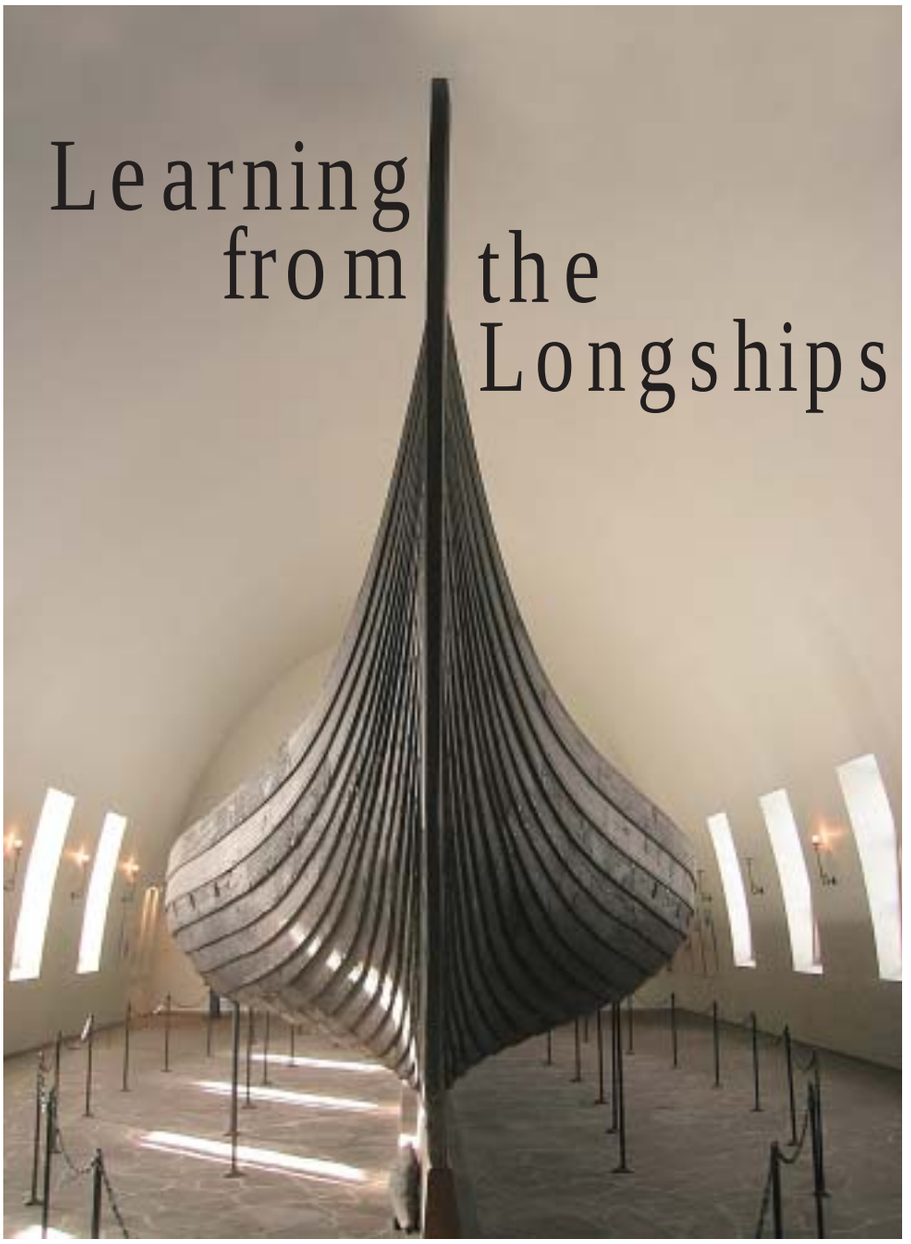
Learning from the Longships



What's the difference between Valhalla and Hounslow? In Hounslow, the Viking longships are a little smaller. David Jones starts his own saga.

With photographs by the author.

Two and a half years on, my wife had forgiven – if not forgotten – the choice I'd made between buying a fully functioning family car and building a Thames rowing skiff. Our gig – see W31 – has provided many a happy day on the river but was never large enough to accommodate the whole family. And now I needed a new challenge! So, I rang boatbuilder Colin Henwood and asked: "Colin, ever been to Oslo? I believe they have a number of Viking ships there."

Trying to plan this trip from the UK had its problems. The internet proved to be of some use, although most sites are written in Norwegian only. Telephoning met with the same barriers and even my attempts to get the Norwegian Embassy in London on side came to no avail. In the end, my guidance came from travel guides and two books: *The Building of Boats*, by Douglas Phillips-Birt, now out of print and a recent publication *Viking Longship*, by Keith Durham, from the military publishers Osprey.

So one Thursday in February, Colin and I boarded a flight to Oslo; the actual day of departure was important because I had managed to ascertain that neither the National Maritime Museum nor the Historical Museum libraries are open at weekends or on Mondays. But for people like us who wanted to go back to square one and see original craft which are fit for purpose and created using hand skills, axes and very little else, this trip was hard to beat.

Our first visit to the Maritime Museum on the Friday was disappointing; this is not the library for Vikings. The Viking Ship Museum has three ships and two smaller craft but it had no literature either. However, off the coast of Oslo sits an island called Bygdoy which houses most of the relatively modern museums. We had read that access to Bygdoy was by ferry boat which sounded very picturesque but then we discovered that the ferry only operates during the summer;

Colin and I boarded the No 30 bus at the price of 30 kronor – about £2.50 – each.

The Norwegian Maritime Museum on Bygdoy houses models of craft from all periods, with some beautiful examples of the Viking ships I had come to see. Annexed to this museum is a collection of small working boats and a copy of a small boat workshop with a faering under construction. In the main museum, we met a giant of a man, Hans Marumsrud, who, as part of a hands-on archaeological project, was trying to create a replica of a 35' (10.5m) dugout canoe in oak using tools copied from artifacts found; a mammoth task.

The Viking Ship museum is the form of a cross in plan and beautifully displays three ships. There is the Oseberg: a seriously over-the-top craft with the keel heavily carved with traditional Viking knotwork and animals, such as found in the *Book of Kells*. This vessel was believed to be for two princesses and although sailed, the mast step had failed through possible weakness in design.

The second craft displayed is the remains of the Tune Ship. This gives a perfect view of internal construction showing what weight saving is all about: planks less than 1" (25mm) in thickness tied to grown frames shaped and pared down.

But, for me, the most impressive vessel is the Gokstad Ship which was buried with a 60 year old Chieftain. The lines flow in all directions; every frame, knee, plank and mast support flow into one another. There is no wasted material here! Three smaller craft were buried with the ship, two of which are on display. The third is being restored copied using traditional tools and should be completed by 2005.

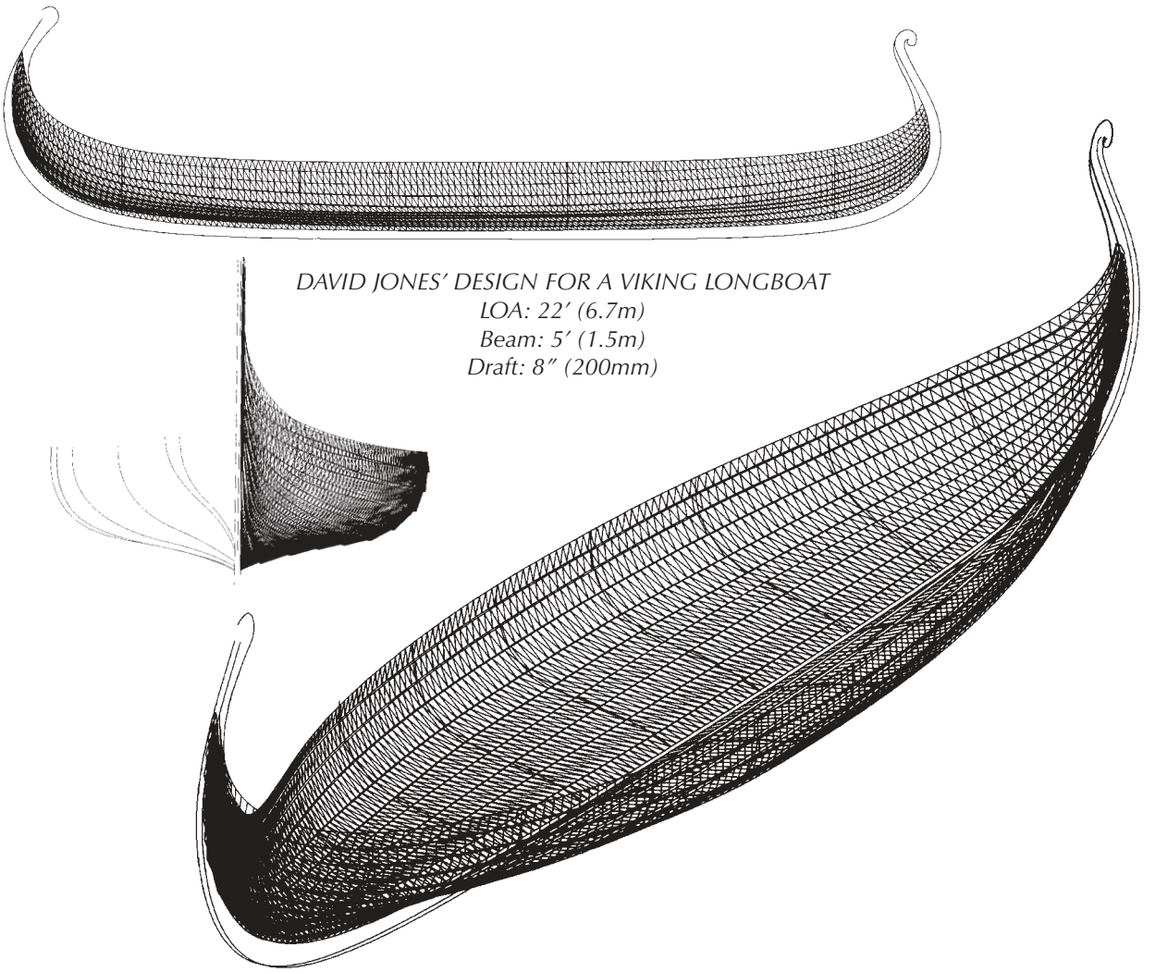
The top of the cross houses the artifacts found with the ships, including many items which help with the understanding of the boats' workings such as the plaited leather belt which held the offset rudder.

The Historical Museum houses many short term exhibitions and a time-line display from the Stone Age onwards with many examples of Viking weapons used to meet and greet! I was a little frustrated at not being able to access their records but was more than pleased with the bookshop I discovered only one street away. Norli is the biggest bookshop in Norway and provided some excellent books, one being a reprint of a book on the Gokstad with removable plans. The latest edition, with both English and Norwegian texts, has a reference on the jacket to a centre in Sandefjord – www.njmh.no – dedicated to the use and understanding of ancient crafts but it was a 2 hour journey by bus so sadly not for us this time.

Previous page: *The Gokstad Ship.* Above: *Figurehead design.* Below: *The Viking Ship Museum in Bygdoy, with close-ups of the Oseberg Ship with its carved keel and our venturesome duo – left: David Jones; right: Colin Henwood.*





DAVID JONES' DESIGN FOR A VIKING LONGBOAT
LOA: 22' (6.7m)
Beam: 5' (1.5m)
Draft: 8" (200mm)

Left & below: *Stem and sternposts were cut from large crooks of sweet chestnut, which is stable, light and easy to carve though not very strong.* Right: *The dovetail-sectioned straight keel is oak.*

The second book I bought compares with Eric McKee's wonderful *Working Boats of Great Britain*. Sadly, *Gamle Norske Trebater* by Arne Emil Christensen was not in English but the superb drawings and images made it a 'must have' book. However, I have since learned an abridged version in English does exist.

The rest of our time on Bygdoy was spent viewing the Amundsen's *Fram* and the Kontiki and Ra II exhibitions. We also took a trip around the bay on a local ferry which was obviously heavily subsidised as, at 20 kronor (about £1.66), it turned out to be the cheapest thing we paid for. And while we're on the topic of prices, it may be useful to note that the last item on all restaurant bills is a 24% surcharge. This is not – as, say, visiting Brits might think – the service charge but a government tax. We do not recommend you walk out of the restaurant without paying it!

During those meals, Colin and I discussed what kind of Viking ship I was going to try to build. The temptation for me was to build a straight copy of the Gokstad at 1:3 scale but Colin advised that it might neither function properly or look right. So then my ideas went on these lines: a craft of obvious Viking style using a side mounted steering mechanism, mechanically similar to the Gokstad craft. Traditional construction, possibly tying the first planks to the frames and tree-nailing the upper planks. A square sail, possibly using similar bracing for the mast as found on the larger craft. And a curious detail of the Gokstad's keel – although it starts and exits with a taper, the middle part of the keel is dovetail in section and fatter at the base of the keel. Both the stem and the stern posts would be carved from single pieces and of course, there would have to be a dragon's head at the prow!

Back to the UK and to the drawing board – or rather the computer. The final design has resulted in a craft 22' long with a 5' beam (6.7 x 1.5m) – it would have been 4' (1.2m) wide if I'd kept the Gokstad proportions. Moulded depth amidships is 18" (0.46m) and she's almost 5' (1.5m) high at stem, 4'6" (1.37m) at the stern. There are 10 planks per side – instead of the 16 of the Gokstad – and they are ⅜" (9mm) thick. For most of its length, the keel is 3" (75mm) deep and 1¼" (32mm) wide on top, 1¾" (44mm) wide at its base, creating that interesting dovetail.

Below left: *The two lowest planks – the garboards – are attached to the keel.* Below right and facing page: *Here be dragons! Half of one wall of the building shed is removeable so that the finished longship can be slid out sideways.*

The keel is English oak; the stem and stern sweet chestnut, which is stable, light and easy to carve but unfortunately, not very strong. The frames will be green oak and tied to cleats on the 2nd-to-6th planks, with, in my case, leather – bast, which occurs between the wood and bark of a tree, may have been originally used. The frames are not joined on the centreline but are continous, wherever possible, to flex in a similar way to those of a larger version. The mast and spar are to be made in Douglas fir.

Readers of my previous article may recall that I am a furniture maker and that building the gig in my workshop seriously disrupted the day job; the Viking ship had to be built elsewhere, so I built a shed specifically for the purpose. In fact, the fact that my garden is 25' (7.6m) wide determined the craft's size to some degree. The shed has a crude timber space frame which supports the roof, 50% of which is clear plastic. The back wall is geograin wired glass – an old lean to roof – which means I can work until the last rays of light in the evenings. The structure is designed allowing half of one long wall to raise up so that when built, I can rotate the craft out without dismantling the shed.

Two 8" x 2" (200 x 50mm) timbers were secured along the centreline of the floor so that I can build the boat the right way up. The boat's backbone is made of 5 pieces: the main keel, two transitional sections about 3' (0.9m) long at either end and then the carved stem and sternposts. Because the stem and stern are relatively thin in section and as sweet chestnut is quite frail, I have, as the Vikings did, used a scarph joint. For me, the transition from full thickness to nothing should make for a more suitable joint between a strong and a weak timber. As true authenticity is not my main goal – I'm more interested in aspects of the design; how it performs and how this relates to certain materials – I am cheating in other areas. For example, all the planks are scarphed together using my interlocking joint – see W31 – and I will use Sikaflex, a product kindly donated by Sika UK, between the planks: I am expecting a good deal of movement and bailing is not my strong point.

Fitting the first plank is always quite nerve racking as it will show up any deficiencies and can be an indicator of problems to come. I have made moulds for the boat every 2' (0.6m), partly because I want to check the cross-section and partly because of damage to one eye which has left me looking at the world through Victorian distorted windows; I do not trust my ability to get a fair curve by eye.

When trying to fit the hog to the keel, I found the sweep of the curves at the ends was too great for the thickness of the hog timber. So for the first time in 21 years of furniture making, I had a serious attempt at steam bending. My high-tech steam bending equipment consisted of a wallpaper steamer, a 3' (0.9m) length of plastic drainpipe and some MDF plugs at either end shaped to fit. An hour at full steam was enough to bend a section 1¾" x 1¼" (44 x 34mm) to the desired curve. The two things I noticed were: 1) you need a vent hole as far away from the original supply as possible so that the steam can pass through with only minor restriction 2) that non-waterproof MDF can swell from 1" to 4" (25-100mm) thick in less than an hour!

With the keel now laid and attached to both stem and stern, the hog steamed shaped and bonded with both resorcinol glue and screws – very unviking – the next stage is shaping, fitting and fixing twenty clinker planks.

A coda for those who read my article in W31: the untreated sample plank joints using RS12 with coconut shell filler are still sound and keeping the rain off the birds!

David Jones' bird's beak joint.