Ships and Seafaring

Without seaworthy sailing ships, the Viking expansion would have been impossible. Their importance is demonstrated in art, poetry, religion and burial practices.

Viking ships were built using the clinker or lappstrate technique in which the lower edge of each hull plank overlaps the upper edge of the one below it. This technique gave the Viking ships light, flexible hulls which rode the waves and had excellent sea-keeping qualities. Viking ships were double-ended, with the bow and the stern built in the same way, and were steered by a side rudder (always on the right, hence starboard). There were many different types of Viking ship, all built to suit a particular purpose or maritime environment.

Typical of a small Viking warship is the 11th-century longship known as Skuldelev 5, found with four other wrecks at Skuldelev near Roskilde in Denmark. The ship was 57 feet (17.5m) long by 8 feet (2.5m) wide, and had a crew of 26 oarsmen. Tests with a replica of the ship have shown that it could reach speeds of over 9 knots under sail and over 5 knots when rowed by a full crew. Even fully loaded it drew only 18 inches (50 cm) of water; it would have been ideally suited to raiding in the shallow waters of the Baltic and the southern North Sea, and could have sailed far inland up rivers. Norwegian longships, such as the Gokstad ship, sailed mostly in deeper Atlantic waters and were broader and had deeper keels than Danish longships. The royal fleets of the late Viking age also included much larger “dragon” ships such as King Olaf Tryggvason’s “Long Serpent.” At 100 feet (30m) long and needing a crew of over 50 oarsmen, Skuldelev 2 was probably such a ship.

Trade ships, built with cargo carrying capacity in mind, were shorter than longships and had wider, deeper and heavier hulls. Trade ships relied on their sails for propulsion and could be worked by small crews of four to six men: a few oars only were carried for manoeuvring in harbour. The most important type of seagoing trade ship was the sturdy knarr, represented by wreck 1 from Skuldelev. This was 54 feet (16.5m) long and had a cargo capacity of 24 tons. The knarr was undoubtedly the type of ship which was used for to carry settlers across the North Atlantic to Iceland, Greenland and America (pages 98–9). Local trade was carried on in small ships such as Skuldelev 3, which had a cargo capacity of 4 tons.

It is not known exactly how the Vikings navigated their ships. Where it was convenient they hugged the coast, navigating by prominent landmarks ashore; certainly most of the Danish raids on Francia and southern England could have been carried out this way. However, the Vikings, especially the Norwegians, did make considerable open sea voyages on which they could be out of sight of land for several days or longer. Though they lacked the magnetic compass, the Vikings possessed a simple sun compass which could locate north with tolerable accuracy in clear weather. Viking navigators could also use the stars to judge latitude, a great aid to navigation if the latitude of the destination was known. Navigators would have been heirs to a stock of orally transmitted practical knowledge of sea and weather conditions. The presence of an island over the horizon might be detected by cloud formations or the direction of flight of seabirds; a thickening of the sea in stormy conditions could indicate that the ship had sailed into the lee of an island made invisible by rain or cloud. Despite tricks like these, the Viking seafarer was desperately vulnerable to being blown off course or shipwrecked in bad weather. Sometimes a storm-driven mariner would find his way back to tell of a sighting of a new land, but many more must have been lost without trace.

Below: fine weather vanes adorned the masts of Viking ships. Originally streamsers were attached to the boles in the edge to give an indication of wind speed and strength. The Vikings had few navigational aids and relied on an expert knowledge of landmarks, sea conditions and the positions of the sun and stars to find their way.

Right: “Helge Ask”, a replica of the Skuldelev 5 ship, a small Danish warship of c. 1000 found in Roskilde Fjord. Swift under sails or oars, even fully laden it has a draught of only 18 inches (50 cm) making it ideally suited for raiding for inland on rivers like the Seine and the Loire.