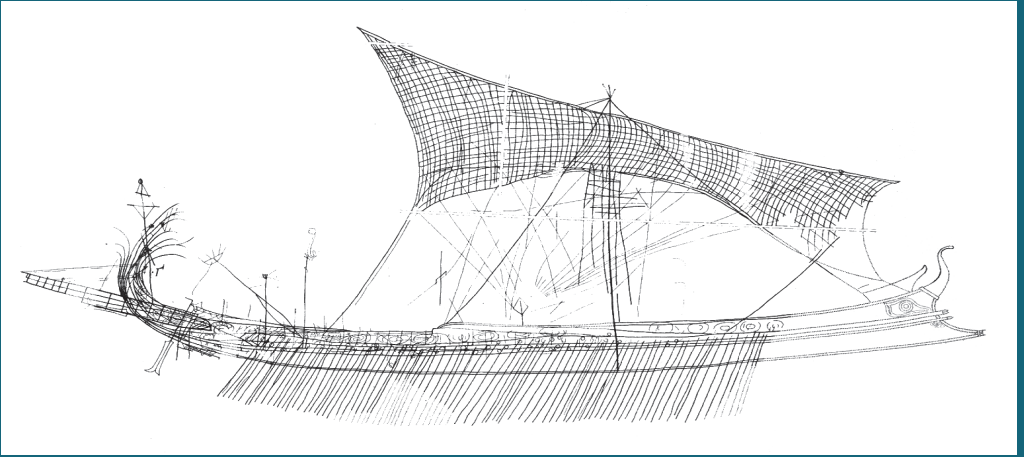
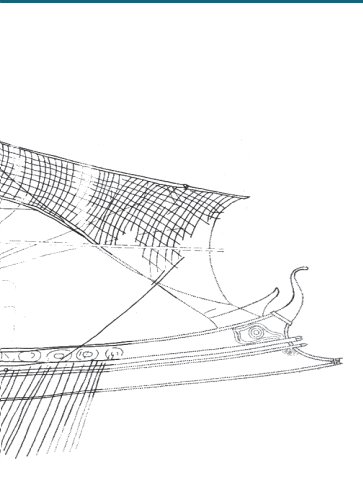




Sailing from Polis to Empire



Ships in the Eastern Mediterranean during the Hellenistic Period



EDITED BY EMMANUEL NANTET
WITH A PREFACE BY ALAIN BRESSON



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Cover image: Delos, House of Dionysos, Room L, Eastern Wall (1st century BCE): graffito of an Hellenistic warship with 85 oars (drawing by Dominique Carlini in *Récit d'une aventure : les graffiti marins de Délos : Musée d'histoire de Marseille, 18 décembre 1992 – 22 mars 1993*, Marseilles, Marseilles Historical Museum, 1992). All rights reserved.

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Preface

Alain Bresson

The absence of technological progress in the ancient world has long been a dogmatic belief among ancient historians, linked to the idea that the ancient economy was stagnant. It took time, and also a prolonged and vigorous debate, to explode both pronouncements. Recent research has shown that starting in the Archaic period, and culminating at the end of the Hellenistic period and at the very beginning of the Imperial period, the ancient Mediterranean world experienced a vigorous period of growth. The evidence for this process is abundant and manifold: from the basic quantity of ceramic shards on archaeological sites to the size of houses and cities, or the number of various artefacts found in these sites.

Admittedly, the idea has also long prevailed that, to the extent that there was growth, it was purely the consequence of demographic expansion rather than the result of any productivity increase. But this idea also must be abandoned. Economic growth in the ancient world was fundamentally based on a specific institutional organization, that of the city, which firmly guaranteed property rights. This meant property rights over land and any other material item, but also over people, slavery being one of the pillars of ancient society. Some would even (wrongly) argue that the exploitation of enslaved men and women was the only fuel of economic growth. But no matter what, if an analysis of the factors of economic growth must include the diverse forms of exploitation of the workforce, it should not neglect technological progress and innovation. Indeed, the process of growth was also based on a comparatively vigorous technological progress. The fact that the ancient world did not introduce the steam engine (and other technologies that harness huge quantities of energy) has seemed to condemn all the

technological progress that took place during this period. Technological innovation in the ancient world was less spectacular than that of the modern period, as the latter is the result of a systematic combination of scientific knowledge and technological developments. Yet, in various sectors of the ancient economy, the process of innovation achieved impressive results, which allow us to understand how economic growth could actually take place. One of the major technological breakthroughs of the ancient world occurred in sailing technology. In this respect, both for its quantitative and qualitative aspects, naval archaeology provides a major contribution to our understanding of this phenomenon.

For the former, one can think of the now famous graph produced by Anthony J. Parker, which, since its introduction into the scholarly debate, has been regularly updated without radically changing the overall picture. The graph of the number of shipwrecks between the Archaic period and Late Antiquity has a Gaussian aspect. One might argue that the graph illustrates the growth of trade relations, not global economic growth per se. One could also contend that real economic growth did not follow such an abrupt pattern of increase and decline. This is not the place to address these questions. Nonetheless, given that the growth of the ancient economy was directly linked to the expansion of trade, primarily maritime trade, the graph of shipwrecks illustrates the process of economic growth (and decline from the second century CE onwards).

As for maritime trade, recent research has shown that the technology of shipbuilding experienced several major transformations during Classical antiquity. That is where this volume, *Sailing from Polis to Empire: Ships in the Eastern Mediterranean during the Hellenistic Period*, is important. It publishes the papers presented at an international workshop that took place in Nicosia, at the Archaeological Research Unit of the University of Cyprus, on 14 November 2014. This workshop was organized by Stella Demesticha (University of Cyprus) and Emmanuel Nantet (then Université du Mans, now University of Haifa). Emmanuel Nantet recently published his monumental and justifiably acclaimed *Phortia: le tonnage des navires de commerce en Méditerranée du VII^e siècle av. l'ère chrétienne au VII^e siècle de l'ère chrétienne* (Rennes 2016: Presses Universitaires de Rennes), which was devoted to the question of ship tonnage in the ancient world. There is a clear complementarity between

the two books. Of course, the diversity in authorship in an edited volume like this one also means a diversity of approaches to ancient naval archaeology. But the common thread is the ship, the ‘forgotten hero’ of the study of ancient economic life, as is emphasized from the start by Emmanuel Nantet himself.

The chapter by Patrice Pomey, one of the scholars who has contributed most to the study of this technology, perfectly summarizes the various phases in the ancient technology of shipbuilding. The basic technology used for assembling ships in the Archaic Greek world was that of stitching. At the turn of the Archaic and Classical periods, the ‘sewn ships’ were replaced by ships assembled by tenon and mortise. This technique originated from Phoenicia and migrated westward. The Mediterranean world was not only an area where the accelerated transfer of goods could occur. It also provided ideal conditions for the migration of technologies, and unsurprisingly, given the direct link provided by the movement of ships and sailors, the technology of shipbuilding was one that could most easily migrate. With its tripartite structure—keel, planking, framing—the ship of the ‘Hellenistic type’ (as it is defined by Pomey) was still of the ‘shell-first’ variety. It was however much sturdier than its predecessor. Its size and its hollow shape (defined as a ‘wine-glass profile’) meant that its tonnage could easily reach several hundred, as compared to the less than thirty of the early Archaic sewn ships. The small ships of the early Archaic period were fit for transporting mainly small quantities of luxury goods for wealthy elites, whereas the massive increase in the tonnage of ships made it possible to achieve the pan-Mediterranean long-distance transport of heavy freight loads for ordinary customers.

The ship of the ‘Hellenistic type’ still had weaknesses. For instance, the keel was not firmly linked to the other parts of the structure and it could easily be lost after a shock, precipitating the inevitable sinking of the ship. Ships of the Imperial period, with their keelsons and several lateral sister-keelsons, were apparently more robust. Pomey’s argument is supported throughout by a large number of illustrations (photos and drawings) and the reader can easily follow the demonstration. One can only be struck that the observations made on the shipwrecks match the ships depicted in Roman representational art so well, which in return helps the archaeologists reconstruct the often-missing parts of the

wrecked ships, such as the prow or the upper parts of the hull. Emmanuel Nantet himself sees two main phases in the process of the growth of the tonnage of the Hellenistic ships: the beginning of the second century BCE, where this growth was pan-Mediterranean, and the turn of the first century BCE, where it was limited to specific routes and specific products like wine or works of art, directly connected with the new phase of the Roman conquest. Beyond the technological change in ship building, he also insists on the structural transformations in harbour construction necessitated by the increase in the size of merchantmen fleets and in the tonnage of their respective ships. This is currently one of the most active fronts of research in ancient navigation and nautical archaeology, as is made clear by the many and ground-breaking studies of Pascal Arnaud, on the institutional and practical side of access to ports, and Simon Keay, on port archaeology and specifically on *Portus Romae*, the imperial Roman port built in the first century CE.

Another side of ancient water transport is river navigation. Alexander Belov revisits the case of the *baris*. This type of ship is mentioned by Herodotus (2.179) when he explains that it was used in the internal waterways of Egypt. The word *baris* comes from the ancient Egyptian *br* (*byr*) and during the Eighteenth Dynasty it was a sea-going ship. But later, in Herodotus's time and until the Late Hellenistic period (the last mention in papyri is from 125 BCE), this ship was the typical Nile freighter. The case of the *baris* is fascinating because the textual evidence can be combined with excavation data. Indeed, the site of Thonis-Heracleion, at the mouth of the Canopic branch of the Nile, has proved to be a gold mine for our understanding of ancient navigation and shipbuilding. The site has been explored by Frank Goddio and his team for the last two decades. The underwater excavation has revealed a large number of shipwrecks. Belov himself participated in the exploration of the site and has a first-hand knowledge of the material. More than sixty ships have been definitively identified but their actual number is certainly significantly higher. Some of these shipwrecks, like Ship 17, allow us to form a vivid picture of these craft.

Belov has devoted a monograph to this ship. It was built of local wood (acacia) and had no proper keel, which was not a problem for Nile navigation but rather an advantage. Such a ship had to be hauled upstream. It was 27–28 m long and its tonnage was c. 113 metric tons.

Let us stress that this was a considerable amount for this period. If we apply the rule that one *medimnos* of wheat (the standard grain production of Egypt) weighed 31 kg, the cargo of a *baris* was equivalent to 3645 *medimnoi*. This was slightly over the capacity of a standard Greek sea-going ship of the Classical period (c. 3000 *medimnoi*). The cargo of a single Nilotic *baris* would have easily filled the hold of a Greek sea-going ship bound for its homeland. Once again, we see how important it is for the historian to combine textual evidence and archaeological data.

Navigation and sea routes are also considered in this volume. Jean-Marie Kowalski analyses the navigation routes from and to Cyprus on the basis of literary sources, from Herodotus through to Strabo and the *Stadiasmus maris Magni*. It is important, as Kowalski does, to use the data provided by our literary sources not *in abstracto* but in their geographic and ecological framework. This implies taking into account the differences in the wind directions between the summer and winter seasons. From this perspective, it is perfectly legitimate to use modern climatic data to make sense of the ancient literary sources, as it has been done for the conditions of navigation around the Triopion (cape Krio, Knidos).

Another aspect of the life of ships — their decoration — is addressed in Martin Galinier and Emmanuel Nantet's chapter. 'Painting vessels' could have two meanings in ancient tradition: depicting vessels in a painting or actually painting vessels. Building on an anecdote related by Pliny (*NH* 35.101) about the life of the famous painter Protogenes of Kaunos, Galinier and Nantet cleverly offer a small masterpiece, an analysis in the form of a diptych covering both aspects of 'painting vessels.' The depiction of vessels in the ancient pictorial tradition was illustrated by vase painters and also by the most famous masters like Apelles and Protogenes. Pliny informs us that, to earn his living, Protogenes began his career as a vessel painter. Many texts, as well as pieces of representational art such as paintings and coins, confirm that ancient ships were lavishly decorated, and for this reason there should be no doubt about the actual meaning of Pliny's allusion: before representing ships in his paintings, Protogenes had been a simple ship painter. Indeed, the ships were adorned with reliefs painted in bright colours. The painting often consisted of tinted wax, with additives allowing the mix to resist the effects of sun and salt water. Ruddle or

red ochre (*milto*), a dye that was supposed to protect the wood from decay caused by worms, was used to paint ancient ships. It was for this reason that, in the fourth century BCE, Athens established its monopoly over the island of Keos in the Cyclades, which was a large producer of this pigment.

Beyond protecting the wood, it remains clear that the decoration of ships, especially of warships, was seen as a standard part of their equipment. This is true not only for antiquity but also for the Western tradition at least until the end of the early modern period. Until war became an industrial process in the course of the nineteenth century, going to war both on land and sea was also a form of pageantry. For ships, this meant displaying a spectacular array of colours and reliefs in order to capture the imagination of both seamen and landsmen, friends or foes. The most stunning testimony of this practice remains the Swedish warship *Vasa*, shipwrecked on 10 August 1628 during her maiden voyage, after navigating less than one mile from her port in the bay of Stockholm. The shipwreck was located in the 1950s and salvaged in 1961, and the *Vasa* is now on display at the Vasa Museum in Stockholm. Visitors can discover the hull and rigging, but they can also behold the many statues that decorated the ship, especially on the prow and stern portions. A careful examination of the ship's wood has resulted in the recovery of traces of pigments, allowing researchers to propose restorations of the original paintings. Visitors can thus admire on a replica the vivid colours applied to the decorations of the ship, allowing them to get a fair idea of the taste for the spectacular that at the time went with building a man-of-war.

As observed by Galinier and Nantet, who usefully quote Euripides' *Iphigenia in Aulis* (231–276), the decorations of the ships appealed to the imagination of the observers and a fleet parade was a show in itself. One understands even better the spectacle offered by the Athenian fleet leaving for Syracuse in June 415 BCE, as described by Thucydides (6.31.1–6), who emphasizes the expensive figureheads (*sēmeia*) and equipment of the vessels (6.31.3).

Obviously, this volume is important for economic historians, but also for scholars of social and cultural history. If nautical history has been long dominated by specialists of the Western Mediterranean, the balance is currently changing, as proved by this publication. The editor

and contributors of this volume must be praised for that and encouraged to undertake further research in the same direction.

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