

## WARSHIP '86

### SYMPOSIUM ON COASTAL DEFENCE AND ASSAULT VESSELS AND SYSTEMS

BY

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This Royal Institution of Naval Architects symposium took place in London from 19th to 22nd May 1986. Virtually every aspect of naval warfare in coastal waters was covered in the twenty-six papers presented. The group of papers of most interest to readers of this *Journal* was that dealing with Amphibious Warfare, and this report will concentrate on that theme.

The scene was set by Messrs Dolton & Silvia of DGFMP(N) who outlined the MOD concept studies for a future R.N. force. Experience in CORPORATE showed that, whilst STUFT could supply much of the transport required, there remained a need for a kernel of specialist ships. The amphibious force as a whole required to fulfil the following tasks:

- (a) Carry several thousand troops with their personal equipment and support them for some weeks.
- (b) Carry several hundred vehicles.
- (c) Carry several thousand tonnes of cargo.
- (d) Carry, launch and service landing craft and transport helicopters.
- (e) Provide 'Command and Control'.
- (f) Be capable of some self-defence.

Concept studies were carried out to compare the effectiveness and cost of various mixes of ship types and to develop viable ship options. The possibilities of international collaboration and of various schemes for joint commercial ownership were also considered. After tentative early studies three fleet concepts were taken for further analysis:

- (a) One-for-one replacement of existing LPDs & LSLs, and the addition of Aviation Support Ships (ASS).
- (b) Four standardized ships, carrying out the tasks both of LPD and LSL, plus two ASS.
- (c) Four larger standardized ships with helicopter facilities to ASS standard.

A range of 'standards' from commercial to full warship was studied. There were problems in this area as there is no complete set of specifications to define a merchant ship, let alone a merchant ship carrying out an active military role. Clearly, a specialized unit whose loss may cause the failure of an operation cannot be undefended or unduly vulnerable.

The authors quoted a *Guardian* article as a possible way ahead for the R.N.:

- (a) Convert one or two merchant ships into ASS.
- (b) Build replacements for *Fearless* and *Intrepid* to a mix of warship and merchant ship standards.
- (c) Convert the remaining LSLs on the lines of *Sir Tristram*.

This paper was supported by another from D Science (Sea) and Scicon, Ltd., on operational analysis of the fleet options. Swan Hunters contributed two supporting papers: one on the *Sir Galahad* replacement and the other on their view of amphibious ships for the 90s. There were two papers on command and control of the amphibious force. These papers showed the depth of MOD involvement, both in house and by contract, in a replacement amphibious force.

A breath of salt air was provided by Major Fisher, R.C.T., who contributed a paper based on his own experience of LSLs and LCL. A keen advocate of the need to beach, his paper was provocative, interesting, and well supported by facts.

French and Italian authors described variations on the LPD theme, *Foudre* and *San Marco*. The *Foudre* emphasized the carriage of landing craft, though with a useful capability for personnel and vehicles. It is big, probably expensive and appears capable in its dual roles of long range military intervention and floating dock/repair ship. The *San Marco* is relatively small (7665 tonnes) and complicated with 3 ramps, dock, lift, and helicopter deck, leaving it with a fairly flexible but small carrying capacity. Disaster relief in peacetime was seen as a prime role for which it would seem very suitable.

A survey of the U.S. and Soviet amphibious forces by Anthony Preston showed how it is done in the big league. There were several papers on the role of hovercraft in amphibious operations of which that by Baud, Lavis and Associates was the most interesting. They presented studies of the cost-effectiveness of craft over various ship-to-shore distances, the value of the hovercraft increasing as the distance gets longer.

Two former MOD officers, Melrose (now Yarrows) and Roessler (Scicon) promoted an interesting survey of the design philosophy of warships, emphasizing the need for the customer to know what he wants and for effective ship-weapon system engineering. Whilst perhaps not novel, their points need re-emphasizing from time to time.

There was a most interesting paper on Serter's developments of Deep V forms, in which he produced considerable evidence in support of his claim to reduce slamming. A Swedish paper showed the problems of acceleration on the deck edge of catamarans, considerably reducing the value of the larger deck area of such craft. There were other good papers on the new Swedish corvettes with internal pump propulsion, on hydrofoil take-off characteristics etc. Perhaps the joker was a well-presented but unconvincing paper on coastal artillery by a Swedish team.

The R.I.N.A. has now made the warship symposium an annual event. These meetings are well attended with many overseas visitors and speakers and are much valued by all concerned. There will be another meeting in May 1987 on the subject of Anti-Submarine Warfare.