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An Outline of Ottoman Maritime History

Eyüp Özveren and Onur Yildirim

Introduction

Had the Ottomans not contested the Venetians and the Spaniards in the Mediterranean and the Portuguese in the Indian Ocean, they would have gone unnoticed in the annals of maritime history, and the question of whether or not the Ottoman Empire constituted a maritime power would not have appeared on the agenda in the first place.¹ Because they played big and bid for supremacy twice, once in the Mediterranean and the second time in the Indian Ocean, the Ottomans earned themselves a big question mark as far as their maritime legacy is concerned. In our opinion, a state does not have to fight major naval wars and win them, as the Ottomans quite often did, to become a maritime power. The Ottoman Empire was *also* a maritime power because it stretched along the shores of the eastern Mediterranean; because communications between its various constituent parts required regular sea borne traffic; and because the imperative to prevent foreign intrusion into the eastern Mediterranean was of vital importance to the survival of the territorial integrity of the empire. We say “also” because it was first and foremost a land-based empire. This had nothing to do with religious or cultural factors. It was just a dictate of circumstances to which its two predecessors, the Byzantine and Roman empires, had also been subject. All three empires controlled a good part of the Mediterranean by dominating considerable stretches of its coast. The Roman and Byzantine empires patrolled their coasts and major routes and instituted law and order just as the Ottomans would subsequently do. Their naval strategy was on the whole defensive. In this respect, the “long sixteenth century” is an exception in early modern times insofar as naval warfare came to constitute a means and mechanism of further conquest. In view of these considerations, we believe the Ottoman Empire can rightfully claim its own maritime history.

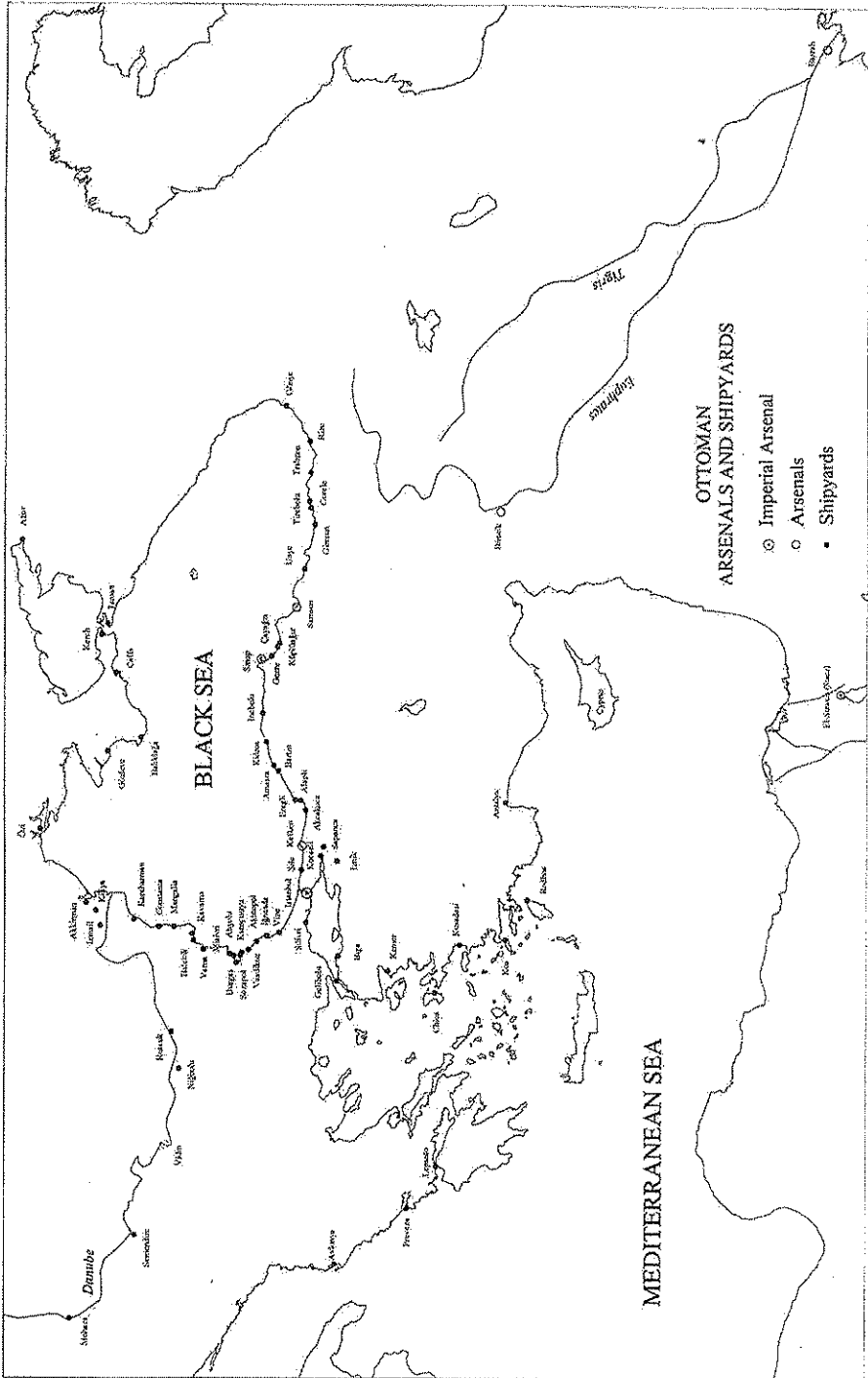
A maritime history in general rests on the histories and interactions of two components, namely the navy and the merchant marine. At any one time one typically stands above the other. There are also intermediate cases where there exists a balance between the two with a strong level of interaction. In the case of the Ottoman Empire, naval history dominates maritime history. This

¹We would like to thank Carmel Vassallo and Sheila Pelizzon for their comments and Burak Beyhan for the preparation of the maps.

has to do with two major factors. First, the state played a major role by way of its strategic priorities in tilting the balance in favour of the navy. Second, records of the navy as a centralized institution by far outweigh those of the highly dispersed and largely taken-for-granted merchant marine. In other words, archival sources as well as secondary literature have biased scholarship in favour of the navy. In addition, the Ottomans did not see and treat the merchant marine as a precondition for the development of the navy. The navigational circumstances of the Mediterranean also encouraged this position. The Mediterranean is known for its irregular and unreliable winds. This necessitated a longer than usual dependence on oar-propelled vessels for warfare and sailing ships for commerce. The consequence was a rigid specialization between the navy and the merchant marine. There was thus a rift between the Ottoman navy and Ottoman merchant shipping. In this respect, the Ottomans shared with the Venetians the same comparative disadvantage *vis-à-vis* the Dutch. The life span of naval ships meant that in times of extended peace, Ottoman and Venetian naval units would simply rot at their moorings while Dutch ships could revert to commercial use. It was not feasible for the Ottomans to maintain a sizeable navy when warfare was not regular, as was the case during the sixteenth century, or when major conflict was not imminent.

Having put forward the idea that the navy is at the centre of Ottoman maritime history, we are obliged to survey naval affairs in order to identify the crucial turning points and how things were perceived from above at those critical junctures. Cartography is a good reflection of how a maritime power perceives its maritime environment and operational range. To this effect, we shall take a brief look at Ottoman cartographic accomplishments.

We shall subsequently identify the basic types of Ottoman ships and how they changed over time. This is important for two reasons. First, ship types are dictated to a great extent by the realities of the sea. Therefore, countries that share the same maritime environment learn from one another about the vessels best suited for the sea in question. In this way, we can know to what extent the Ottomans shared with their rivals a certain expertise characteristic of the Mediterranean. Second, trends in the evolution of ship typology over time are indicative of technological advance. This clearly had consequences for the organization of shipbuilding and acquisition procedures, repair and maintenance, as well as labour skills, although once a navy already existed there was a tendency to do more of the same rather than shift to a new paradigm as long as the immediate consequences could be tolerated. In the fashionable contemporary parlance, a "path-dependence" is likely to be self-reinforcing. Major wars or extended periods of peace that destroy the navy in one way or another prepare the ground for a wholesale paradigm shift. During the period under review, there were at least two such major changes. The first came with the transition from oars to sails towards the end of the seventeenth century, and the second with the advent of steam in the nineteenth century.



In general, naval units can originate from three different sources. They can be built, bought or seized as prizes. During the "long sixteenth century," a substantial number changed hands among the contesting powers of the Mediterranean. Corsairs were largely responsible for the seizure of foreign ships on behalf of the Ottoman navy. This was one channel through which technology was actually transferred from the western to the eastern half of the Sea. To keep these vessels operational, repair and maintenance facilities were needed, which constituted the foundations of a shipbuilding industry. This factor notwithstanding, in order to have ships at a time when large-scale purchases abroad were well-nigh impossible, a country had to have a shipbuilding sector, but while the navy had centralized and permanent shipyards, merchant vessels often were built in somewhat makeshift facilities. On the whole, the location of shipyards was determined mostly by ease of access to shipbuilding materials, especially timber. Depletion of such resources often resulted in the closure of smaller shipyards. In the case of naval shipyards, on the other hand, the choice of site was dependent on strategic concerns. In this case, the scale and policies relating to the procurement of materials helped compensate for the disadvantages arising from distance from supply. The Imperial Arsenal in Istanbul, first in the hierarchy of Ottoman shipyards, was the Turkish counterpart of the famous Venetian *Arsenale*. A facility of massive proportions, it relied on the mobilization of a range of inputs, including timber for masts and the hull, sailcloth, ropes, pitch and tar, as well as iron and other metals. Some of these were basic construction materials, while others were essential for the fitting and rigging of ships. Without a regular supply it was impossible to maintain existing naval vessels, let alone construct new ones.

An organized production process like the one at the Imperial Arsenal resulted in a massive concentration of workers with various levels of skill. Labourers were not only an essential part of shipbuilding but were also a *sine qua non* for the operation of the navy and the merchant marine. We thus need to know the kind of people who built and manned the Ottoman ships of various sorts. Maritime history, in our view, is also *social* history – it has as much to do with people as with the sea.

The Navy from the Fifteenth to the Nineteenth Centuries

For most of the fifteenth century the size and strength of the Ottoman navy was not comparable to its contemporaries (e.g., Venice, Genoa, Spain). The vessels of the Ottoman fleet mostly served a two-fold purpose: the transport of men and material, and the monitoring of coastal borders. The rise of the Ottomans as a major naval power dates from the time of Mehmed II, who felt that:

sea-power was a great thing, that the navy of the Italians was large and that they dominated the sea and ruled all the islands

in the Aegean, and that to no small extent they injured his own coastlands, both Asiatic and European, especially the navy of the Venetians. Hence he [was] determined to prevent this by every means and to be the powerful master of the entire sea if he could, or at least to prevent them from harming his possessions.²

The Ottoman fleet, excluding transport and service vessels, comprised around 350 units at the time of the conquest of Constantinople under Mehmed II.³ It increased immensely during the reign of his son, Beyazid II.⁴ During the reign of Beyazid II (1481-1512), the Ottoman fleet expelled the Genoese, from whom his grandfather Murad II (1421-1451) had leased ships to transport Ottoman troops across the Dardanelles to Europe.⁵ By the end of the fifteenth century, the Ottomans had not only seriously reduced the Venetian and Genoese presence in the Aegean and eastern Mediterranean but had also started to patrol the Black Sea and the Aegean shores. The continuous struggle with the Genoese and Venetians played a crucial role in building a strong naval force which brought under control some strategic islands around the Dardanelles and the Aegean. Beyazid II's comprehensive reform programme played a decisive role in improving the fortunes of Ottoman seafaring. Apart from increasing the number of ships, he adopted a policy of employing experienced ships' captains.⁶ In this regard he integrated certain corsair captains, such as Kemal Reis, Burak Reis and Piri Reis, into the Ottoman navy.⁷ The degree to which the knowledge of these captains and their experience in combat on the high seas benefited the Ottomans and increased the technical competence of their navy is hard to assess. What is definite is that towards the end of Beyazid II's

²Kritovoulos, *History of Mehmed the Conqueror* (Princeton, 1954), 185.

³*Ibid.*, 186-187.

⁴H.J. Kissling, "İkinci Sultan Bayezid'in Deniz Politikası Üzerine Düşünceler: (1481-1512)" ("Reflections on the Naval Policy of Bayezid II"), *Türk Kültürü*, No. 84 (1969), 894-906.

⁵Kate Fleet, "Early Turkish Naval Activities," *Oriente Moderno*, XX, No. 1 (2001), 138.

⁶Kissling, "İkinci Sultan," 900-905.

⁷Under the command of Kemal Reis, the Ottoman navy sailed c. 1487 as far as the western Mediterranean to help the Moors in Andalusia. Thomas Goodrich, *The Ottoman Turks and the New World: A Study of Tarih-i Hind-i Garbi and Sixteenth Century Ottoman Americana* (Wiesbaden, 1990), 5.

reign, the Ottoman fleet could compete effectively with the galleys of its contemporaries, particularly those of Italian republics such as Venice and Genoa.⁸

Beyazid II's legacy to his successors in terms of naval strength was considerable. It would not be much of an exaggeration to state that under his reign the sea became the channel through which the Ottomans combined economies of conquest with economies of trade.⁹ The rise of the Ottomans to the position of a world power was underscored by the establishment of a strong infrastructure for the navy, which came about after securing permanent access to the resources for shipbuilding, cannon founding, crew mobilization and provisioning. These were accomplished largely by Selim I (1512-1520), who inherited the Ottoman throne from his father, Beyazid II. Under the latter's leadership, the Ottomans had captured the major ports of Caffa (1475), Killia (1484) and Akkerman (1484) in the Black Sea, thereby seizing all the major points of trade between the north and the south. Control of these ports turned them into major entrepôts in the trade between Istanbul and eastern Europe. On the eve of the new century, a series of naval victories reinforced the Ottoman presence in the eastern Mediterranean. The Ottoman navy captured Lepanto (1499), Modon (1500), Koron (1500), Navarino and Durazza off the southwest portion of the Morea.¹⁰

The beginning of the new century marked the start of a major rivalry between the Ottomans and the rising naval power of the period, the Portuguese, who had recently rounded the Cape of Good Hope and had thus found an alternative to the traditional commercial route between Asia and Europe. The Portuguese merchants began their exploitation of India while their patrons directed their energies to the capture of the Red Sea with a view to cutting the Egyptian transit route in the traditional spice trade.¹¹ The period 1503-1513 was marked by increasing efforts by the Portuguese to control the Red Sea and to establish stations along the Arabian Peninsula and Africa. The Mamelukes resisted Portuguese pressure until 1509 and eventually appealed to the Ottomans for help. Ottoman assistance came in the form of the provision of guns, iron and timber, followed by the construction of a navy in the Suez Arsenal

⁸Kissling, "İkinci Sultan," 894.

⁹Palmira Brummett, *Ottoman Sea Power and Levantine Diplomacy in the Age of Discovery* (Albany, NY, 1994), 89-121.

¹⁰Andrew Hess, "The Evolution of the Ottoman Seaborne Empire in the Age of Oceanic Discoveries, 1453-1525," *American Historical Review*, LXXV, No. 7 (1970), 1906.

¹¹Salih Özbaran, "Ottoman Naval Policy in the South," in İ.M. Kunt and C. Woodhead (eds.), *Süleyman the Magnificent and His Age: The Ottoman Empire in the Early Modern World* (London, 1995), 55-70.

and finally by the supply of manpower (e.g., janissaries, levends,¹² Turcoman mercenaries, etc.) to man these ships. The close naval cooperation between the Ottomans and the Mamelukes resulted in the political domination of the latter by the former after the accession of Selim I to the throne.¹³

The golden age of the Ottoman navy began under the reign of Selim I, who was involved in a vigorous campaign to extend the eastern frontiers of the empire. Ottoman expansion faced no concerted resistance on either sea or land during Selim I's reign. Under his leadership the Ottomans captured Egypt, Syria and the Hedjaz and extended their control to all the Levantine outlets of eastern trade. The development of sea power enabled the Ottomans not only to do away with Venetian and Mameluke dominance in the Mediterranean but also to challenge the stranglehold of the Portuguese over the Indian Ocean. The conquest of Egypt in 1517 was particularly important because it gave the Ottomans their first outlet to the Red Sea and the Indian Ocean. This position brought them into direct confrontation with the Portuguese in the Red Sea, the Gulf of Basra and the Indian Ocean.¹⁴

By the time Süleyman (1520-1566) came to power, the Ottomans had already turned the Black Sea into an Ottoman lake and had taken major steps to make the eastern Mediterranean another exclusive domain of Ottoman seafaring. Süleyman pursued the latter project by capturing the island of Rhodes (1522) from the Knights of St. John and completed it with the capture of Preveza (1538) under the leadership of the renowned Ottoman Kapudan Paşa, Barbarossa.¹⁵ The Ottoman navy consisted of 300 ships (*kadırga*), most of which were oar-propelled and which participated in the conquest of Rhodes. But the naval initiatives of Beyazid II and Selim I came largely to a halt under Süleyman, who concentrated his efforts on the defence and consolidation of the imperial territories, particularly along the Safavid frontiers. Nevertheless, the conquest of Iraq in 1534 gave the Ottomans their second outlet to the Indian Ocean and the East at the port of Basra. The Ottomans used this port to patrol the Persian Gulf and successfully kept the Portuguese away from their own

¹²Levends were Ottoman privateers who joined the Ottoman navy with their ships when their services were needed.

¹³Brummett, *Ottoman Sea Power*, 120, states that "Ottoman naval aid to the Mamelukes was a calculated move to expand the Ottoman sphere of influence into the Mameluke territories, thus paving the way for their conquest."

¹⁴Cengiz Orhunlu, "Seydi Ali Reis," *İstanbul Üniversitesi Edebiyat Fakültesi Tarih Enstitüsü Dergisi*, No. 1 (1970), 39-56.

¹⁵Colin Imber, "The Navy of Süleiman the Magnificent," *Archivum Ottomanicum*, VI (1980), 211-282.

waters.¹⁶ Yet the Ottoman galleys, more suited to coastal warfare, never prevailed over Portuguese sailing vessels geared to open-sea warfare when it came to encounters on the high seas. Not surprisingly, the two renowned Ottoman admirals and cartographers, Piri Reis and Seydi Ali Reis, both failed in successive engagements with the Portuguese fleet in the Indian Ocean. Piri Reis lost his head for his alleged responsibility in the defeat, while the life of Seydi Ali Reis was probably spared due to his good connections at the palace.¹⁷

Perhaps a parenthesis should be opened here to mention the contributions of the aforementioned Ottoman seamen, as well as those of scholars and administrators such as Katip Çelebi (Haji Khalifeh), to Ottoman and world cartography. In 1520, Piri Reis completed a pioneering work of cartography, *Kitab-ı Bahriyye (The Book of the Seas)*, based on his seafaring in the Atlantic and Indian oceans, in which he illustrated with rich details all the physical features of "the entire Mediterranean coastline and the maritime regions visited by Iberian sailors in both the New World and the East."¹⁸ A more elegant second edition was prepared in 1526 to be presented to the Sultan.¹⁹ We can only speculate as to whether this information was subsequently incorporated into Ottoman naval plans. It can be safely assumed, however, that his work established a precedent for others to follow. Seydi Ali Reis, after his return to İstanbul from the ill-fated Indian Ocean expedition of 1554, set out to recount his experiences in a book entitled *Mir'at-ı Memalik (Mirror of Countries)* in which he dealt with the Red Sea, Persian Gulf and Indian Ocean, and also included a couple of pages of information on the New World and the Pacific.²⁰

¹⁶Başbakanlık Osmanlı Arşivi (BOA), Mühimme Defterleri (MD) 3/550 and 6/257. These two documents are undated, but their contents suggest that they were issued c. 1530.

¹⁷Orhunlu, "Seydi Ali Reis," 52.

¹⁸Andrew Hess, "The Battle of Lepanto and Its Place in Mediterranean History," *Past and Present*, LXXVII (1972), 57.

¹⁹Svat Soucek, "Tunisia in the *Kitab-ı Bahriye* by Piri Reis," *Archivum Ottomanicum*, V (1973), 131.

²⁰The third well-known Ottoman cartographer-geographer, Katip Çelebi (1609-1658), represented a distinct line of cartographic tradition in that he was neither affiliated with the Ottoman navy nor did he ever participate in a maritime campaign. His well-known work *Tuhfetü'l-Kibar fî Esfari'l-Bihar* provided a history of Ottoman maritime wars from the beginning of the fifteenth century to 1656, gave the biographies of Ottoman admirals and offered details of the Empire's maritime institutions and practices. His later work, *Cihannüma*, demonstrated familiarity with a large corpus of available Eastern and Western literature on geography, provided a comprehensive survey of Ottoman and world geography, and recounted the voyages and discoveries of

For a period of nearly forty years after the victory at Preveza, the Ottomans were not involved in any major naval confrontation in the Mediterranean or elsewhere, if we exclude the recapture of Aden in 1548. But this does not mean that naval activity came to a complete halt. As mentioned above, in 1552 an Ottoman fleet under the command of Piri Reis sacked Muscat and attempted unsuccessfully to capture the port of Hormuz from which the Portuguese controlled maritime traffic to and from the Gulf.²¹ In a subsequent effort to bring back the shattered fleet of Piri Reis, Seydi Ali Reis engaged the Portuguese forces in the Indian Ocean but again to no avail. In 1565 the Ottomans undertook an ambitious amphibious operation that required the mobilization of vast resources and the organization of a hitherto unparalleled logistics operation in an ultimately unsuccessful effort to seize Malta, an objective halfway across the Mediterranean. Despite the setback, the Ottoman fleet was swiftly reorganized, and five years later set out on another major undertaking, the capture of Cyprus from the Venetians. The conquest of the island was successfully brought to an end when Famagusta (Magosa) was taken on 1 August 1571, prompting the Europeans to unite their naval forces against the Ottoman threat at the behest of Pope Pius V. The engagement of the Ottoman fleet with the fleet of the Holy League off the coast of Lepanto on 7 October 1571 gave the Ottoman imperial fleet its first major defeat at sea in the Mediterranean, an event that marked a turning point in the history of the region.²² For many historians this event denoted the beginning of "an epoch in which the Mediterranean no longer occupied a central place in the events that would mould Europe's future."²³ While it became the epic event marking the end of Ottoman power, it also signalled the beginning of Europe's shifting of "the centre of her creative activity north and east, relegating the Christian states of the Mediterranean to the periphery of a new European and global order."²⁴ For some historians the significance of this event lies in its settlement of the old struggle between Muslims and Christians. What is relevant for our purpose is that at Lepanto the Ottoman galleys were pitted against those of their European rivals and found wanting, especially as regards firepower, and as a conse-

Magellan and Columbus. Katip Çelebi, *Tuhfetü'l Kibar fî Esfari'l Bihar (A Gift to the Nobles on Naval Wars)* (2 vols., Istanbul, 1980).

²¹Özbaran, "Ottoman Naval Policy in the South," 63.

²²Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II* (2 vols., New York, 1972), II, 1088-1142.

²³Hess, "Battle of Lepanto," 53.

²⁴Michael Murrin, *History and Warfare in Renaissance Epic* (Chicago, 1994), 141-148; and Hess, "Battle of Lepanto," 53.

quence the Ottoman navy immediately embarked on a measure of restructuring in an effort to retain control of its possessions in the Mediterranean. The Ottoman Imperial Arsenal worked to its full capacity and within a year rebuilt the imperial fleet along improved lines. The eventual success of the Tunis campaign (1569-1574) testifies to the rapid recovery of the Ottoman navy. The declining power of their traditional foe at sea, Venice, during the same period helped the Ottomans retain their position in the eastern Mediterranean. But Ottoman naval affairs entered another quiet period in the latter years of the sixteenth century when state authorities decided to focus on the internal problems of the Empire (growing rural unrest, the rise of the local notables, etc.) and the expansion of the western frontiers, rather than pursuing further naval conflict in the Mediterranean. The conquest of Crete, the largest eastern Mediterranean island still in Venetian hands, took place half a century later and constituted the one major naval action of the seventeenth century.

Ottoman naval history records the assault on Crete as the longest of all naval battles. It was a move calculated to restore the Empire's eroding hold over the eastern Mediterranean in general, and to eliminate the Venetian threat to the route to Egypt in particular. Preparations got underway in the 1640s, and the Ottoman navy embarked on its expedition in 1645. Ottoman forces seized the greater part of the island in 1645-1646, but the fortress of Candia resisted its assault until 1669. The conquest of Crete was the last of the sea ventures that the Ottomans had been vigorously pursuing in the eastern Mediterranean since the late fifteenth century. It was not until 1707 that Ottoman ships once again ventured beyond home waters to besiege Messina with a small fleet and to go as far as the coast of Spain.

The first half of the eighteenth century was a period of peace during which the Ottoman navy remained idle. While European arsenals were the scene of major technological innovations, Ottoman shipbuilding made no substantial alterations from the traditional forms and methods of the previous century. Furthermore, "neglect and corruption, incapable officers and men, poorly designed and built ships, and disorder and anarchy aboard them caused the Ottoman fleet in every way to mirror the internal condition of the Empire on which it was based."²⁵ To this picture was added a series of changes in the financial policies of the state (e.g., spread of life-long tax-farming, the conversion of extraordinary taxes into regular ones, etc.) which triggered a movement among the provincial elite (*ayan*) towards decentralization, resulting in the disruption of the traditional provisioning institutions and practices of the state. The effects of growing impediments to the procurement of necessary supplies from the provinces through the traditional provisioning system, coupled with the mounting problems of negligence and corruption in the admini-

²⁵Stanford Shaw, "Selim III and the Ottoman Navy," *Turcica*, I (1969), 215.

stration, put the Ottoman navy at a disadvantage compared to its rivals. During the Russo-Ottoman war, the confrontation of the Ottoman and Russian fleets off the coast of Çeşme in 1770 resulted in the complete annihilation of Ottoman naval forces. Like the previous defeat at Lepanto, the rout at Çeşme prompted the Ottomans to reconsider their naval policies. A prominent Ottoman admiral, Cezayirli Gazi Hasan Paşa, was put in charge of the reorganization of the naval forces, and to this end he invited European experts to help train the necessary personnel and to establish educational institutions. The first educational institution entrusted with the training of personnel for the navy was established in 1784. It was called *Mühendishane-i Bahri-i Hümayun* (Engineering School of the Imperial Navy). Certain European engineers and nautical experts, particularly French, Swedish and British, were brought in to teach. Some of these experts (e.g., M. Bonneval, Le Brun, etc.) prepared reports about the conditions of the navy and made suggestions, particularly on the modernization and enlargement of construction and repair facilities at the Imperial Arsenal.²⁶ The modernization of the Ottoman navy was the first step towards the modernization of the armed forces, a development that was concurrently to be implemented in the North African regencies.²⁷ It formed part of the reform agenda of Selim III and included the 1804 promulgation of a decree (*kanunname*) establishing the Ministry of Naval Affairs (*Umur-ı Bahriye Nezaret-i*).²⁸ The Ministry was entrusted with the task of implementing naval reform, and the first step in this direction was the establishment of an independent naval treasury department (*Tersane Hazinesi*). All these attempts proved inconclusive, as the reformist Sultan Selim III was dethroned in 1807 and the Ministry of Naval Affairs abolished. Although Selim's successor, Mahmud II, launched yet another comprehensive reform programme, naval affairs were largely neglected, resulting in the gradual deterioration of the existing fleet and the paving of the way for the third major defeat in Ottoman maritime history. The humiliating destruction of the poorly built and designed Ottoman ships by the Anglo-French-Russian alliance at Navarino in 1827 brought down the curtain on a navy that had been an important handmaiden to a now ailing Empire.

²⁶*Ibid.*, 222-226, provides a full list of the foreign engineers and nautical experts who served the Ottoman government during the reign of Selim III.

²⁷Daniel Panzac, *Les corsaires barbaresques: La fin d'une épopée 1800-1820* (Paris, 1999).

²⁸Ali İhsan Gencer, *Bahriye'de Yapılan İslahat Hareketleri ve Bahriye Nezaret-i'nin Kuruluşu (1789-1867) (Reform Activities in the Ottoman Navy and the Establishment of the Ministry of Naval Affairs)* (Istanbul, 1985), 63-69.

Ottoman Shipping and Ship Types

The fifteenth century was an age of far-reaching innovations as far as naval technology was concerned.²⁹ Carlo Cipolla argues, perhaps in a technologically deterministic way, that without the fifteenth-century developments in naval technology, the overseas expansion of Europe would have been impossible.³⁰ The Ottomans closely followed these developments as they observed them in action during their encounters with the naval powers of the age, particularly the two Italian maritime republics, Venice and Genoa. Large round ships known as *bargias* used as warships by the Venetians were the technological wonder of the age with their fully-armed decks. The Ottoman navy, similar to the Venetian, Genoese and Spanish navies, followed the traditional maritime technology of the Mediterranean, consisting of heavy "round ships" used as merchantmen and long galleys used as men-of-war. These two types remained in use for a long time but underwent some modifications along the way. Until the end of the seventeenth century, the Ottoman fleet was dominated by armed galleys propelled by oars and sails. These galleys, or *kadirga*, had elongated hulls, varied in size, and ordinarily had two or three banks of oars (twenty-five to thirty benches per side). Besides their function as warships, they were also used to carry goods when the need arose.

Ottoman oar-propelled vessels were classified into four major types: *kalita*, *kadirga*, *mavna* and *bastarda*.³¹ The *kalita*, which was smaller than the average galley and had nineteen to twenty-four oar benches, was a favourite of Mediterranean corsairs, while the *kadirga*, or galley, which had twenty-five or twenty-six oar-benches and had been used by the Byzantines, became the principal vessel of the Ottoman fleet. The Ottomans used the term *mavna* to describe the larger galleys used by the Italian republics for commercial transport, particularly in their long-distance trade. The *bastarda*, on the other hand, was larger than the galley but had a somewhat lower structure. The Ottomans gave up on attempts at the adoption of state-of-the art technology in shipbuilding, and receptiveness to European naval technology innovation diminished after a series of defeats by the Portuguese in the Indian Ocean and the Christian alliance at Lepanto during the sixteenth century. Hence, the types of vessels re-

²⁹Carlo Cipolla, *Guns, Sails and Empires: Technological Innovation and the Early Phases of European Expansion, 1400-1700* (New York, 1965), 78-81; and John H. Pryor, *Geography, Technology, and War: Studies in the Maritime History of the Mediterranean, 649-1571* (Cambridge, 1992), 25-86.

³⁰Cipolla, *Guns, Sails and Empires*, 137.

³¹Svat Soucek, "Certain Types of Ships in Ottoman-Turkish Terminology," *Turcica*, VII (1975), 234-238.

ferred to above continued to comprise the mainstay of the Ottoman navy until the mid-seventeenth century.

A partial explanation for the belated adoption of sailing ships by the Ottomans may be that having no maritime trade comparable to that of the Italian republics or other European states, they had no vested interest in the creation of a specialized merchant marine. In long-distance transport, the state relied heavily on ships run by two different types of operators. While the first type did their business exclusively with the state at fixed rates of remuneration, the second chartered their ships at market rates. During the sixteenth and seventeenth centuries, the low cost and relatively secure nature of sea transport led to increased dependence on merchant ships. The evidence suggests that the transportation of cereals from one location to another over a period of thirteen to fifteen days was nearly two-thirds cheaper by sea than by land.³² Merchant ships used in long-distance transportation were usually sailing ships, such as the *barça* (*barza* or galleon), *karaka* (carrack) and *polika*, which operated from April to November on the high seas. The state only used its own galleys, or *kadirga*, for the transport of cereals in case of emergency.

The first time galleons appeared in the Ottoman navy was shortly before the beginning of the Cretan campaign in 1645. These were mainly small craft known as *burtun* or *borton*. The efficiency of these ships having been proven, Mehmed IV (1648-1687) ordered the construction of large galleons, but those attempts failed due to the lack of technological expertise, labour and, most important in the short run, fiscal resources. It was only after 1682 that the large galleon became the principal vessel of the Ottoman fleet. But by then galleons had already evolved into warships that became the ships-of-the-line of the French, Dutch and English navies. Although the transition to galleons helped the Ottomans restore and maintain their dominance in the eastern Mediterranean until the second quarter of the eighteenth century, the absence of any serious naval action over the next fifty years led to a neglect of naval affairs. As a consequence, the Ottoman navy gradually lagged behind its European contemporaries in terms of both technology and numerical strength. In contrast to the fast and efficient warships of rival navies, the archaic ships of the Ottoman navy were massive and bulky. As Stanford Shaw put it:

these ships were extremely difficult to manoeuvre in the ordinary course of sailing, let alone in battle, and were prone to capsize as the result of sudden movements by inexperienced hands during storms or battles. In addition to this, the ships

³²Lütfi Güçer, *XVI-XVII. Asırlarda Osmanlı İmparatorluğu'nda Hububat Me-selesi ve Hububattan Alınan Vergiler (The Grain Problem and the Taxes on Grain in the Ottoman Empire during the Sixteenth and Seventeenth Centuries)* (Istanbul, 1964), 32-36.

were structurally unsound; excessive distances between their principal beams caused them to break up entirely during violent storms; the use of soft wood, because of its finer appearance, and the failure to apply caulking regularly between the underwater planks caused them to be unusually porous and to take on water almost continuously.³³

The shortcomings recounted above offer a partial explanation for the disastrous confrontation of the Ottoman fleet with a small Russian squadron at Çeşme in 1770, a debacle that galvanized the Ottomans into modernizing their fleet. Although forty-five major fighting ships were built along modern lines, and all the older vessels remodelled during the naval reforms of the late eighteenth century, they were never seriously put to the test against the modern fleets of Europe in the next three decades. In its few engagements against French naval forces at the turn of the century, the Ottoman fleet showed some vitality but this was nowhere close to the performance of earlier times. Indeed, the entire Ottoman fleet was burned by the Anglo-French-Russian fleet at Navarino on 20 October 1827 before it had a chance to show its mettle. This incident not only marked the end of reform but for the first time left the Empire without a proper fleet. That same year the Ottomans purchased their first steamship from the British, to which another was added two years later.³⁴ The incorporation of steamships into the Ottoman navy and the purchase of steam engines from the United States to upgrade the existing vessels opened a new era in Ottoman naval history in which the navy became increasingly dependent on Western technology and proved far from efficient in competing with the navies of neighbouring countries, such as Russia or a resurgent Greece, let alone with the Europeans. On the eve of its dismemberment, the Ottoman state acquired its first submarines from the Nordenfelt Guns and Ammunition Company in England, but the opportunity for their use never arose.³⁵

Ottoman Shipbuilding: The Establishment of the Imperial Arsenal

In the late fourteenth century, the first large Ottoman arsenal was built over the former Byzantine arsenal in Gallipoli, a strategic point commanding the entrance to the Dardanelles from the Sea of Marmara. The facility was rebuilt by Saruca Paşa during the reign of Yıldırım Beyazıd, and the city became a residence for Ottoman sea captains and, at the time of Süleyman, the centre of

³³Shaw, "Selim III and the Ottoman Navy," 213.

³⁴Gencer, *Bahriye'de Yapılan Islahat Hareketleri*, 109-110.

³⁵Konstantin Zhukov and A. Vitol, "The Origins of the Ottoman Submarine Fleet," *Oriente Moderno*, XX, No. 1 (2001), 221-232.

a newly-created maritime province called Cezair-i Bahr-i Sefid. Revenues from the province were used to pay various naval expenses, including the salary of the grand admiral (*Kapudan Paşa*) and other maritime officials. Not much is known about the capacity of the Gallipoli arsenal apart from that it took over the functions of the existing small arsenals located in different parts of the Empire (e.g., İznikmid, Karamürsel and Edincik).³⁶ During the reigns of Mehmed II and Beyazıt II, its capacity must have increased substantially since both were engaged in a fierce struggle against the naval giant of the period, the Venetian Republic. Although Mehmed II set out to construct a new arsenal in Galata following the conquest of Constantinople, the Gallipoli Arsenal remained the principal Ottoman naval base until the second decade of the sixteenth century.

Our information on Ottoman shipbuilding comes from the reign of Selim I, who completed the expansion of the arsenal in Galata. This facility was designed to build and repair ships and was completed in 1515. When the arsenal was working at maximum capacity, as in 1530, it could build twenty-four galleys and repair eight; the number of ships built over the five-year period 1527-1531 was forty-four.³⁷ The evidence would seem to indicate that in 1515 the Ottomans had a navy of 400 ships participating in the campaign against the Mamelukes.³⁸ The number of ships in the campaign of Herceg Novi (Castelnuovo) in 1539 was 155.³⁹ The Galata Arsenal was designated as the Imperial Arsenal (*Tersane-i Amire*), where most of the ships were to be built; it functioned as the military, financial and administrative centre of the Ottoman navy well into the late nineteenth century. Concurrently, arsenals such as the ones in Gallipoli, Suez, Sinop, Samsun, Basra, Rusçuk and Kefken worked to supplement the activities of the Imperial Arsenal.

During the late eighteenth century, the Imperial Arsenal underwent a major modernization programme under the guidance of European engineers and nautical experts. The initial efforts focussed on a reconstruction and reno-

³⁶İsmail H. Uzunçarşılı, *Osmanlı Devleti'nin Merkez ve Bahriye Teşkilatı* (Central and Naval Administration in the Ottoman Empire) (Ankara, 1988), 396-399; Halil İnalçık, "The Ottoman State: Economy and Society, 1300-1600," in Halil İnalçık and D. Quataert (eds.), *An Economic and Social History of the Ottoman Empire, 1300-1914* (Cambridge, 1993), 93-94.

³⁷İdris Bostan, *Osmanlı Bahriye Teşkilatı: XVII. Yüzyılda Tersane-i Amire* (Ottoman Naval Organization: The Imperial Arsenal during the Seventeenth Century) (Ankara, 1992), 6.

³⁸Hess, "Evolution of the Ottoman Seaborne Empire," 1909.

³⁹Colin Imber, "The Costs of Naval Warfare: The Accounts of Hayreddin Barbarossa's Herceg Novi Campaign in 1539," *Archivum Ottomanicum*, IV (1972), 203-216.

vation of the facilities with a view to the building of new ships for the fleet. In the first instance the Ottomans replaced the two old wooden dry docks, which were almost constantly in need of repair and rebuilding, with three permanent stone ones. The latter were far superior in capacity, efficiency and durability. Then they proceeded with the construction of five new shipbuilding forms, as well as a new dry dock, which they modelled after the one at Toulon.⁴⁰ The modernization of the Arsenal continued with the building of two new mast machines which greatly increased the speed and efficiency of the operations by which masts were prepared for ships. As was mentioned above, these changes enabled the Ottomans to build new warships along European standards. The size of the fleet increased from seventeen ships-of-the-line and twenty frigates and corvettes in 1796 to a total of forty-two vessels in 1811.⁴¹ The establishment of the Ministry of Naval Affairs with an independent treasury in 1804 brought about major changes in the administration of an Imperial Arsenal whose conditions had worsened over the previous century. Gencer and Shaw provide detailed surveys of the administrative, fiscal and other reforms accompanying the changes that took place in the Imperial Arsenal. With the dethronement of Selim III, however, the reforms were halted.

Construction Material⁴²

Ship construction required a continuous flow of a wide range of different raw materials. To ensure a constant supply the Ottoman state instituted a complex network of provisioning throughout the imperial territories during the early sixteenth century. Timber topped the list of these materials, and most of the timber used in the construction of ships in the Imperial Arsenal came from the mountainous areas along the Sea of Marmara (Propontus) and the Black Sea. The neighbouring province (*liva*) of Kocaeli, which included settlements with abundant forests, such as İznikmid, İznik, Yalakabad and Sapanca, was particularly important. For highly specialized items such as masts, the Ottomans occasionally exploited distant and diverse sources of supply such as Albania, the Carpathian Mountains and the Taurus Mountains in southern Anatolia. The subject populations (*reaya*) of the designated districts were obliged to provide the state with sufficient timber to construct the number of ships planned for a particular year. The number envisioned for a specific year varied according to military circumstances. It could be as high as ten, as in 1682. But the *Porte*

⁴⁰Shaw, "Selim III and the Ottoman Navy," 224.

⁴¹*Ibid.*, 226; and Gencer, *Bahriye'de Yapılan Islahat Hareketleri*, 100.

⁴²Most of the information in this section was obtained from Hezarfen Hüseyin Efendi, *Telhisü'l-Beyan fî Kavânin-i Al-i Osman (Report of Declaration on Ottoman Laws)* (Ankara, 1998), 162-169.

retained the right to order the governors and judges of other districts to supply timber for the Arsenal. The registers of important affairs (*mühimme defterleri*) are full of orders issued to the governors or judges of districts as far as Caffa and Tat to provide timber for the construction of ships in Istanbul.⁴³ For nearly two centuries the areas along the Sea of Marmara supplied most of the timber for the Imperial Arsenal, leading to the gradual deforestation of that region. In the second half of the seventeenth century state officials in charge of extracting timber from this region began to ask the *Porte* to waive a certain portion of the timber demanded. Whether or not this request was acceded to by the *Porte* is not known. What is known, however, is that the reduction of the forested areas around the Marmara Sea led the state to look into the possibility of procuring timber for the Imperial Arsenal from around Bolu, several hundred kilometres to the east of Istanbul, at the end of the seventeenth century.

Although it was easy to find timber, it was quite difficult to find wood suitable for masts. The pine trees used to make masts were obtained from the area of İznikmid, around one hundred kilometres to the east of Istanbul, more specifically in the areas of Ada, Akyazı, Sarıçayır, Akhisar and Geyve. The declining size of forests in the İznikmid region prompted state officials to divert their attention not only to Bolu but also to the other forested areas of the Black Sea, such as Samsun, Sinop, Çayağzı, Kitros and Alaçam, during the seventeenth century. For the small arsenals, wood was less of a problem. The high cost of transportation led small arsenals, such as the ones in Basra and Sinop, to rely exclusively on timber from the neighbouring areas. While the Basra Arsenal secured its wood supplies from the mountains of Maraş,⁴⁴ the arsenal at Sinop relied on the supply of timber from its own hinterland, as well as the Black Sea forests further away.

Another important raw material for the construction of ships was tar. The *Porte* secured some of the tar it needed from *Kal'a-i Sultaniye* (Çanak-kale), Albania, Walachia and the coastal settlements of the Black Sea, such as Sinop, Samsun, Bartın and Bafra. As for pitch, the Imperial Arsenal exploited the region of Avlona.⁴⁵ This was supplemented with pitch from Mythilene, Gallipoli and Lapseki. The iron used to make anchors and other metal accessories for ships was obtained from the Bulgarian town of Samakov.

Different types of cloth were used for the sailing ships. A raw cloth known as *kirpas* was used for sails and tents. The principal sources of supply were Gallipoli, Egypt and Cyprus, supplemented with material from certain Aegean settlements, such as Menemen and Eğriboz. During the sixteenth century, Aleppo supplied some of the cloth for the Imperial Arsenal via Adana.

⁴³BOA, MD 6/1103.

⁴⁴*Ibid.*, 3/463, 28 Muharrem 967, 30 October 1559.

⁴⁵*Ibid.*, 3/272 26 Zilkade 966, 30 August 1559.

Towards the end of the seventeenth century, the *Porte* resorted to foreign merchants, particularly French, for raw cloth to be used in the making of sails. The silk cloth used in fitting out the ships came from Bursa. Another kind of textile, broadcloth (*çuka*), was usually obtained from Salonica.

As for the material used in shipboard armament, the principal item was gunpowder. Various minerals used in the making of gunpowder came from different regions. Saltpetre (potassium nitrate) came from Egypt, Karaman, Kayseri, Niğde, Bor, Kırşehir, Aksaray, Malatya, Syria, Lebanon, Baghdad and Basra. Sulphur came from the Lake of Lut and the eastern parts of Anatolia. The production of gunpowder took place in several powder mills (*Baruthane*) in İstanbul. For the casting of cannons the Arsenal depended on the Imperial Arsenal of Ordnance and Artillery (*Tophane-i Amire*), which produced various types of cannons for the different ships in the Ottoman navy.

The Ottomans financed the acquisition of the materials used in the construction of ships through a variety of taxes. During the sixteenth century the procurement of all the materials was provided for by the *timars*, or fiefs. Sometimes the cost of the materials was met from poll-tax (*cizya*) revenues raised in the region where the purchase was made. From the late sixteenth century onwards, sources of finance became more diversified. The state purchased some of its materials from merchants at market rates with revenues obtained from the tax farms. A government order in 1606 stated that the cost of the material to be used in the construction of a galley and a horse ship in the Süzebolu *iskele* was to be drawn from the tax farms in the seaside towns of Ahyolu and Midye.⁴⁶ But the principal method of extracting a wide range of construction materials from the designated locations was via the direct taxation in kind of the local population through the *avarız* system with which the Ottomans had been experimenting since the early years of the sixteenth century. The latter required the taxpayers of a given area to provide officials with an amount of timber or some other material at the point of production. The state usually defined the tax obligation of the subject populations in monetary terms. In the mid-seventeenth century, for example, the construction of a galley or galleon required roughly 7000-10,000 units of timber costing between 56,000 and 86,000 *akçes*. In the seventeenth century, in addition to the *avarız* taxes, which were used mainly for the supply of material for ship construction, arbitrary fees were levied on the subject populations of certain *sancaks* to meet the cost of timber for ship construction.⁴⁷ When the state failed to procure the required amount of raw material through the *avarız* system, it purchased the remainder at market prices from merchants. The evidence suggests that the dis-

⁴⁶*Ibid.*, Cevdet/Belediye (CB) 8729, 26 S. 1015, 3 July 1606.

⁴⁷BOA, MD 83/96, 20 L. 1037, 23 June 1628; and MD 83/99, 21 L. 1037, 24 June 1628.

crepancy between the two prices was one-fifth in favour of the latter. The latter practice encouraged local populations to cooperate with the merchants, who offered better prices for these materials. The registers of important affairs are full of records concerning the prohibition of sales by the subject populations to the merchants. Although such incidents were not uncommon in the sixteenth century, they begin to appear more often in official documents in the seventeenth and early eighteenth century.

In the eighteenth century, problems associated with the procurement of timber, iron, pitch, tar, resin, hemp, sails and other shipbuilding materials from the provinces through the provisioning mechanisms caused the state increasingly to procure its needs from merchants at market rates. By the time the reform of the navy was launched, the traditional provisioning mechanisms had already been dismantled, and all the materials used in the construction of ships were purchased from producers via the mediation of merchants.

Labour

The question of maritime-related labour is complex since it involved a multitude of areas. The principal demand for maritime-related labour was not so much on board the ships as in the arsenals in the capital or the provinces. The arsenals employed skilled and unskilled labour. The majority of the skilled labour force comprised craftsmen and shipwrights who were drawn largely from the *devshirme* corps. The craftsmen who worked on a permanent basis included mainly armourers, storekeepers, oar makers, caulkers, pulley-makers and oakum-workers. Gunners and bombardiers on ships also tended to be employed on a permanent basis. The Grand Admiral retained the right to draft additional skilled workers on a temporary basis from various imperial districts in preparation for a major campaign. These included carpenters, caulkers, clinchers, oar makers, sawyers, saw-makers, tailors and ironsmiths.⁴⁸ These temporary workers could be drawn from the local populations either as wage labour or in return for a variety of tax exemptions. The government relied on local judges for the recruitment of the necessary labour force for the Imperial Arsenal. When the small arsenals required labour, their administrators asked the *Porte* to intervene on their behalf to summon the judges of various districts to recruit people for their needs. In one such case, all the judges of the districts

⁴⁸People employed in the Imperial Arsenal were classified into various professional categories. For a detailed description, see Salih Özbaran, "Galata Tersanesinde Gemi Yapımcıları, 1529-1530" ("Shipbuilders in the Galata Arsenal"), *Güneydoğu Avrupa Araştırmaları Dergisi*, Nos. 8-9 (1980), 97-102.

from Sinop to Trabzon were ordered to register the carpenters in their districts with a view to sending them to work at the arsenal of Sinop.⁴⁹

As for the personnel employed on board ships, Katip Çelebi notes that the number on a regular galley (*kadirga*) was about 330: 196 oarsmen, 100 warriors and thirty-five crew members.⁵⁰ These totals increased slightly during the seventeenth century when the Ottomans began to use large galleons. The latter were manned by 300-400 people, depending on the size of the ship. The flagship of the Grand Admiral, known as *Kapudane-i Hümayun*, was manned by as many as 800 (500 oarsmen, 216 warriors and eighty-four various personnel).⁵¹ From the beginning the captains hired experienced seafarers supplemented by inexperienced peasants.⁵² The seafarers came largely from Greek communities. The Gallipoli Arsenal, for example, employed local Greeks as shipwrights for wages or in return for their exemption from a number of taxes such as *kharaj*, *ispence* or *avarız-ı divaniyye*.⁵³ During the sixteenth century, some Italian travellers observed the presence of Venetian shipwrights – probably renegades or captives – employed in the Imperial Arsenal. The recruitment of *timariot* cavalry and infantry was conducted by the maritime *sancak beys* who acted at the request of the Grand Admiral. In the sixteenth century the *timariot* cavalry serving in the Ottoman fleet brought their own arms and armour and a fixed number of armed retainers depending on the size and income of their holdings. As mentioned above, oarsmen were recruited by the district judges according to the demand coming directly from Istanbul.

From the late sixteenth century onwards, the method of recruitment changed to parallel the mechanisms used in obtaining the necessary materials for the construction of ships in the Imperial Arsenal. The *avarız* registers began to be kept by local judges to record the oarsmen drawn from a given area. Those who registered with the local judge had to offer another person or property as security (*kefil*). Another source of oarsmen was the craftsmen in cities.

⁴⁹BOA, MD 5/1213, 20 Şaban 973, 12 March 1566.

⁵⁰Katip Çelebi, *Tuhfetü'l Kibar*, II, 237.

⁵¹*Ibid.*, II, 236. At 800 people, Çelebi's figure for the manning levels of the largest vessel in the Ottoman fleet is nearly three times the figure of 300 men put forward by Murat Çizakça, "The Ottoman Empire: Recent Research on Shipping and Shipbuilding in the Sixteenth to Nineteenth Centuries," in Frank Broeze (ed.), *Maritime History at the Crossroads: A Critical Review of Recent Historiography* (St. John's, 1995), 220. Similarly, Çizakça's figure of 200 for the *kadirga* is considerably below Çelebi's figure of 330.

⁵²Lester Libby, Jr., "Venetian Views of the Ottoman Empire from the Peace of 1503 to the War of Cyprus," *Sixteenth Century Journal*, IX, No. 4 (1978), 116.

⁵³İnalcık, "Ottoman State," 94.

The non-Muslim communities of Istanbul were supposed to supplement the supply of oarsmen from the designated crafts of the city (e.g., *meyhaneciler* [tavern keepers], *bozacılar* [makers of *boza*, a beverage made of fermented millet], *peremeciler* [boatmen] and *hamallar* [porters]). There were also people who volunteered to become oarsmen. In addition to prisoners of war, the Ottomans used convicts, who were condemned to the galleys as punishment. The government took certain measures against the possibility of mutiny; Ottoman writers such as Katip Çelebi recommended that the Anatolian Muslims who volunteered or were conscripted as oarsmen should balance the number of convicted criminals who were put on a ship.⁵⁴ The maximum number of oarsmen in the Ottoman navy remained stable until the end of the Cretan campaign in 1669. The first organized effort to establish a corps of regular, salaried, disciplined and trained sailors took place during the naval reforms of the late eighteenth century which were aborted by the dethronement of Selim III.

Conclusion

Having clearly established that the Ottoman Empire was a maritime empire, the question remains as to whether it was also a world power in maritime terms. This is an intriguing question because the "world" changed considerably during the span of Ottoman ascendancy. When the Ottomans made their bid against the Venetians and the Spaniards, at least in the eyes of many in the region the Mediterranean was synonymous with the world, even though we know with the benefit of hindsight that its days were numbered. The extended period of naval warfare characteristic of the "long sixteenth century" ended in a draw and divided the Mediterranean into two halves. The Ottomans had become established as the masters of the eastern half. In any case, the Mediterranean was already on the way to becoming but one small part, and an increasingly unimportant one at that, of a far bigger world, within which the Ottoman bid in the Indian Ocean was mostly of symbolic importance and short-lived. In this scenario, the Ottomans acquiesced to remaining a regional maritime power and did not seek to renew their challenge on a larger scale. Even in the nineteenth century, when the Ottomans acquired the third largest navy in the world, it was not intended to sail far beyond the eastern Mediterranean – it existed merely to protect local waters. During the first phase of this bid, they sought to develop a navy comparable in size to those of the leading powers, while during the second phase they assumed a more realistic posture and endeavoured to match the naval strength of neighbouring rivals, especially the Greeks and Russians. As a consequence, they were first and foremost inter-

⁵⁴Katip Çelebi, *Tuhfetü'l Kibar*, II, 250. For a discussion of this issue, see Palmira Brummett, "The Ottomans as a World Power: What We Don't Know about Ottoman Sea Power," *Oriente Moderno*, XX, No. 1 (2001), 1-21.

ested in preserving the maritime *status quo* and the concomitant balance of power in the eastern Mediterranean (obviously including the Black Sea).

We have already argued that the fact that its territory bordered a large swathe of the eastern Mediterranean sufficed to qualify the Ottoman Empire as a maritime power. Given their vast territories, the Ottomans were obliged to maintain regular traffic between Egypt, Syria and Istanbul, as well as between Istanbul and the various Black Sea ports, to ensure the adequate day-to-day provisioning of the huge population of the Empire's vast metropolis. In addition, there was coastal traffic and trade with the numerous Aegean islands. Furthermore, there was the riverborne traffic along the Danube and Nile, as well as the traffic on the less navigable Euphrates and Tigris. Last but not least, there were the myriad craft plying the hive of activity that was Istanbul's own harbour, situated on both sides of the Bosphorus.

This sketch highlights the importance of navigation for the daily functioning of the Ottoman Empire. When it came to being a naval power, however, this constituted more of a dead weight than a springboard for the following reasons. First, the vessels used for the various tasks were not suitable for Mediterranean warfare. Second, even in situations of dire need, shifting resources from civilian to military use jeopardized the provisioning and daily life of the Empire. As a consequence, the navy had to maintain its own ships and personnel rather than draw upon the resources of the merchant marine. All attempts at naval power were limited by two factors: first, the availability of resources for shipbuilding and the fitting out and rigging of ships, and second, the ability to recruit skilled manpower for both their construction and sailing. In addition, in the course of time, as the technological gap between the Ottomans and European naval powers widened, the acquisition of foreign technology became more difficult and costly. Finally, during the nineteenth century, the Ottomans had to consider buying ships abroad while also maintaining a limited arsenal of their own that they sought to improve.

Conventional histories of Ottoman naval power insist that even during its heyday it was merely imitative of the Venetian navy and as such was doomed to fall behind once the rising Atlantic powers displaced Venice. There is thus a view that the Ottoman navy was somewhat backward to begin with. In our view, however, there is a more accurate alternative perspective on the state of the Ottoman navy during its heyday. The Ottoman navy, given its restricted reliance on the merchant marine, developed an ingeniously "flexible" organization. It incorporated into its structure the regional corsair fleets. These corsairs were not actually the pirates or sea bandits they are often made out to be. What they were allowed to do was well-defined within the customs and traditions of the Ottoman law of the sea. They could inflict damage on the enemy to finance their activities, maintain and renew their fleets and yet serve the Ottoman navy when called upon. In a sense, they were a second-best substitute to what the merchant marine normally did for the navy in countries like the

United Provinces. Only they were better, in the sense that they did not draw upon the resources of the merchant marine, and they kept their crews in a state of readiness for warfare that even regular drilling could not match. The Ottoman's "flexible navy" was a creative response to the realities they confronted. When the Ottomans made peace and extended capitulations to the French that safeguarded the latter's commercial navigation in Ottoman waters, they undermined the very process on which their classical maritime strength had been built. This they could afford to do because they must have foreseen that after the sixteenth century the Mediterranean was no longer to be the major arena for naval warfare. The relative decline of Ottoman naval power in the seventeenth and eighteenth century was largely due to the fact that it confronted no major threat in the Mediterranean. In a similar vein, when the threat reappeared with the arrival on the scene of the Russians, the Ottomans, a *reactive* maritime power, were forced to take up the challenge. At the end of the eighteenth century, the traditional maritime regime of the Mediterranean disintegrated in the wake of the French Revolution. There followed a massive increase in trade in general, and east-west trade in particular, accompanied by a "flourishing" of Greek and Barbary piracy. Yet with the Greek revolt around the corner and the Russians breaking the Ottoman monopoly over the Black Sea, the Ottoman Empire was in no position to harness and incorporate these new forces into the navy as it once had done. It had to search for a radical new solution within the constraints it faced. It needed to obtain new technology, which meant considerable expenditures that drained imperial finances and led to spiralling foreign debt.⁵⁵ A navy was needed to protect independence in the first place, yet this was an open invitation to dependency on foreign powers in order to finance it. Sailing out of this *cul-de-sac* in the course of the "long nineteenth century" proved much more difficult than sailing out of the Mediterranean during the "long sixteenth century."

⁵⁵Kaori Komatsu, "Financial Problems of the Navy during the Reign of Abdülhamid II," *Oriente Moderno*, XX, No. 1 (2001), 209-219.