Ole Crumlin-Pedersen

Centre for Maritime Archaeology, Danish National Museum, Roskilde, Denmark.

It is generally assumed that ships and boats of the past were primarily built for practical transportation purposes - and that the sporting element is a late development linked to yachting as we know it today. This is not the case, however, if by sport we understand physical activities by individuals or groups of persons in a competitive spirit.

Examples of such activities may be found among fishermen in the past competing under oars or sail in several identical boats to be the first to reach the fishing grounds or boatmen setting out to pick up passengers from large ships anchored on the roads. A famous example in this category is the competition in bringing the first load of the new harvest of tea from China to England by the middle of last century - leading to the development of the clipper-ship with its fine lines and tall rig as a radical deviation from the very full hull lines otherwise common in the ships of that time (Chapelle 1967). For these tea-races the London bookmakers were taking bets in much the same way as is practised today in horse racing.

Ships and boats, however, have not always been built to serve a simple practical purpose, such as fishing or the transportation of people or goods. Many prehistoric and Viking-Age vessels were evidently constructed with a view to serve purposes which we consider to be outside the framework of practical activities, such as cult or prestige (Varenius 1992).

Just as national prestige is a driving force behind many sports today, the competition in the past in displaying high prestige led to the construction of paddled, rowed and sail-carrying boats and ships of extremely light and elegant designs. This fact is demonstrated by the Iron-Age vessels from Hjortspring and Nydam, found as war-booty offerings in Danish bogs, as well as by the Viking ships recovered from burial mounds and from the sea-bed in Norway, Denmark and northern Germany. Here the structure of many of the ships was designed with a view to allow the crews optimal conditions for competitive performance. Resilience in combination with strength and light-weight construction is a characteristic feature of these ships, and no effort was spared to produce the vessels with these characteristics, even at the cost of excessive demands on raw materials and manpower.

One might argue that the high quality of these vessels was entirely based on a well developed aestheticism to further their prestige value, rather than a function of a quest for optimal performance. That the beauty of the lines of these ships and the sophistication of their design were the results of a purely aesthetic drive rather than the outcome of functional needs. The shipfnds, however, demonstrate that the process worked the other way round. The elegant solutions in the details of design and lines are all functionally well-founded in a situation where the search for speed would drive the boatbuilder hard in order to achieve results as good as, or preferably better than those of other ships. We meet the opposite situation in the way the royal warships of the 16th-17th centuries were fitted in a grandiose style with wooden sculptures and ornaments, some times causing problems for the stability and basic functions of the ships, as one may see in the Swedish warship Vasa.
In much the same way as the lines of a dolphin have been refined by nature to optimize performance in the water, and the structure of the bones of a swallow are optimal for such a lightweight flyer, the Iron-Age and Viking ships and boats display functional and aesthetically pleasing lines of the hulls and rigs as well as sophisticated lightweight solutions for the structural elements (Andersen & Andersen 1989; Crumlin-Pedersen 1997).

This result of the study of archaeological finds of early ships and boats is confirmed in the written evidence in the scaldic verses and the sagas relating to the late Viking and medieval ships of the 11th-12th centuries. Here the swift passage under oars or sail is praised, and the 'ideal' ship is described in terms indicating that the resilience of a long narrow hull and the spread of canvas as 'the wing of the dragon' were crucial elements for a ship to attain royal standard.

Thus the study of Viking ships refers to vessels some of which were built to a highly competitively upper level of society, and we may find sophisticated technical solutions beyond our present experience, even within the world of modern sports. It is a fascinating task to analyse the archaeological finds and to build and test reconstructions of these ships, as this may lead to the re-discovery of design features and practices of importance for our present day design principles for boats for racing and sailing.

The presentation will include some examples of analyses of this nature, such as flexible hulls, spade-rudders and 'negative keels', and the results of sailing trials will be described.

REFERENCES