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Ottoman Naval Technology in the late 18th Century

The reign of Selim III (1789-1807) witnessed many technological novelties in the Ottoman navy. Thanks to the access to ample sources for naval construction and wisely navigated channels of information, the systematic construction of new types of sailing warships such as two- and three-decked galleons, frigates, corvettes, sloops, gunboats, fire ships and other small crafts began to dominate the Ottoman fleets, rendering the galley-type oared ships obsolete as war ships. There is no doubt that the systematic introduction of these new ships, along with the regulations in the naval administration, changed the structure of the Ottoman navy to a great extent. Ottoman naval power not only appeared as a strong entity per se, but also came to be a driving force behind the development of Ottoman land forces with its contributions in security, finance, discipline and supplying provision. New ships gave a fresh impetus to the Ottoman fleets so that they waged successful wars in the Mediterranean and Black Seas. The regenerated Ottoman navy managed to challenge and thwart the Russian navy between 1787 and 1791. Ottoman fleets composed of new sailing warships cooperated with Russian and English naval forces against French forces, and played an active role in the transportation and landing of Ottoman troops in Egypt during 1798–1801.

One of the striking technological breakthroughs of the period was the adoption of copper sheathing for the hulls and bottoms of Ottoman naval ships, from 1207/1792-93 onwards. The first noteworthy trials of this technology had taken place in Europe about 30 years earlier. It provided protection from wood-eating worms and an increase in sailing speed that not only reduced voyage times, but also made navigation easier, it held caulking materials in position and it reduced maintenance costs between voyages. The construction of the first dry-dock in the Golden Horn by Swedish engineers led by Rhode was another important development in the period. Furthermore, at the beginning of the nineteenth century the first negotiations with Great Britain regarding the purchase of a steam engine, which the Ottoman authorities intended to use in emptying the dry-dock were initiated.

Alongside these important developments, were others that contributed to the overall improvement of the Ottoman navy. Among them were the introduction of the keeping logbooks (seyir defteri or seyir jurnali), the construction of an anchor house (lengerhâne) for the production of anchors, the building of a measuring house (endâzehâne) for the modelling and drawing of the plans of ships, the adoption of new mast machines for fitting the masts into their places, the adoption of pumps and fire conduits for emptying bilge and rain water from ships and putting out fires aboard, and the introduction of a new kitchen and provisioning system, which brought order to the feeding habits of the crew and provided extra space on ships enabling them to mount more guns.
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