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Unreviewed Mixed Matters Article:

Book Review: Viking and Iron Age expanded Boats by Ole Crumlin-Pedersen and Hanus Jensen

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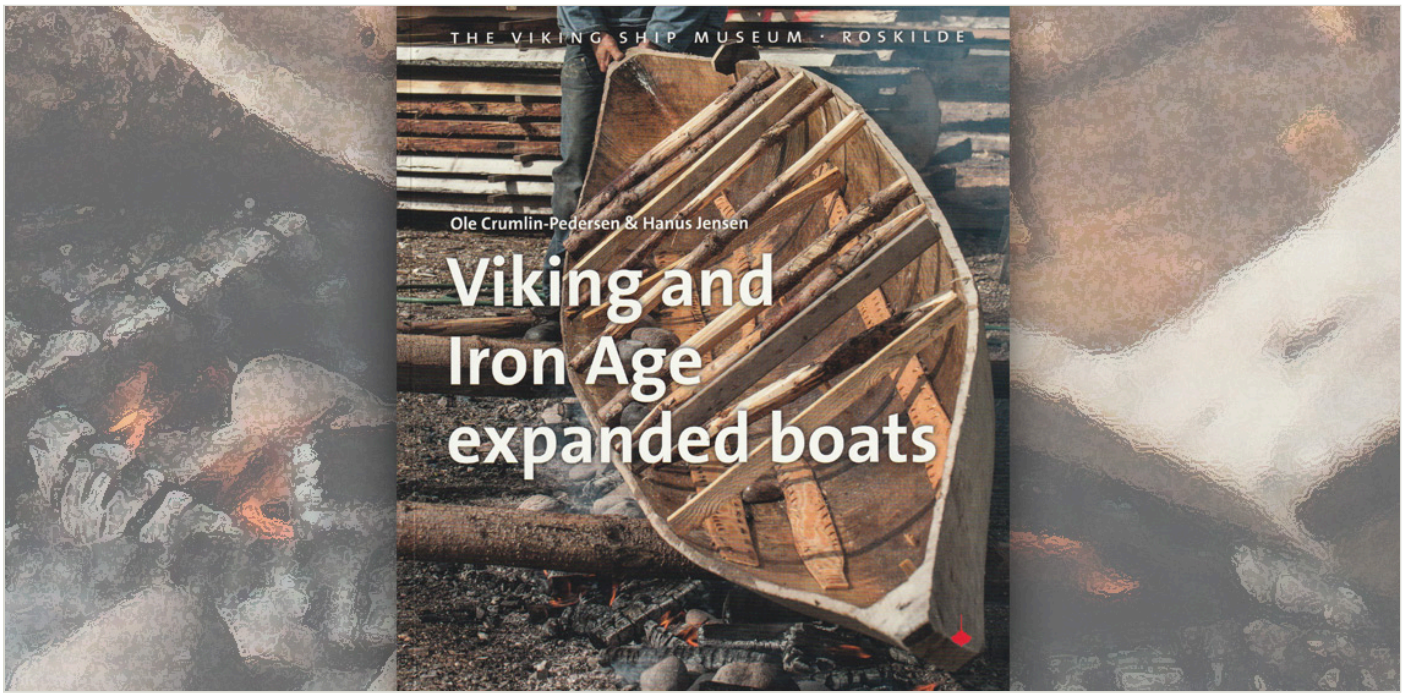

Viking and Iron Age expanded boats is the English version of the simultaneously-published Danish edition, Udspændte både fra vikingetid og jernalder. The two editions are identical in layout and are heavily illustrated with colour and black and white photographs, and line drawings from a variety of sources. This review is of the English edition.

By "expanded boats", the authors mean those craft that are more often termed "expanded logboats" (i.e., dugout canoes with their hulls stretched sideways for greater beam), regardless of whether or not they are also "extended" by the addition of strakes (longitudinal planking that runs from bow to stern) to the logboat base.

> "This is experimental archaeology done right: the objectives are well formulated to answer worthwhile questions, the methodology is appropriate to the task, and the data generated does indeed address the questions posed, although it certainly does not answer every question as fully as might be desired. Where the boat builders deviated from their own ground rules (for example, in using a different type of wood for boat frames than the one that was present in the artefactual boat), the rationale for doing so is explained and the experimental implications of those changes are considered.

The book contains two sections. The first, about one third of the volume, is by maritime archaeologist Ole Crumlin-Pedersen and describes the archaeological and historical evidence of expanded boats in northern Europe. It also presents a novel refinement on the well-known theory regarding the development of clinker-built boats (i.e., those having overlapping planks fastened to one another) from logboat origins. The remainder of the book, by Faroese boatbuilder Hanus Jensen, describes the construction of three replica expanded boats undertaken on an experimental basis at the Viking Ship Museum in Roskilde, Denmark. Crumlin-Pedersen died in 2011, before the experimental programme was completed.

In the first section, Crumlin-Pedersen introduces a typology of four basic plank-built boat types known from the Late Iron Age and early Middle Ages in the Baltic and North Sea area: the clinker-built keel-based boat, the expanded-extended logboat of the "proto-hulk" type, the flat-bottomed, keel-less "proto-cog", and the barge type of the Romano-Celtic tradition. Data for all archaeologically-known expanded boats in northern Europe are presented, and upon these the author bases a scenario in which the technique of hull expansion originated in southern Scandinavia and central Sweden and then diffused outward along and across the North Sea as far as England, and into Eastern Europe and the Balkans. He acknowledges that this scenario is somewhat speculative, being based on scanty data.

As the process of diffusion occurred, he argues, the expanded logboat base was elaborated in the southern North Sea region into the "proto-hulk" type whose form is best known in the 11th C. Utrecht Boat. (The later, fully-developed hulk is thought to have been a large medieval cargo vessel that played an important role in international trade, although solid evidence for its existence is lacking, and Adams (2013) argues that there never was such a ship.) In parallel with this, Scandinavians borrowed the idea of attached stems (a structural timber attached to, and extending upward from, the end of the keel) from

the Romano-Celtic construction tradition, and added them to simple expanded logboats to facilitate the addition of strakes. Eventually, the logboat base was diminished so that it became a keel which, with stems fastened at each end, would serve as the backbone in all later European shipbuilding, including in the clinker vessels par excellence, the Viking longships.

In support of this theory, Crumlin-Pedersen initiated an experimental archaeology project at the Viking Ship Museum, in which examples of three archaeological expanded boats would be built: Slusegård (Denmark) 1131, a simple expanded (i.e., not extended) boat of the 1st or 2nd century AD; Björk (Sweden), an extended, 3rd-6th C boat with unusual stem extensions fitted to the ends of the logboat base; and Tuna in Badelunda (Sweden) 75 (9th C), an extended boat with stems added to the outside of the hull. Crumlin-Pedersen briefly describes the archaeology of these boats but does not go into detail about their interpretation.

The rest of the book, by Jensen, describes the experimental programme. He begins with a description of the experiments' objectives and an excellent discussion of the ground rules for conducting them, especially concerning which aspects of the work must be absolutely authentic and where compromises are acceptable. One of the project's major objectives was to discover the techniques of hull expansion used by the original builders. Since it was the techniques themselves that were under investigation, and the tree trunks used for the replicas might differ in unknown ways from those used in the originals, it was decided not to attempt to replicate the dimensions of the original boats precisely, but rather, to allow the amount of hull expansion to be guided by the material itself. Most work was performed with replicas of tools archaeologically associated both temporally and spatially with the original boats, although some modern tools were used for large-scale wood removal where it would have no effect on the final product. Because the project served as a living exhibit for museum visitors, the use of non-period tools was generally kept behind the scenes. Working to plans derived from analysis of the archaeological boats, Jenson created scale models to test the plans and to assess the intended methods of construction before proceeding on the full-size boats.

The construction of the three replicas is covered in varying degrees of detail. Processes unique to each boat are described, and redundant descriptions of techniques common to more than one have been avoided. Much attention is paid to the process of hull expansion, of course, as this was the primary process under investigation, and each hull required a different approach. Determining the shapes of planks so that they would conform to the logboat base's profile proved to be a challenge and required the discovery of a method different from those used in modern clinker construction. The process of stitching the planks on the Tuna in Badelunda boat with spruce roots is covered in good detail.

Jensen focuses on problems encountered and how they were overcome … or not, as in the case of the Slusegård replica, where the hull split wide open before sea trials could be conducted. Still, the Slusegård experience was an educational one, and the experiment did indeed generate useful data about boat expansion. Mistakes and compromises are discussed frankly, and conclusions and proposed explanations are offered regarding the level of accuracy achieved in attempting to recreate original construction methods.

This is experimental archaeology done right: the objectives are well formulated to answer worthwhile questions, the methodology is appropriate to the task, and the data generated does indeed address the questions posed, although it certainly does not answer every question as fully as might be desired. Where the boat builders deviated from their own ground rules (for example, in using a different type of wood for boat frames than the one that was present in the artefactual boat), the rationale for doing so is explained and the experimental implications of those changes are considered. The experiments were not successful in all respects, but, being presented honestly and assessed carefully, they nevertheless provide worthwhile information for future investigators.

There are a few flaws. The English translation is less than perfect, so that the authors' meaning is unclear in some (thankfully few) places. Some important illustrations have been reproduced too small (e.g., Fig. 21), which is unfortunate, since some that provide little useful information are larger than necessary (e.g., Fig. 42). The captions to the various parts of Fig. 13 are mixed up. More detail on the archaeology of the three original boats would have been useful, as would more on the interpretation of their construction.

But overall, *Viking and Iron Age expanded boats* presents impressive experimental archaeology and is an important resource for students of early European boatbuilding methods.

Book information:

Crumlin-Pedersen, O., Jensen, H., 2018, Viking and Iron Age expanded boats, Roskilde: The Viking Ship Museum. 98 pages. paperback, ISBN: 978-87-85180-74-2. (Danish edition: *Udspændte både fra vikingetid og jernalder*. ISBN: 978-87-85180-73-5).

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