**Naval Warfare during the First Punic War**

KM

Professor Andrew Walker White, Ph.D.

HIS-302-001

April 21th, 2023

The First Punic War from 264 BC through 241 BC proved a significant turning point in the Mediterranean balance of power. The war primarily concerned Sicily, and as both major powers were involved, Rome and Carthage, naval action proved decisive in both sides' ability to prosecute the war. Carthage, before the war, was a strong naval power, having trading routes throughout the Mediterranean all the way to Wales. At the same time, the Roman navy was much smaller in nature and had only developed to this point, thanks to Carthaginian aid. Nevertheless, with all this, the Roman navy eventually proved capable of degrading the Carthaginian navy at the battle of Cape Ecnomus in 256 BC, later followed by the victory at the naval Battle of the Aegates in 241 BC. As such, the question must be asked as to why the Roman navy, with its starting position as it was in the First Punic War, was able to beat the Carthaginian navy, which appears to have been in a much stronger starting position.

Before analyzing Roman and Carthaginian actions during the First Punic War, observing each Empire's position before the war started is important. Rome was a newly developing military power. It had primarily achieved victory through its prowess on land and played second fiddle to the Carthaginians at sea. The First Punic War was not the first time each Empire had met. An example of Carthaginian dominance at sea was the four Roman-Carthaginian treaties signed before the First Punic War between 509 BC and 279 BC.

The first treaty signed in 509 BC demarcates the spheres of influence, which largely dictate which waters Roman traders may travel freely through, which ones they may only travel through due to an emergency, and the ones they are not allowed to travel at all through. Later treaties allowed Carthaginian traders to trade in Roman land itself, which insinuates that Carthage did not believe Rome to be a trading adversary. However, the later treaties attempted to curtail Roman expansion, so Carthage may not have feared economic competition. It may have been afraid of Roman Jingoism. The development of the Roman navy initially started in an attempt to block Greek access to southern Italy and Sicily. These attempts were initially unsuccessful for several reasons. Nedu Decebal describes the first Roman naval engagement in 'The evolution of the Roman sea-power before the First Punic War' by saying,

In 282 B.C. a Roman fleet of 10 ships sailed in the Ionian Sea, probably to support the operations engaged by the legions in the region of the Greek city Thurii. The attempt became a disaster for the Republic's naval forces. The Tarentine fleet attacked the Roman squadron, a vessel was destroyed, and four more others were captured. It is difficult to say whether the ships were badly built, the crews were untrained, or the command was uninspired as long as the sources describe the incident in a lapidary manner. What surely follows is that Rome was losing its first attested naval battle in its history, and its fleet was unable to face the Greeks who had a solid and vast experience in the field of maritime warfare. (Decebal 25).

While it is unclear whether this engagement was lost due to untrained crew members, uninspiring naval command, or the lack of proper shipbuilding, it is clear that Greek and Carthaginian navies were much more developed than the Roman navy by this point.

This point is further shown by the fourth Roman-Carthaginian treaty signed in 279 BC, shortly after the first Roman naval engagement. The fourth Roman-Carthaginian naval treaty primarily concerned creating a united front against the Greek king Pyrrhus. The fourth treaty required that Carthage supply Rome with the ships needed for war and the transport of troops. This condition of the treaty clearly insinuates that Rome was aware of its subpar shipbuilding and was attempting to fix this by importing from abroad.

The start of the First Punic War was something both sides stumbled into unwittingly. The Sicilian city-state of Messana's control was the initial cause of the conflict, with Rome supporting the Mamertines while Carthage had to respond. As such, Rome started the war with a Roman army already in Sicily, but not with the naval power to resupply this army. Rome started the construction of triremes warships in 260 BC. These ships had three men to an oar and were designed to ram enemy naval vessels. However, these ships were generally superseded by quinqueremes, which allowed five men to handle an oar and were heavier than Triremes vessels.

While Rome did not initially have the knowledge and ability to produce these vessels, fortune smiled upon them, as Polybius said that soon into the Punic Wars, a shipwrecked quinquereme was captured by Rome, which the Romans reproduced rapidly. In 'Equipping the Roman Navy', Porter says on this subject, "The Romans used it as a model to build 100 quinqueremes. For crews, they brought in raw recruits from southern Italy, mostly Greeks, and trained them with oars connected to stages which they built on dry land." (Porter 1). This observation was important for several reasons.

The first reason was the Roman resolve to spend large amounts of effort into winning the First Punic War, which is shown through their willingness to attempt the production of a naval vessel they had no experience producing and to produce a training environment on land for recruits to learn how to manage such vessels. The reference to Greek recruits may insinuate that Rome is attempting to employ more experienced personnel from the Greeks that lived in the south, who may have had more experience with the Quinqueremes as such vessels were employed in Greek navies as well.

However, Roman ingenuity continued to copy the Carthaginian ship craft. Another invention was the corvus from Greek shipbuilding. The corvus was a naval boarding device meant to tether enemy vessels to Roman vessels, allowing Roman soldiers to board and engage the enemy. This addition would be advantageous because while Rome had little experience at sea, a melee would be a much more traditional Roman pastime and forte. It is essential, however, to note that the corvus was a large, bulky device that significantly slowed a ship. There is some contention about whether these weapons fell out of use either near the end or after the First Punic War. These opinions ranged from the previous stability issues, as mentioned earlier, a counter by Carthaginian navies, or simply the opinion that by this time, Rome had gained sufficient naval experience to avoid ramming techniques in favor of employing more agile fleets. However, regardless of why the weapon fell out of favor, the corvus and the rapid adoption of the quinqueremes show that Rome entered this war under no delusion that it was a naval equal but was willing to invest large sums and effort into changing its predicament.

On the other hand, Carthage is often ascribed to be sedentary in nature, reacting to Roman advances and unwilling to take risks. These ideas came to exist because of two reasons. The first reason is that most of what we know of this time period was written by Polybius and other Roman writers. Of course, they were biased towards extolling Roman ingenuity and blaming Carthaginian vices for their defeats. The second major reason is due to both nations' rewards and governmental structure. Rome is a republic with extremely short governing terms. Furthermore, Rome frowned upon the re-election of their rulers. This system, coupled with the fact that Rome will make a victor a dictator for a day, incentivizes Roman leadership to be aggressive.

Meanwhile, while the Roman reward system is positive and rewarding by design, the Carthaginian reward system is negative and punitive. Carthaginian leaders who failed in a military campaign were occasionally killed and were in active service through a war, no matter the length of their service. After a military campaign, a tribunal would be created to investigate if a commander had served well. To make matters worse, while the Roman political command was admittedly divided between two consuls, only one consul would become a general. In contrast, the Carthaginian command could be divided between multiple military commanders. All this does show that there is merit to the idea that Carthage may have been passive in overall military strategy, especially when concerning ground action.

However, Carthage invested large quantities of resources in maintaining the seas' superiority. We can observe this by using Polybius's ship count to assuage whether the Romans invested a greater quantity into creating a larger navy than the Carthaginians. In order to assuage how credible Polybius is with his ship count, we will be using Devereaux, Bret C's 'Strategy and Cost: Carthaginian Naval Strategy in the First Punic War Reappraised,' which uses Polybius's original source to describe how the mainstream historical understanding of Carthaginian pacifism is not entirely correct as Carthage did invest vast resources into the naval project, and was only beaten when economic factors no longer allowed Carthage to continue its naval campaign. Before doing this, we must first discuss if Polybius is a plausible source to use, while admittedly, we have few other options. Nevertheless, we can analyze and attempt to 'fix' his estimates. Devereaux says, "In producing this reconstruction of fleet strengths, I have assumed, absent clear errors or omissions, that Polybius' narrative of the war and the figures for fleet sizes he provides are reliable, at least for the purpose of this argument." (Devereaux 2). Assuming that Devereaux is correct in this assessment, Polybius counted 330 Roman vessels at the Battle of Ecnomus and 350 Carthaginian vessels. These counts appear rather high, but as Devereaux says, "Part of the incredulity surrounding these numbers relies on the assumption that these fleets consisted almost entirely of quinqueremes, drawn increasingly into question by the discovery of rams from the Battle of the Aegates Islands, all of which appear to have belonged to (smaller) triremes." (Devereaux 3) This quote is particularly interesting as the battle of Ecnomus occurred in 256 BC, a significant length of time after the Roman discovery of the quinquereme, 16 years later. This fact insinuates that including ships that were not quinqueremes was purposeful instead of simply using outdated ship types. Additionally, the quantity of ships is not beyond the scope of reason, as Devereaux mentions,

In terms of raw ship counts, the fleets reported at Ecnomus are comparable in size to reports of the fleets at Naulochus and Actium though here, as with Polybius, we should be wary of exaggeration by sources seeking battles of a size to fit their importance.15 The confused nature of the sources for Actium, in particular, leaves little confidence for establishing fleet strength figures for that battle. Tarn dismissed these examples by noting that the Roman Republic was far smaller and less populous during the First Punic War. However, his view is unconvincing; fleet strength does not necessarily smoothly scale with the size of the Empire.16 Athens had 300 triremes ready at the start of the Peloponnesian War and later deployed approximately 180 ships for the battle at Aegospotami in 405 BC, despite a comparatively tiny empire. (Devereaux 17).

Another example of similar naval fleets being assembled in ancient times was the Persian Empire employing 400 vessels versus 160 vessels from the Macedonian Empire when it was still in the early days of Alexander. This count shows that a nation's size and human resources are likely not the limiting factor for a large navy. If they were limiting factors, Athens, especially, would likely not be capable of fielding large navies.

Devereaux argues that the rapid construction of large quantities of naval vessels, especially in the initial stages of the war, was unheard of. He says,

Nor should the rapid production of these fleets imply excessive numbers. The rapid production of large galley fleets appears to be the rule rather than the exception. Such fast production certainly seemed plausible to the ancients themselves. Polybius reports that the Romans built some 220 ships in only three months, although even he admits such a feat is difficult to believe (Devereaux 25).

This quote brings us to what would be the major limiting factor for large navies, namely, not the cost of producing naval vessels but the cost of crewing naval vessels for extended periods of time. Devereaux says,

Moreover, it seems to have been common for powers with standing navies to have far more ships in reserve than they might crew in any given year. Athens, Thucydides reports, had some 300 ships ready in 431 and 250 ships available in 428 BC. However, the largest Athenian deployments fell far short of this: 207 ships sent to Sicily and 180 ships engaged at Aegospotami. (36) Such a Carthaginian reserve is at least necessary to understand the assembly of a fleet by 'refitting' after the disasters at Ecnomus and Hermaeum; without some reserve, Carthage ought not to have had enough ships to assemble such a force without fresh building. 37 For a standing navy, keeping reserves was necessary because of the nature of oared warships, which became slower in the water as they aged. Maintaining top readiness thus meant overbuilding so that a sufficient number of new ships were available. While it is evident that older ones were kept in case they were needed. 38 Keeping these older ships was not cost-prohibitive; as shown below, the great majority of the cost came from crewing active ships rather than building or keeping inactive ones in reserve. Consequently, as Tarn does, it is not necessary to assume that every large Carthaginian fleet represented all available Carthaginian ships. (Devereaux 36)

This point argues that naval costs are not predominantly in maintaining and building naval vessels. In fact, the cost of production in relation to other costs was such a trifle that it was common practice to overbuild naval vessels to replace non-optimal ships and accommodate all available crews rapidly. This argument also likely relates to the apparent speed of construction. At times, it may become unclear if an entirely new fleet was constructed or if a certain part of the fleet needed only to be replaced by ships in reserve.

Devereaux finally concluded concerning crew costs, "If we express crew costs on a per-month basis, the ratio stands at 3:2:2.6.60. Consequently, crew costs would surpass ship construction costs in less than two months, and maintenance costs in less than two years." (Devereaux 57), which shows that assuming a nine-month yearly campaign season, a crewed ship would cost four times as much to man a season as it would cost to build, and maintenance of an active vessel would likely be much higher than one that is unused, and as such should mostly be lumped onto ships that are actively being used. It is also likely that a similar ratio is affecting the Roman navy. Taking this into account, it is interesting to note that the initial failure of the Roman navy likely was to the benefit of Rome in the long run because maintenance costs and the pay of sailors would have hurt the Roman expenditure to a much greater degree than simply rebuilding the fleet.

Finally, the notion that Carthage did not invest as much as Rome into the naval conflict or the First Punic War as a whole appears to be a modern fabrication, as Publius himself says, “So it was with the Romans and Carthaginians. The Romans once more fit out a fleet. They were worn out by the labours of the war; the perpetual succession of hard fought struggles was at last driving them to despair; their strength had become paralyzed, and their resources reduced almost to extinction by war-taxes and expenses extending over so many years.” (Polybius 159) This quote makes clear that both the Roman and Carthaginian ability to fund large ventures by the end of the First Punic War was reaching their ends. In fact, Publius describes the manner the final Roman fleet was funded by saying, “The treasury was empty and would not supply the funds necessary for the undertaking, which were, however, obtained by the patriotism and generosity of the leading citizens.” (Polybius 159) which clearly shows how close Rome has become to their bottom of their barrel, which heavily insinuates that the First Punic war was not one-sided as some modern historical understandings suggest.

The battle of Ecnomus may be the origin of the historical notion that Carthage did not invest heavily in naval actions, as it was the largest naval engagement in the First Punic War. Carthage lost this engagement, and even though Rome did not start with a competent navy, Rome brought only a slightly lower number of military naval vessels to this engagement, not to mention a large number of transports as well. Also, as Carthage was previously known for being an experienced naval power while Rome was intrinsically not, the question of the quality of trained personnel should also be answered. However, it is important to note that the battle of Ecnomus occurred in the year 256 BC, which is eight years into the First Punic War in which Rome had successfully engaged the Carthaginian navy on several occasions, as such, had created a trained cadre of sailors.

As Tipps, G. K. in 'The Battle of Ecnomus' says,

The oarsmen and sailors, however, were drawn from another source, the so-called Socii navales. Coming in large part (though not exclusively) from the coastal settlements of Italy, many probably had a maritime experience of some sort prior to the war - even if most of the Romans themselves, together with these inland allies, had not. (Tipps,4,5)

As Tipps continues to say, this quote likely means that the Carthaginian and Roman naval experience by this point in the war was not as wide a gap as it once was. Especially when taking into consideration that the Carthaginian navy had taken part in significant attritional warfare up to the battle of the Ecnomus, as well as increased its navy massively in size, thus diluting the experience of the Carthaginian navy, notwithstanding, it is clear that both sides understood that naval actions would take place, with Carthage moving to engage the Roman navy and the Roman navy already in a wedge formation which they would attempt to use to break through the Carthaginian navy. Tipps discusses this by saying,

The formation was in the final sense an impractical one - and this is the realization which

must particularly have troubled De Sanctis - it was because the Roman expectations were themselves impractical. A breakthrough of any opposing battle line by a formation with its power so concentrated towards the center might well be achieved, but the vulnerable point in this formation was its rear. Polybius twice states categorically that the Punic quinqueremes at Ecnomus were superior in speed to the Romans. Even if the Roman wedge should succeed in breaking through the Punic line-abreast formation which opposed it, the massed Romans could not hope to outrun the individual ships whose line they had pierced. (Tipps, 451)

This quote shows that while Rome had gained naval experience, it was still inexperienced in naval strategy.

It is important to note that this fleet is led by both consuls simultaneously, Marcus Atillius Regulus and Lucius Manlius Vulso Longus. Neither had experience in naval military action, although Lucius had prior experience in ground-based combat. The wedge formation that was created included transports in the back of the fleet, which would attempt to pierce through the Carthaginian navy. However, as Tipps previously mentioned, Carthaginian ships would be able to catch these transports. Hamilcar, the overall commander of the Carthaginian fleet, would attempt to take advance of the massed formation of Roman vessels by encircling the Roman fleet while falling back vessels in front of the Roman fleet to trap said fleet. Tipps describes what develops next by saying,

With defeat all but in their grasp, the Roman consuls made the fateful blunder which would ultimately win them the victory. Once he had understood the nature of the Roman formation, Hamilcar can only have assumed that, while his own task would be to break that formation, the Romans would try - even when launching an attack - to maintain it. He had planned a general encirclement of the Roman forces on that logical premise. He could not have predicted that a precipitate action on the part of the Roman commanders themselves would tear their formation in half and thus inadvertently preclude a total encirclement by the Carthaginians. As soon as the Roman consuls with their squadrons faced the enemy, they made a vigorous charge toward the center of the Punic line. (Tipps 455).

This development created a wedge formation that willingly fell into the Carthaginian trap. A reserve force of the third and fourth squadrons attempted to move headlong into the Carthaginian trap as well but was not capable of doing so as it was escorting the slow-moving transport fleets. Hamilcar, at this point, was faced with becoming disunited with his right and left flank as he chose to dither for too long and decided to engage the Roman central wedge. Meanwhile, the left flank engaged the third squadron, which was still directly tethered to the slow-moving transport fleet by this point. At the same time, the Carthaginian right flank engaged the fourth Roman squadron, which was behind the third squadron, to form a defensive behind. The third squadron was capable of untethering itself from the transports and maneuvering itself into a defensive position before its opponent, the left flank. Both the left and right flanks proved advantageous engagements for the Carthaginian navy. As Tipps mentions,

The advantage enjoyed by the Punic wings in this first phase of actions can be explained largely by two factors. In the first place, the Roman consuls had probably selected the best of their ship, captains, and crews to comprise the consular squadrons in the vee - which served, after all, as their striking force. On the other hand, the Carthaginian commanders had concentrated their main strength (if not their main numbers) on the wings. For it was the Punic wings which would strike the mortal blows at the flanks and rear of the Roman formations, while Hamilcar in the center merely held the opposing center. (Tipps 458).

This situation, however, boded the rather ominous danger of leaving Hamilcar to face the first and second Roman squadrons in a headlong brawl, with none of the expected support from his flanks with the least experienced Carthaginian vessels facing the most experienced Roman vessels. The naval engagement's dislocation forced the Carthaginian center to pull away. Insufficient damage had been created on the fourth and third squadrons for the Carthaginian left and right flank to face this new threat. Worse still, as action continued, the corvus became more effective as the naval engagement turned from maneuver warfare into a brawl. Additionally, as the engagement turned ever direr, the corvus captured a large number of Carthaginian vessels, resulting in a greater number of vessels captured than sunk. The count was 64 Carthaginian vessels captured, 30 sunk compared to 24 Roman vessels sunk. The battle of Ecnomus was thus won by Roman commanders acting unexpectedly while still having a solid naval core largely by this time by adequately being able to turn a naval engagement into a melee brawl over time by use of the corvus.

The next major naval engagement is the battle of Cape Hermaeum in 255 BC, which occurs in the Roman attempt to evacuate Roman soldiers from the invasion of Tunis. This battle has a minimal historical record, but Rome also won this engagement. It is theorized that a major factor in this Roman victory was a lack of marines on Carthaginian vessels. This theory does not make much sense for Carthage to have done purposefully, as Roman tactics in naval strategy had been well established to depend on ramming and boarding actions by this point. The lack of marines on these vessels indicates that Carthage was taking rather desperate measures by this point. Carthage itself was under threat, and likely most efforts were expended on defeating the military campaign in Tunis, consequently leaving little to spare to outfit the Carthaginian naval crews. This fact can also be seen by the number of ships each side deployed in this engagement. Carthage fielded 200 quinqueremes, and in comparison, Rome fielded 350 quinqueremes as well as 300 transport vessels in order to evacuate the Roman forces trapped in Tunisia.

However, it is interesting to note that after the battle of Hermaeum, the Roman fleet is wracked with a storm, losing most of their navy as well as 100000 men in the process. Then, again, in 255 BC, another 150 vessels are lost to a storm. Both these events bode the question of why Rome’s predominant enemy at sea does not appear to be the Carthaginian navy but the weather. It is unclear if storms frequently sunk naval vessels. However, the frequency and extensive damage to the Roman navy appears to be beyond average, especially considering the later extensive trade network in the same maritime region under the Roman Empire. A handful of plausible explanations exist for the frequent losses to storms Rome is experiencing.

Firstly, the corvus, as previously mentioned, made vessels bulky and slower than most vessels. It may have also unbalanced the vessels causing them to sink much more easily than before the application of the corvus. Another similar explanation is that due to the dependence on onboarding action, Roman vessels had much large crew complements, as well as the provisions for said crew, which may have overburdened Roman ships causing both the speed difference between Carthaginian vessels and Roman vessels as well their propensity for disaster in unfavorable weather. Finally, one may lay blame on Roman inexperience for their unfortunate encounters with storms.

In conclusion, while small initially, the Roman navy put a massive amount of effort into it as the Roman Republic recognized the need to beat Carthage at sea. While Rome was initially inexperienced at naval warfare, it quickly learned and adapted Carthaginian and Greek practices, examples of which include the quinquereme and the corvus. Rome also played into its own strength by extensively using boarding action, which allowed trained military personnel to be applied to naval warfare. Carthage could not maintain the operational costs Rome was willing to expend on naval actions and suffered from ever-increasing numerical inferiority. This point, paired with a much more beneficial Roman command structure as well as some luck at battles such as the battle of Cape Ecnomus, resulted in a Roman victory. However, it would be interesting to discover additional information as to why the corvus was officially dropped from Roman doctrine, as historical sources of our day are currently uncertain as to why exactly this was done. Additionally, more significant information about the financial operations behind the Roman and Carthaginian naval development would likely answer many of the open-ended questions posed in this paper.

**Bibliography**

Devereaux, Bret C. “*Strategy and Cost: Carthaginian Naval Strategy in the First Punic War Reappraised.”* Historia : Zeitschrift für alte Geschichte 69.4 (2020): 459–481. Web.

Nedu, Decebal. “*THE EVOLUTION OF THE ROMAN SEA-POWER BEFORE THE FIRST PUNIC WAR*.” Universitatii Maritime Constanta. Analele 9.11 (2008): 79–. Print.

Polybius, and Fridericus Hultsch. *The Histories of Polybius*. Indiana University Press, 1962.

Porter, Barry. “*Equipping the Roman Navy*.” Military history (Herndon, Va.) 14.3 (1997): 31–. Print.

Tipps, G. K. “*The Battle of Ecnomus*.” Historia : Zeitschrift für alte Geschichte 34.4 (1985): 432–465. Print.