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I am here today to talk to you about the Athenian naval bases of Piraeus in the 5<sup>th</sup> century BC. And in order to be more precise, I am here to speak about the naval harbours of Zea and Mounichia in Piraeus. You see, in the ancient world there was a clear distinction between naval harbours that were destined for warfare, and commercial harbours that were designed to facilitate commerce and trade. Therefore, naval harbours were functioning under a very strict set of financial and political rules (which makes them a closed context of information easier to be studied and analysed), whereas the commercial harbours were by definition more open to people and ideas and also bare different building characteristics. Naval harbours represented the conveyor of various subtle institutional changes in politics, economy, and society.

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It's hard for somebody to imagine that under the murky, green brown, and contaminated waters of modern Piraeus are the remains of a colossal building activity that took place during the 5<sup>th</sup> and 4<sup>th</sup> BC and transformed Athens from an agricultural society to a maritime city state and also set the foundations for the establishment of democracy. The monumental naval harbours of Piraeus, and their administrative organization in this particular democratic constitution, helped the Athenians to form a new identity of a maritime character. This new identity assigned different social roles to the citizens of Athens and created a number of sophisticated dipoles such as land owners against seamen, democrats in opposition to aristocrats, and hoplites versus rowers.

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In order to understand the historical process that dictated the turn of Athens to the sea we have to revisit some of the pivotal points of her history. The area of Piraeus has attracted Athenians interest already from the 6<sup>th</sup> BC. According to Herodotus, it was the Phaleron Bay that initially served as the harbour of Athens (because of its size and width). Later, in 511 BC Hippias decides to fortify the hill of Mounichia and initiates a small scale harbour building program.

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At the beginning of the 5<sup>th</sup> BC, the Persian Empire has arrived outside the gates of Athens. The most effective defensive weapon the Athenians could deploy against the redundant Persian army was the trireme. A trireme would have been a three-banked oared ship, 40 m long, with a crew of 200 men (170 of the rowers) and its primary weapon was a bronze ram, used for ramming enemy ships. It would have been very light (lack of ballast) and relatively narrow therefore easy to manoeuvre in the water.

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In 492 BC., the Athenians on Themistocles's advice started building up a trireme fleet and in order to support it they begin to construct naval harbour installations in Piraeus. In 483 BC, Themistocles becomes the elected Archon of Athens and at the same time, a rich vein of silver was discovered in Laurion mines near Athens. The total amount of income from the silver mines attained the astonishing number of approximately 1000 talents per year or 600.000 ancient drachmae. Before that, Athens' fiscal policy was based mainly on the income coming from taxes, fines, agriculture, and treasures of war. Themistocles convinces the Athenians that they ought to seek the future and the protection of the city on the sea and hence, they invest the money from the silver mines to the Piraeus harbours and the Athenian fleet. The revenues from Laurion coincided with Themistocles' financial needs to initiate his large naval program to repulse the Persian attack. The sudden turn to the sea for Athens, not only broke the previous economic model but created a new maritime one that received the citizens' appreciation.

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Themistocles with his naval program introduced and replaced the old context of navy with a new "national" navy. Until then, the concept of navy was based on aristocrats funding, following the predominant military idea where the rights of warfare were the privilege of rich citizens. On the contrary, the new "national" navy is funded by state resources, the construction of it was decided unanimously, and therefore it belongs to the city and the citizens. However, obtaining such a fleet would have been a vast operation larger than anybody could predict at that time. The rich aristocratic class had to have an active role in this enterprise in correspondence with their social supremacy, which would keep them concerned but at the same time would not jeopardize the democratic regime. With the new institutions, aristocrats had to perform *leitourgiai* (liturgies) and therefore fulfil their obligations towards the state by spending money and time for their city's benefit. In the case of the *trierachy*, the most important institution in Classical Athens, noble men were responsible for supervising the shipbuilding operation, manning the triremes, and eventually deliver them on time to the state. However, the ships were built by state resources, ensuring that the aristocrats could only claim the sense of honour they seek and nothing further than that.

Shortly after the Persian Wars ended in 479 BC, Themistocles continues with his plan to fortifying the naval installations. The Piraeus project was completed probably by 447/446 BC, but continued developing for several years, before and after the Peloponnesian War until we reach 330 BC when according to a naval inventory the harbour complex of Piraeus could house 372 triremes (196 in Zea, 82 in Mounichia and 94 in Kantharos). The shipsheds covered an area of 110.000 square meters – and it is no exaggeration to state that the shipshed complexes in the Piraeus are among the largest roofed structures of antiquity.

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Athens population can be roughly estimated at 200-300.000 between the years 450-320 BC. Around 30000 of the total population were registered at the municipality of Piraeus. The most significant profession in the Athenian naval establishment was that of the trireme rowers. More than 20000 citizens manned the Athenian fleet during its peak. Around 50000 men were engaged in the naval harbours, working on an everyday basis as shipwrights, carpenters, painters, rope

and sail makers, and builders. During the Classical period, Piraeus was the busiest district of Athens and constituted the largest industrial zone of its time.

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Let's move to Zea now-and archaeology. As you can see the reasons they chose this harbour to be the center of their fleet is obvious. We are dealing with a landlocked, natural, protected harbour on the foot of a hill that could provide loads of building resources (limestone in this case). The harbour installations here consist of fortification moles, towers, jetties and piers and of course shipsheds. All these were surrounded and protected by strong fortification walls.

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The historical and archaeological significance of the area has already been stressed by travelers from the 19<sup>th</sup> century. Leake, Ulrich, Von Alten and Grazer all published maps and reports of the ancient remains of Piraeus. However, it was not until 1885 A.D. that the Greek archaeologist Dragatsis together with the German architect Dorpfeldt decided to actually excavate and survey the shipshed remains at the east part of Zea and managed to excavate part of 10 shipsheds.

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But you already have heard a lot about shipsheds so I think it's time to talk a bit more about what is a shipshed and what purposes they served. As early as the late 6th or early 5th century BC the city understood that maintaining a huge fleet entailed a substantial investment in coastal structures to protect and maintain each vessel. The ships were prone to damage not only at sea and in battle, but also in their own protected harbour. When they were not at sea, *triremes* required dry storage out of the water to prevent their hulls from being consumed by wood-eating marine worms. And they required covered shelter from the Mediterranean sun, which over time dried and shrank the hull timbers and in doing so caused leaks. Mediterranean winters could also cause damage, as rainwater caused timber swelling and fungal decay. Without protective measures, a fleet would be rendered useless in a relatively short period of time.

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The solution to prevent all this was the shipshed. In the Piraeus, shipsheds were long parallel arcade-like, structures consisting of keel protecting ramps that sloped up and away from the water's edge, and side-passages on each side of the ramp for hauling and maintenance crews. They were covered by a monumental superstructure made up of stone colonnades, walls and tiled roofs, all of which provided shade, ventilation and protection. Their length and height was sufficient to ensure that ships could be drawn completely out of the water.

Isocrates (7.66), suggests that the cost of the shipshed buildings during the time of Pericles reached 1000 talents.

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Generally in Zea we have traced 3 different shipshed building phases. And they were identified as such due to their different construction characteristics and the variations in use. Dating the remains in Zea was a hard task and it was predominantly based on how each structure overlaps and replaces the previous one. It has to be clear that in such disturbed environment, ceramic finds cannot always provide safe chronological results.

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So, the initial phase (which is dated in the beginning of the 5<sup>th</sup> BC thanks to written sources) differentiates to the fact that we are dealing with unroofed shipsheds, what we would call slipways. Slipways would be used to bring the vessels in and out of the water but they couldn't provide full protection. Therefore, the high cost of repairing the damaged triremes made the Athenians to quickly abandon this type of structure.

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The next phase is introduced at some point into the 5<sup>th</sup> BC and replaces the slipways. In essence, the slipways were modified and roofed shipsheds were built on top. At this stage, we already move to monumental building bearing all the characteristics of a shipshed. The foundations are still cut on bedrock, the width is expanded in order to fit the colonnade and tiled roofs are introduced.

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The next phase shipsheds appeared at some point in the last quarter of the 4<sup>th</sup> BC. The Athenian navy has grown significantly in size and effectively the Athenians ran out of shore-line in their naval bases. So, the only way to accommodate twice as many ships on the same shore line, was to build double-unit shipsheds with two warships stored end-to-end.

These double-shipsheds represent the 3rd building phase in the Group 1 shipsheds and are dated to 375–350 BC based on a closed deposit found in the ramp of one of the shipsheds. They were 80 to 90m long, 6.51m wide and the ridge of the roof towered some 8 meters above ground.

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The other naval harbour of Athens was in Mounichia (modern Mikrolimano). This harbour although smaller than the one in Zea, it had very similar topographic characteristics (landlocked, closed harbour, protected). Our excavations brought to light a large area of shipsheds that extend for a distance of 33.6m from the modern harbour front and to a depth of 1.95m. Note that the modern harbour front itself is built around 11 m into the sea, and therefore Shipshed 1 extends about 45 m into the sea from the actual shoreline. The 6.2-meter-wide shipsheds are monumental in size and construction: the side-wall is 1.6m wide and individual column bases measure 1.6 by 1.6m.

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Based on pottery (for example we excavated three joining fragments of a *lekane*, forming part of the rim, one handle and part of the upper body. *Lekanai* were very common household vessels in Athens in late 6th and 5th-century BC, and they were found in large quantities both in the Agora in Athens and also in Zea and Mounichia) excavated in a closed context within the foundation fill of the colonnade dividing Shipsheds 1 and 2, these shipsheds are dated with a *terminus post quem* of 520 to 480 BC – a date that is supported by the C-14 dating of a worked piece of wood found in the foundations of the same colonnade

This is the earliest archaeological evidence of naval installations in the Piraeus and takes us back to the very early years of the Athenian Democracy

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Our fieldwork in Mounichia Harbour has also resulted in a detailed understanding of the fortifications of the naval base. In antiquity two moles with three integrated towers protected the harbour entrance of Mounichia. They had a dual function as breakwaters and fortifications, and created a gate towards the sea.

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The entrance Tower M-T1 on the northern fortified mole had an estimated diameter of *ca* 13 meters. Six courses of local limestone blocks have been preserved and the total height of Tower M-T1 and its foundations – is about 9 meters above the seabed, 2.9 meters of which extends above the modern sea level.

A 5th century BC building phase has been identified in the lowest courses of the tower. It consists of smooth-faced ashlar blocks set together by T-clamps. This building phase is most probably related to the fortification of all three harbour entrances after a failed Spartan attack on the Piraeus in 429/28 BC at the beginning of the Peloponnesian War.

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The northern fortified mole has been mostly overbuilt and destroyed by modern harbour construction. However, a substantial section of the west inward side of the structure, situated alongside and under the modern quay, is preserved to a height of two courses and over a length of 12.7m. The fortified mole is constructed on a rubble foundation.

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We believe it is safe to assume that there must have been a late 6th/early 5th century BC breakwater –because without a breakwater – Mounichia would have been exposed to the sea and the harsh south winds, thus rendering major parts of the natural harbour basin useless – including the area of the aforementioned Group 1 shipsheds.

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In the southern fortified mole our investigations have focused on Tower M-T3 located outside the modern harbour, and the fortified mole sections immediately to the northeast and west of this tower.

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Tower M-T3 is standing to a height of three courses and its rock-cut foundations were found down to a depth of 2.25m. Until today, this is the deepest solid evidence found in the Piraeus of the *minimum* relative sea-level change that has occurred since the Classical period. As in the case of Tower M-T1, a 5th and a 4th century BC building phase have been identified in tower M-T3: The first phase employed large blocks. The second phase made use of smaller blocks, set on a different orientation.

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In order to get back to what we talked at the beginning, economic relationships play a fundamental role in shaping societies and they interrelate with the rapid transformations of regimes and politics encountered in the ancient world. Economy is to a certain degree responsible for shaping the character of each regime and more importantly, for shaping the mentality of the community acting within the society.

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The first successful step towards social integration was made after the Persian Wars, when the Athenian navy rose to its expectations by defeating the Persian fleet. In the consequent fifty-year period of peace, the dipole of monumentality and economics strengthened social cohesion and encouraged the *raison d'être* of the naval establishment. Naval supremacy proved to be financially beneficial both for the state and the community. Athens inflicted fear to its allies and enemies through her navy thus gathering important revenues. The Athenian monopoly over commerce provided vital products to society. In addition, naval harbours were renowned for their monumental buildings along with massive defensive walls. The new naval entity, utilize the power of display by stressing intentionally upon the monumentality of naval installations. Therefore, military structures would discourage anybody to question Athenian supremacy. The temple building program by Pericles reflected the wealth Athens had collected as a maritime empire rather than a profound religious devotion.

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In 415 BC, Peloponnesian War was reaching to an end; Athens ought to organize the next military actions carefully. The decision to run a naval campaign against Syracuse triggered rousing debates among Athenians. Those in favour of the expedition believed that a successful outcome would change the dominant balances. In contrary, opposition raised serious concerns on the utility of this vast expedition in such critical period for the city-state. Nonetheless, the Athenian Assembly decided eventually to launch almost the entire naval force to Sicily. Syracuse was a Corinthian colony in south Italy and by the mid 5<sup>th</sup> century has evolved to a strong naval power allied with the Peloponnesians in the war against Athens. Sailing on full power against

Syracuse was merely an act of war; it was a display of naval supremacy and effectively, a democratic declaration. Comic poet Aristophanes (*Acharneis* 545-554) describes the departure of the fleet for Sicily; the text that can hardly be characterized as comical, constitutes the epitome of everything the Athenian naval establishment represented at that time: “*The city would at once have been full of shouting troops, fuss over trireme commanders, payment of wages, gilding of Pallases, roaring colonnades, measuring of rations; wineskins, oar-straps, bargaining for casks, garlic, olives, nets of onions, garlands, anchovies, flute-girls and black eyes; the dockyard would have been full of the noise of oar spars being planed, treenails being hammered, oars being fitted with their straps, flutes and boatswains’ calls, whistles and piping*”. Aristophanes’ vivid images, demonstrate the impact of these naval preparations on the community and the city. The latter would have probably been Piraeus, and not the civic *asty*, as indicated by the descriptions of commercial activities. Kantharos was Athens’ centre of maritime trade and especially in periods of naval war, Piraeus - via its harbours - would have been a reference point for the city-state.

Launching a fleet of 200-300 triremes from three naval harbours would have been an impressive and noisy spectacle. Citizens of Athens gathered to Piraeus, near the naval harbours to farewell the fleet and the crews. For them, the symbolism was obvious; they were sending off the essence of Athenian power rather than just a fleet of triremes. Hence, the safe return of the fleet was not an issue of war logistics; it was an issue of preserving their political identity and the system of values that represented. Harbours provided a monumental home for the naval force endorsed with a solid administrative structure. Athenians decided to watch the departure of the fleet on the quayside since the large naval complex would stand there as a reminder of their naval power even when the majority of the fleet would have been away.

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Two years later the Sicilian expedition ended in failure for Athens. The Athenian navy suffered great losses both in men and vessels. What has started as a demonstration of power resulted to a catastrophe for Athens. As Thucydides (7, 71.1) writes, Athenian men burst into tears as they were drawing back from Syracuse; crying was neither for the lost and captured men nor the sunken triremes. They were mourning considering the dark future lying ahead of them. This defeat would initiate rapid political and economical changes, “...for Athenians have attributed all their hopes to the navy” (Thucydides, 7, 71.2). The democratic regime was based on the navy whilst economic prosperity was safeguarded by the fleet. Therefore, the existence of Athens was in danger after this unsuccessful expedition. Athenian authorities have understood the significance of sustaining stability around the navy. During the formation of the new maritime state of Athens, citizens would turn subconsciously to harbours to liaise with the state and develop their identity. Naval harbours were statutory representations of this new maritime identity which the community could easily identify and attach upon. Similarly, the first decision of the oligarchic regime imposed by Sparta in Athens was to demolish the harbour installations of Piraeus. Their intention was to cut off the links between democracy and naval establishment; by destroying parts of the harbour walls attempted to exclude Piraeus from citizens’ mentality. As soon as democracy was restored, Athenians initiated a large scale program of rebuilding the ruined walls and reorganizing the naval establishment in its previous context. Athens tried to reinstate democracy based on the same institutions responsible for commencing maritime supremacy.

Plutarch, in his work about Themistocles life states “...but he fastened the city to the Piraeus, and the city to the sea...Therefore also the stand on the Pnyx, which had stood so as to look off towards the sea, was afterwards turned by the Thirty Tyrants so as to look inland, because they thought that maritime empire was the mother of democracy, and that oligarchy was less distasteful to tillers of the soil” (Plutarch, Them. 19.2-4).

When Romans invaded Athens in 86 BC, they demolished the entire remaining naval establishment. Although ancient Greek world is characterized by sudden political changes and economic transformations, monumental constructions hold more substantive functions which are difficult to ignore. Romans were aware of that notion thus proceeded in demolishing the monumental harbour installations of Athens. Unlike in other cities, in Athens they deliberately decided not to reuse the naval structures letting harbours to decline. On the other hand, excavations in Zea and Mounichia have not proven until now any intentional use of the Classical facilities by the Romans other than as quarries. Since Rome was emerging as successor of Athens in maritime affairs, their intention would have been to erase any remnants of the Athenian Empire. By destroying the harbours, let alone keeping the ruins in public display, Romans made a statement; and as the symbol collapsed so did Athens as a maritime power.

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