

16 | Piraeus: Harbors, Navy, and Shipping

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Themistokles was the first to have the audacity to suggest that the Athenians should attach themselves to the sea and in so doing laid the basis for their empire.

He was of the opinion Piraeus was more useful than the upper city.
Thucydides 1.93

The Making of Piraeus

Among the great Greek sea powers of Corinth, Samos, and Aegina, Athens was a latecomer. For a very long period, Athens was the civic center of a large agricultural state ruled by an aristocracy of landowners, with the majority of the population living in hamlets and villages, the antecedents of the Attic demes. Athens also did not take part in the overseas adventures of the great Greek colonization. The small harbors on the western and eastern coasts of Attika were restricted mainly to fishing and local trade.¹

From the eighth to the fifth century BC, the main harbor of Athens was at Phaleron (see Map 4.2), a site easily accessible from Athens by a direct road, but as it was open to the south winds and had shallow waters, it was unsuitable for larger ships. The recent excavation of an extensive Archaic cemetery near the shore of Phaleron testifies to a large but poor population, possibly of seamen and fishermen. No trace of ancient constructions of any kind has been found; however, a sonar underwater scanning of the bay provides indications of a large pier with an east–west orientation, starting from the western cape of Phaleron near the point where the Phaleric Wall allegedly ended.²

¹ Exceptions were rare. One of these, Steiria in the bay of Port Rafti, was an important harbor in Late Roman times, and of course there were the ports of the Laurion region (Thorikos, Pountazeza, Limani Pasa), which, it has been suggested, imported wood for metallurgical furnaces, and exported lead or shipped it to Piraeus.

² Some Roman foundations noted in the vicinity, around the chapel of Agios Georgios prove the existence of a Roman port there, used by merchant ships, like St. Paul's.

The dynamic turn of Athens toward the Aegean had been anticipated by private overseas enterprises of the leading Athenian families by the mid-sixth century. However, the decisive step was only taken in 493/2 BC, when the leader, Themistokles, during his archonship, persuaded the people to fortify the isolated rocky peninsula of Piraeus, in whose strategic location and natural harbors he recognized the prerequisites for a future Athenian maritime empire. Yet the plan was not fully implemented until 483/2 BC, when, on the eve of and with the premonition of the second great Persian invasion, it was decided to use the year's surplus of 100 talents from the silver mines for the construction of 200 triremes (cf. Fig. 29.2). Two years later, these vessels saved Greece in the Battle of Salamis and helped Athens acquire the leadership of Delian League in the subsequent battles for the liberation of Ionia. The gradual transformation of the Athenian leadership of the League in 478 BC into an Athenian empire, culminating in the transfer in 454 BC of the League's treasury to Athens, went hand in hand with the development of the new port into both a naval stronghold and the commercial capital of the Athenian *mare nostrum*.

To prevent any future danger of Athens being cut off from its military and supply center of Piraeus, the statesman, Kimon, constructed two Long Walls to Piraeus and Phaleron (Map 4.2). A grandiose project, it was finally completed in the 460s by Perikles with the construction of a more easily manned, walled corridor which was a stade (184 m) wide. (See Costaki and Theocharaki, Chapter 4 in this volume.) This linked the two poles of the 'bipolar' city, practically transforming it into an island invulnerable to attack by land. Piraeus, the old rustic deme of approximately 500 citizens, was by then on its way to becoming a large and powerful urban center. It was planned anew by Hippodamos of Miletos, an eccentric philosopher of Perikles' circle, thus acquiring immortality as a model city and the only proven work of the 'father' of town planning.

The debacle of 404, at the end of the Peloponnesian War, was a severe blow to the port. Its fortifications and its shipsheds were destroyed, and as a consequence of the commercial recession, the city was deserted by foreigners. Piraeus became no more than "a big nutshell without a kern" (Philiskos, *PCG* 7 fr. 356). Its revival began in 394 with the rebuilding – with Persian funds – of the harbor, its fortifications, and the Long Walls. The dockyards, in contrast, were slower to expand, so that in 377/6, Athens had no more than 100 triremes. In 354 BC, after its definitive failure to recover supremacy in the Aegean, the state was practically bankrupt (Demosthenes 10.37).

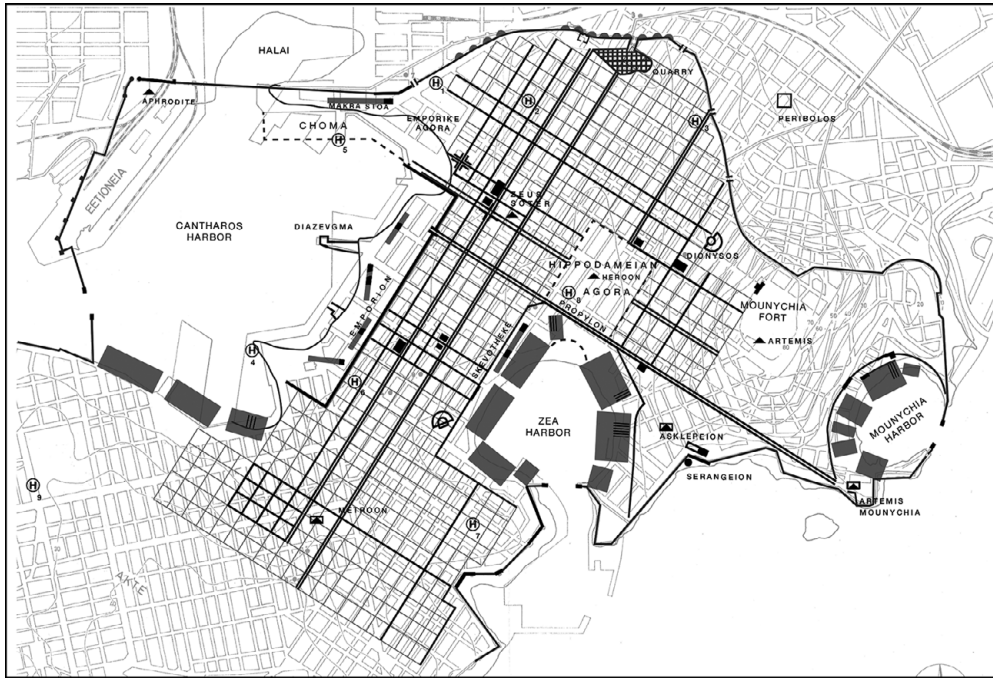
The keystone of the recovery policy of Euboulos and Lycurgus in the third quarter of the fourth century BC consisted of restructuring public finances and encouraging private investment in trade, mining, and agriculture. Thanks to the economic importance of the local market, and the banking facilities and administrative expertise of the Emporion (the commercial section of the city), Piraeus became once again, as in the glorious days of the past, the most profitable trading center of the Aegean. The return of the metics (resident foreigners) was encouraged through tax exemptions, housing facilities, and a range of administrative measures, including favorable legal regulations and the right to build their own temples. The rising prosperity from trade and agriculture helped the Athenian economy compensate for the loss of the tribute with taxes (*eisphorai*) on private revenues, and made possible the Lycurgan policy of classical grandeur which was realized in the astonishing growth of the fleet to 379 triremes in 337/8 and to 370 triremes, 43 *tetrereis*, and 7 *pentereis* in 325/4, and the building of the shipsheds and the famous arsenal of Philon.

For most of the third century, the Piraeus was under Macedonian control and consequently separated from Athens. Its liberation in 229 BC was immediately followed by the rebuilding of the fortifications, but not of the Long Walls. Piraeus' importance as a military naval base for a virtual enemy explains the long siege by Sulla in 86 BC and his rage against the city.

The Remains of Ancient Piraeus

The wall and the gates of the Piraeus fortifications are the best-preserved and the most impressive monuments of the city (Map 16.1). The Themistoklean fortification was highly praised by Thucydides (1.93) for its size (5 m in width, and a height that at the northern section reached 18.5 m), as well as its careful compact stone construction. Only parts of the foundations have been preserved, those of the wall joining the Asty Gates, and of the northern wall east of the Eetioneia Gate on the fortified hill north-northwest of the port and some very small portions recovered along the coast behind the Kononian wall of 394 BC.

The two Asty Gates, built only 100 m apart, served for communication with Athens, respectively outside (the western gate) and inside (the so-called in-between gate) the Long Walls. Notwithstanding the similarity of their general features, the two mighty flanking towers and the internal courtyard are not contemporary. In the ruins of the towers of the older



Map 16.1 Map of Piraeus.

Source: G. Steinhauer

outer (western) Astikos pylon, two phases of construction can be clearly discerned, which correspond to the two major periods of the fortification of the Piraeus: the oval towers of the initial Themistoklean phase which were replaced during Konon's reconstruction by rectangular ones. It was only after the building of the corridor of the Long Walls in the 460s BC that the need for a second (the in-between-the Walls) gate, arose, so that its round towers must be dated either before the completion or, more likely, after their abandonment. There was an analogous strategic interest in building the Eetioneia Gate on the homonymous hill overlooking the entrance to Piraeus both from the sea and the land side. This is a simple type of gate flanked by two towers, without an internal courtyard, which still preserves its original intimidating aspect thanks to the 3–5 m height of the towers and the defensive ditch with the piers of its removable bridge. The initial, partly uncovered (Themistoklean) fortification was a continuation of the northern fortification of Piraeus which crossed westwards the harbor. The fort was built by the oligarchs of 411 BC, but it has now disappeared. Most of the ruins now visible belong to the Kononian reconstruction, with the

Hellenistic additions of a bastion and the encasement of the orthogonal Kononian structures into the existing round towers. A well-preserved stretch of about two kilometers with 5×5 m towers every 50 m of the seaside wall still defiantly faces the Aegean. It is also datable to the same Kononian phase.

Especially in contrast to Athens, one of the wonders of Piraeus is the Hippodamian town plan (Map 16.1). The name Hippodamos is associated by Aristotle (*Politics* 2.8 p. 1267b 7; 1268a 15, 8.11 p. 1330b 24) with the idea of a clear separation and demarcation of the public, private, and sacred areas of a city. For most modern architects and archaeologists, the 'Hippodamian' urban plan is based on a rational, orthogonal network of roads and squares, and the uniform parceling out of the houses.

Some light can be shed on the Hippodamian partitioning of Piraeus by the boundary stones (*horoi*) found at different places in the city, demarcating the areas of the overall sections of the city and the main public areas of the dockyards, the Emporion, the civic Agora, etc. The general plan of the city has been recovered mainly through archaeological work of the last thirty years. It was based on the division of the central part of the peninsula into a grid of rectangular house blocks 40×46 m each, consisting of eight plots of land, measuring 20×11.50 m, thus equaling 230 m^2 . These conditioned the form – not necessarily prescribed by the town planner – of a more or less uniform house type, alternating in some cases with tenement houses (*synoikiai*). Every two or four blocks eventually formed a district with overall dimensions of 80×92 m or 250×275 m.

On the ground, the model was made by setting up a system of roads. The ordinary roads that defined the house blocks and served the traffic between them had an average width of 5 m, and the main streets defining and connecting the residential districts 8.29 m. Two pairs of large streets (*plateiai hodoi*) with a breadth of 15 m forming a cross across the peninsula constituted the main thoroughfare that defined and linked the public sectors of the city. The north–south axis linked the trade center (Emporion) and the Makra Stoa with the Hippodamian market, the dockyards of Zea and Mounychia, the Mounychia fort, and the Sanctuaries of Artemis Mounychia and Asklepios, while the east–west axis led to the Asty Gates. The crossroad of these axes was marked by the main Sanctuary of Zeus Soter (Map 16.1). The tiring uniformity of this ideal plan was varied by the graduated construction imposed by the ground, especially of the hill of Mounychia, where, owing to the slope, which exceeds 10 percent, the houses were built on successive natural or artificial embankments. The residential quarter was equipped with an equally well-planned drainage

system with tunnel shaped ducts hewn into the rock on the axis of the traverse north–south roads. However, the city suffered severely from a shortage of water. Because springs and wells were extremely rare, the private houses depended for their water supply on a system of cisterns, of which a great number have been found. Thucydides (2.48.2) tells us about the panic created during the Peloponnesian War by the rumor “that the enemies had poisoned the wells, as there were no fountains yet.”

A basic constituent of the Hippodamian plan of Piraeus is the main arterial road, which links the three harbors of Kantharos, Zea, and Mounychia with the Hippodamian Agora, and at the same time connects the main sacred areas of Zeus Soter, Asklepios, and Artemis Mounychia. Of the two basic public sectors of the Piraeus, the Emporion occupied the central section of the eastern and part of the northern sides of the port Kantharos, while the dockyards were spread out on the two small closed harbors of Zea and Mounychia at the western and eastern foot of the fortified hill of Mounychia and on the southern end next to the mouth of Kantharos. The internal layout of each harbor followed the shape of the coastline and consequently was independent of the regularity of the Hippodamian scheme, to which each was adapted by means of its proper enclosure wall.

The headquarters of the Athenian naval base (*neorion*) was very probably located at Zea, a mid-sized perfectly round basin with a narrow and sinuous entrance. It was situated in a perfect strategic position abutting on the Hippodamian Agora, the civic center and the mustering station of the army, midway on the street connecting the Mounychia port with the Great Harbor of Kantharos. Zea was the largest naval port, covering 55,000 m² and, as of 330/29 BC, it housed 196 triremes in its shipsheds. This was more than half of the Athenian fleet; the rest were in Kantharos (94) and Mounychia (82). Furthermore, Zea boasted such famous buildings as the arsenal for the ship tackle designed by Philon.

The shipsheds (*neosoikoi* or “houses of the ships”) were intended for storage of the inactive triremes and shelter from rain, sun, and ship worms, thus keeping them ready for war. They were the prerequisite of naval power and a source of great pride for the Athenian democracy, and were in fact praised as being works equal to the Parthenon and the Propylaia (Demosthenes 22.76). The best documented shipsheds of the Zea harbor were long, parallel colonnades, grouped in pairs under a common roof (*neosoikoi homotegeis*) and formed complexes of ten or twenty shipsheds with a continuous back wall. On their longitudinal axis they had a stone and wood sloping ramp starting from the water’s edge (1.52 m wide, with

an inclination of ca. 5°). Passages (ca. 2.05 m wide) on each side of the ramp were provided for the hauling and maintenance crews. The length of the shipsheds is now estimated at approximately 54 m. The archaeological evidence for double *neosoikoi* of 89 m helps to fit the epigraphically attested number of 190–200 triremes into a shoreline measuring only 950 m, before the rise of the sea level.

On the northwest side of the harbor, dominating the monumental colonnaded seafront of the *neosoikoi* stood the famous Skeuotheke or Arsenal of Philon. It was constructed from 347–325 BC for the storage of the hanging gear for 134 warships and was highly praised up to Roman times. The building was already known and even reconstructed in detail, well before 1988, when its foundations were uncovered and identified, thanks to the precise and minutely detailed specifications of the architect in his *syngraphe*, or contract (IG II² 1609). It was a long narrow building measuring 130 by 18 m, and 10 m in height, divided by two rows of thirty-five square pillars into a central nave. Low walls with lattice gates corresponding to the thirty-four intercolumniations separated the central gangway, a *diodos toi demoi*, allowing the citizens to inspect the contents from two side aisles, which were divided into seventy-eight compartments each furnished with wooden shelves in the loft for ropes and cables, and a chest for the sails.

Opposite, at the north entrance of the Arsenal, a main gate with a court delimited by four boundary stones of the *demosion propylon* formed the monumental gate to the Hippodamian Agora, the city's main market (*he agora ton demoton*), with the old council house (*bouleuterion*), the Temple of Hera, and the market police. We know that the Agora was used occasionally as a place for marshaling the army, very likely also for the warship's crews too, before they embarked for the Choma (in the main harbor) where the final inspection by the *boule* would take place. The site of the office of the supervisors of the dockyard (*epimeletai ton neorion*), who kept the annual detailed list of ships, is unknown, although the existence of this office is reported in a very important series of inscriptions (IG II² 1604–1632), found at the southern end of the Emporion.

The Great Harbor (*Megas Limen*) or Kantharos (perhaps named after the two-handled drinking vessel), with an area of 530 km² was the largest (larger than the Vieux Port of Marseille) and one of the safest natural ports of the Mediterranean. It was well protected from the dangerous south winds by the Piraeus peninsula and from the western and northwestern winds by the hills of Aigaleos. The harbor's projecting fortified rocky hill of Eetioneia northwest and the adjoining marshes (*ho en halais pelos*;

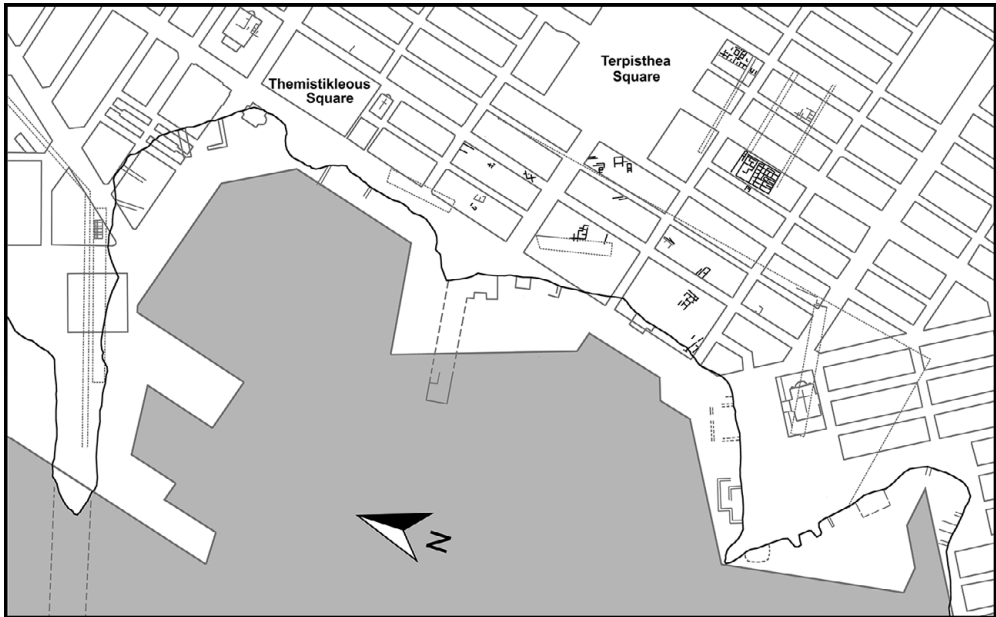
Xenophon, *Hellenika* 2.4.34) offered good protection against attacks from land. The entrance to the port was guarded by two towers (by night connected with a chain; *IG* II² 1032) and marked by two lighthouses at the end of the opposite Eetioneia and Piraike peninsulas.

The Kantharos had a double function as a commercial and a military harbor. From a scholiast on Aristophanes' play *Peace* (line 145) and an Augustan inscription (*IG* II² 1935) pertaining to reparations of the port installations, we learn of its main features. These were: the shipsheds (*neoria*), partly discovered between the entrance to the port and the Emporion; the "five porticoes" (*stoai*) around the port of the Emporion and probably on the opposite (i.e. the northwest) side of the port, at the foot of the Eetioneia hill; the dockyards (*psyktrai*), for the construction and repair of the ships; and finally, crowning the hill, the Sanctuary of Aphrodite.

The Emporion, or the commercial harbor, occupied a well-defined zone of ca. 1.5 km² along the eastern side of the Kantharos, a site chosen because it was so well suited to the purpose. It was the sole flat area of the port, was well protected from the south winds with easy access to the nearby city gates, and it had a rich subterranean water table feeding a number of ancient and Late Antique fountains. The land side of the zone was demarcated by an enclosure wall accompanied by a series of stone boundary markers (*horoi*) inscribed "limit of the Emporion and street." Its purpose was both financial (to ensure the control of export, import taxes, and port fees) and urban, that is, to adapt the Emporion to the regular Hippodamian plan and to isolate the residential area from the port and its activities and people. Its limits on the seaside were designated by two *horoi* bearing the inscription "of the ferryboat anchorage," actually found in the sea at the two north and south ends of the mooring place.

The physiognomy of the Emporion was determined, according to our sources, by two features: the large pier, the *Diazeugma* in the middle, and the five porticoes mentioned above. The correct reading of the excavation report of one portico (the first from the south) found in the nineteenth century and the discovery of the traces of three more, as well as some traces of the ancient quay during construction works in the 1980s, show that these porticoes were not aligned along the absolutely straight Emporion waterfront as had been assumed by modern archaeologists, but instead followed the line of the ancient shoreline boxed by the modern wharfs but still recognizable in the Venetian map of Piraeus of 1689 and in Curtius' map of 1841 (Map 16.2).

The heart of port life literally beats in the middle of the Emporion. There, opposite the *Diazeugma*, where Theophrastos imagined his



Map 16.2 Plan of the Emporion district, Piraeus.

Source: G. Steinhauer, adapted by D. Weiss

‘arrogant’ character standing and boasting of his profits from sea trade, stood the *Deigma* (the Sample), probably one of the five porticoes or perhaps an open-air enclosure where, immediately after the arrival of the ships, samples of the merchandise offered for sale were displayed. In front of that structure, around the statue of Poseidon and the tables of the money changers and lenders, most of the inscriptions regarding trade regulations or honoring foreign benefactors were erected. The rest of the porticoes probably served as office rooms of the Overseers (*epimeletai tou emporiou*) and the administrative personnel of the Emporion, while some were used as magazines and retail shops, workshops, and resting places.

The management of such an extensive and active site, with more than twelve ships unloading every day while others were moored outside, required specialized installations such as cranes and skilled operators, stevedores, and boatmen, to say nothing of services such as inns, taverns, and brothels related to the entertainment of sailors, for whom the port was the place in which, then as today, they had to spend most of their time.

The Emporion dealt exclusively with overseas commerce. A long list of goods from all over Greece and the Mediterranean arriving in Piraeus is provided by the comic poet Hermippos of the fifth century. The most

important commodities imported were grain, the raw materials used in shipbuilding (such as wood, flax, and pitch), and slaves. (See also Lewis, Chapter 15 in this volume.) In fact, more than half the volume of the trade in the Piraeus port consisted of grain imports. Because the supply of the Athenian population was a matter of very serious concern for the Athenian state, the grain trade was very closely supervised by special agents (the *sitophylakes*) and a separate section of the Emporion was exclusively devoted to it. The core of this *sitikon emporion* was the so-called Long Portico (*Makra Stoa*), a small part of which, in fact five compartments, each consisting of a room 6×4 m and an adjoining corridor 6×2 m, has recently been excavated at the northern part of the port, next (at a distance of only five meters) to the fortification wall connecting Piraeus to the Eetioneia (Map 16.1). Usually identified with the Alipitopolis stoa of Aristophanes' *Acharnians* (Schol. Aristophanes, *Acharnians* 548), this portico was the place where the imported corn and barley (at least that which was not transported to Athens) was stored, and where the distribution of grain to the crews before the departure of the fleet and to the people in dire times took place (Demosthenes 52). Given the role of the *trittyes* in organizing the deme, both in the Council and in mobilization, we may assume that the same principle was applied to the distribution of grain. In this case every shop in the stoa would have been designated for the storage and sale of the grain of a single *trittys*, and the building would have had thirty such compartments and a total length of 200 m, thus justifying the name of Makra ("Long") Stoa. The importance of this portico for the grain supply of the city and its advantageous position on the Choma pier at the point closest to Eetioneia explain the attempt of the oligarchs in 411 to attain control of the stoa by incorporating it into the adjacent wall (Thucydides 8.90).

It is very likely that the area west/southwest, immediately next to the Long Stoa, was the "seaman's market" (*agora ton nauton*), which was situated "on the Choma, in front of the Makra Stoa" (Demosthenes 52). Another name for this market was the "commercial market" (*emporike agora*), in which "there was the Long Stoa, where stands a market place for those living near the sea" (Pausanias 1.1.3) and where crews made their final purchases before the departure of the fleet. A lively picture, full of noise, activity, and the odors of the port during these preparations, is given by Aristophanes in the *Acharnians* (544–554):

But you want to launch your three hundred ships straight into the sea, and there would be noise, the city full of soldiers, as the selection was been

made by the trireme captain and the wages were being distributed; with gilding over the statues of Pallas Athena, the Makra Stoa would be resounding from the people gathering there, they would be distributing grain, there would be sacks, leather thongs, they would buy jars, olives, garlic, onions in net bags, you would see garlands, sardines, flute-players, blistered hands, on the other side, you would see in the shipyard oars being scraped, nails being hammered, leather thongs being hitched to the oars, flutes singing, signalmen whistling, all happening together.

The People of Piraeus

In keeping with its idiosyncratic nature as a cosmopolitan trade center, the population of the Piraeus was predominantly of mixed origin and of a varying economic and social status, fluctuating sharply according to the season and in line with changing political and economic conditions. As demonstrated by the grave markers of the Piraeus cemeteries, only a small part of the approximately 30,000 free people living permanently in Piraeus were actually from Piraeus; the majority came from different demes of Attica. About 20 percent were metics, mostly from Greek, Cypriot, and Levantine cities, not to mention the considerable temporary population of (*paremidemountes*) foreign merchants and sailors. Athens, according to Isokrates in the mid-fourth century (8.21), “was full of *emporoi*, *xenoi*, and metics.” (See also Shea, Chapter 10 in this volume.)

Socially, two categories were predominant, both of which were equally foreign to the conservative middle-class landowning characters found in the plays of Aristophanes.³ There were the wealthy merchants and factory owners like the metic Kephalos, Lysias’ father, bankers like the liberated slave Pasion, and the majority of the well-to-do metics. At the other end of the social scale was the large mass of the *thetes*, the poor people, manual laborers such as fishermen, workers, landless artisans, and poor deracinated villagers who had abandoned their fields to settle in the city responding to the call of the leaders of the popular party (*Constitution of the Athenians* 24.1). As a consequence of the growing dependence of the Athenian Empire on this mass of approximately 20,000 *thetes* and metics required to man the fleet, “power passed into the hands of sailors, boat-swains, and pilots” (Plutarch, *Themistokles* 19.4). Because the maintenance of the fleet and the payment of the crews depended, in the fifth century, to a

³ For example, Dikaiopolis in the *Archarnians*, Trygaios in the *Peace*, or Strepsiades in the *Clouds*.

large degree (about 40 percent) on the tribute of the allies, these same naval people, the people of Piraeus, became the most eager supporters of the democratic regime (*mallon demotikoi*; Aristotle, *Politics* 5.2, p.1303b, 10–12) and of its external policy, which was vehemently denounced alike by aristocrats (*Constitution of the Athenians* 1.2) and conservative-minded Athenians, such as Aristophanes in many of his plays.

The most severe verdict on this busy modern polis was pronounced by Sokrates in Plato's *Gorgias* (518e–519a), centered on industry and money making, and its ethnically and socially mixed democratic population:

Thanks to Themistokles and Kimon and Perikles the authors of the city's woes – who they say made it great – prosperity and democracy depend more and more on the fleet; the Athens of former times is dominated by the poor. It has filled up with shipyards, walls and taxes and other such rubbish and has developed into a city which no longer knows moderation, justice and restraint.

No wonder that for Plato (*Laws* 11.919d) the ideal city should be a minimum distance of 80 stades from the sea, which is exactly twice the actual distance of the *asty* from Piraeus.

Further Reading

The classic reference (with the older bibliography and a good plan of Piraeus) is still the Piraeus section of Judeich's 1931 *Topographie von Athen*. Garland 1987 offers a useful study of the history and different aspects of the city. Von Eickstedt 1991 gives an exhaustive list of all Piraeus excavations up to 1988. For the Hippodamian planning, see Hoepfner and Schwandner 1994, with a map of the suggested Hippodamian plan and an appendix on the Skeuothek by Steinhauer. For supplementary remarks on the town plan of Hippodamos, see Gill 2006, Steinhauer 2007, and Longo 2008. The Zea Shipsheds have now been exhaustively published by Lovén 2011 and Lovén and Sapountzis 2019; that can be paired with Pakkanen 2013 and Rankov 2013. The Long Walls are published by Conwell 2008. For the new excavations in the Emporion, see Steinhauer 2012. For the Eetioneia, see Steinhauer 2003. For the important Piraeus stone quarries, see Langdon 2000. On ancient ships and seamanship, the old book of Casson 1971 is still very helpful. On the organization of the Emporion, see Stanley 1976, and for the navy Jordan 1975, Gabrielsen 1994, and Hale 2009, along with Pritchard, Chapter 22 in this volume.

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