

were principally moved by sails. Cæsar describes them as made wholly of timber and strongly built, with iron bolts and iron cables, and leather sails. He says they were more flat-bottomed than the Roman ships for the convenience of the light draught of water, that they had tall prows, and a quarter deck consequently rather high. He describes them as good sea boats, able to withstand even the shock of being rammed, hard to grapple with or board, because of the height of their fighting deck, but not so fast as the Roman row-galley.

The Scandinavians worked out the problem of building a boat, handy, fast, safe, and suited to their own coasts and seas, in their own way, having seen from the Roman galleys that, under Drusus and other Roman commanders, operated in the North Seas in the first century, possibilities of better craft than those they had hitherto had. The sail-less, seam-sewn, paddled canoe gives way to the ribbed and keeled clinker-built boat with mast, yard, sail, side-rudder and oars.

The Roman galley may be described as a long, low, narrow hull, like that of a modern canal-barge, with a pair of light, long boxes fitted to the uppermost timbers on each side. In the hull were the stores and ballast; in it was stepped a mast fitted with a yard and square sail; fore and aft were half decks, joined by a narrow platform running between. The rudder, a broad oar fixed to the starboard quarter, was steered from the quarter-deck. In the side boxes the oarsmen sat and pulled the long narrow-bladed