

Letter to the Editor

The Brigg 'raft': a flat-bottomed boat. A response

It was good to read Sean McGrail's *The Brigg 'raft': a flat-bottomed boat* (McGrail, 1994) in response to this writer's attempt to re-assess the Brigg 'raft' as a round-bilged craft with broader horizons (Roberts, 1992). No matter how another point of view is explained there is always more that could or should have been said in hindsight.

McGrail quite correctly claims to have gone for the minimal solution, but of course this is based on his respected interpretation of the evidence. This writer also claims a minimal solution based on what are believed to be alternative sound reasons.

In the re-assessment of the Brigg 'raft' (Roberts, 1992) it may seem that all arguments were based only on fig. 2.1.19 in the BAR publication showing the Composite Plan (McGrail, 1981) but of course all plans had been considered and cross-checked. Indeed, full credit should be given for accuracy to the producer of that Composite Plan since, when it is overlaid with the Photogrammetric Plan fig. 1.3.2, both are impressively identical in their outlines and in their details. As part of this verification, the figures were photocopied and adjusted to the same scale. The latter was photocopied onto two clear plastic sheets as used for overhead projectors. Grid-lines located the two A4 plastic sheets in their correct overlap before being placed over the Composite Plan. Minimal juggling places the Photogrammetric Plan precisely so that the plan outline, stitch-hole positioning, cleat pitch, cleat axis and size together with the detached planking to the south-east all coincide. The same check may be made over Roberts' fig. 1 (Roberts, 1992) showing a proposed strakes development. Because this was so, the accurate Composite Plan was used to re-develop the true shapes of the strakes. On reading McGrail's reply to the re-assessment, one may be misled by the incomplete drawings used. By not including the carefully drawn and plotted south-east portion of the vessel's remains, anyone unaware of the

original drawings in the 1981 report may well see the remains as that of a raft, instead of becoming aware of the smooth curves this writer finds discernible through the strake edges.

In the author's re-assessment it is stated that, due to the incomplete edges of the strakes, the stitch holes were used as marks for the splines when seeking to confirm or deny the writer's suspicions that the strakes might have had very slightly curved edges. From drawings of the sections it was possible to obtain the amount to be allowed for the full width of the strakes. It is interesting that the waviness offered as contrary evidence against the writer's interpretation of taper does not appear in the 'line' followed by the stitching, though occasional stitch holes deviate from it as one might expect from an inexact technology or distortion of the strakes while buried.

Any shrinkage across each strake would apply anywhere along its length so that the degree of tapering which existed at excavation might be expected to be something similar to that at deposition. Indeed, might not 11% added to the wider centres of these shrunk strakes increase the width measurement more than that added at the narrower ends? In other words as 11% of, say, 100 is more than that of 90, even greater taper may have been present at deposition. Such taper towards both ends of each strake will not only create a rockered profile but also a round-bilge form when sewn together as was concluded by this writer in his re-assessment of the vessel.

In table 2.3.1., (McGrail, 1981), the widths of the north-west ends of each strake's existing length is given. While making notes this writer added a further column giving the difference on, or taper from, the widest point on each strake as follows:

Strake no. 1—0.025; no. 2—0.100;
no. 3—0.100; no. 4—0.070,
no. 5—0.030.

At cleat G4 on strake no. 4 the difference is 0.125, at cleat G5 on strake no. 5 it is 0.140. These cleats are on the detached portions to the south-east of the site, (McGrail, 1981: fig.1.1.16). It seems then that Strakes nos 4 and 5 do taper towards both ends, even more so to the south-east end. Curves projected through their stitch holes would support this.

However, this deduction does not lend support to the coffin-shaped raft championed by McGrail; even if only the outer edge of strake no. 5 had been shaped, what purpose would have been served by tapering the next one, since on a flat bottom this would leave a tapering gap which no amount of rocker on its own would close?

The clustering of positions where sapwood was recorded occurs at the widest part of the strakes in the middle of the 'raft', none being found at either end, (McGrail, 1981: table 2.4.1.). This would be the case if the strakes had been tapered towards their ends.

It is no surprise that in some places edges have remained in contact. Slight distortion in the horizontal plane seems to have happened, perhaps explained by the cloying effects of the surrounding silt preventing full splaying of the strakes after the stitching had rotted. In the north-west end of strake no. 1 the split may be due to the planks having been pressed flat before the stitching could give way. It is more likely that the stitching did not give way all over and evenly but that the south-east ends of strakes nos 1 and 2 and, possibly, 3 parted company taking the strain off the others, while at the north-west end all of the ends tried to separate.

In the Brigg 'raft' re-assessment the possibility that the narrow contact-edges of the

strakes were intended to retain any kind of filler was discounted, especially since no evidence for heavy framing was available. In fact the only restriction on movement between these edges would come from flexing the strakes against the tension of stitching and the bent frames. This might suggest that the builders were aware of the concept of pre-stressed structuring as a means of imbuing a hull with strength and stiffness. This would be a considerable step away from the massive, log-carving techniques used in, say, the Ferriby boats (Wright, 1990) where parts are pre-shaped and then fitted in place. The concept of pre-stressing, however empirically understood by the Bronze Age and Iron-Age boat builder, is an essential discovery for the development of planked-up boat-building, especially in a shell-first structure. It is believed that the Brigg 'raft' in its round-bilge form is a part of this.

The writer agrees that one must be completely objective and use all the available evidence as has been the intention throughout the reassessment. It is interesting to compare one interpretation of the Brigg 'raft' with the remains of others a thousand years and more later. While indeed it is instructive to do so, it should not close the possibility for a different evaluation of the evidence and from its own archaeological period. No doubt Sean McGrail and this writer will continue to support and enjoy their respective assessments.

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