	135	248½	2,957	
434/3	390	6½	135	248½	3,205½	IG I ² 91: 3,000 tal. given to Athena, 200 to the Other Gods

This scheme is obviously quite rough, rests on a number of pure assumptions, and is offered, therefore, simply *exempli gratia*. It does have the virtue, however, of plausibly showing how the sum of money named in IG I² 91 may have been arrived at.

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March, 1968