

1966

ADDRESS TO MEMBERS OF AUSTRALIAN BRANCH R.I.N.A. AT SYDNEY ON WEDNESDAY,
4 MAY BY SIR ALFRED SIMS, K.C.B., O.B.E.

Mr. President, Gentlemen,

It is a great privilege to address your Branch of the Royal Institution of Naval Architects and it is something to which I have particularly looked forward during this rather fleeting visit to Australia.

You are a rather young branch of a well established tree - a tree which is now in the second century of its existence. We, who direct the fortunes of the parent Institution have been delighted with your formation and have followed your development with great interest.

What makes this occasion particularly pleasant is that I am among so many friends. Some I have met at the Royal Naval College at Greenwich where you have undergone our Courses. There was a time, Mr. President, when you yourself taxed the energies and capabilities of a certain Professor of Naval Architecture! Others of you have served in the old country, either in the Ship Department of the Ministry of Defence, or elsewhere in the country. It is good to be among you.

Before I left England I was in touch with the President, Lord Simon, and he has asked me to convey his greetings and best wishes to all members of the Australian Branch. He hopes it may be possible for him to visit Australia himself later this year, but in the meantime he would like you to know that the activities of your branch are always watched with interest. He hopes that any members who have occasion to visit the Old Country will make contact with 10, Upper Belgrave Street.

You have invited me to talk about "Shipbuilding in the United Kingdom". This shows your thoughtfulness for the title allows me to touch on a wide range of topics. Shipbuilding, for example, can be taken as including the training of those engaged in this profession and the status and quality of the Institution to which those men, and occasionally a lady or two, belong.

I have therefore jotted down five headings for my address. The result will be, I am afraid, rather disjointed, but perhaps you would prefer it that way rather than that I should leave out a current topic of particular interest to you.

My headings are:-

- (1) The training of naval architects
- (2) The Chartered Engineer
- (3) The Geddes report
- (4) Some projects of interest in the merchant ship field,
and
- (5) Some particularly interesting warship developments.

By giving you my plan of campaign in this manner you will at least know when I am drawing to a close!

My first topic therefore to the higher education and training of naval architects. The Institution has been concerned for some time that a thorough examination of this problem was required. For one thing there have been considerable technological changes in shipbuilding and related industries in recent years; for another thing the pattern of the country's educational system has changed significantly.

The Institution felt it had a responsibility to advise shipbuilders, ship owners and the universities on the needs of the future and the best broad policy for meeting them. At the same time the Institution would probably clarify the somewhat tricky subject of suitable standards for its own membership if it joined the Council of Engineering Institutions. This latter point has to do with my second topic in a moment or two.

A strong Committee was therefore assembled under Mr. J.H.B. Chapman, former Director of Naval Construction and with representatives from a wide range of interested parties - outside and inside the Institution. This Committee carried out what is probably the most searching review which has ever been performed into the problem. It was a fortunate circumstance that the finalising of the report was just ahead of and just in time for the finalising of the Geddes Committee report.

The Committee has produced suggestions which will be of the greatest value to Universities who have Degree Courses in Naval Architecture. There is no doubt, in my opinion, that we should fundamentally examine such Courses from time to time to make quite sure that they encourage men of sufficient breadth of vision, of sufficiently virile approach and of wide enough knowledge and shrewdness to carry the particularly difficult industry of shipbuilding through the challenging days of the present time. Technological and scientific progress is bewilderingly rapid and there are also considerable advances in the approaches to such subjects as management and planning. The changing pattern of labour relationships needs also to be appreciated, together with the vital need to secure the maximum confidence between management and men.

The report recommends that the number of graduate naval architects and those with Higher National Certificate qualifications should be more than doubled in each instance. It comments upon the need to keep up the image of the industry by letting it be seen that the pay, status and intellectual challenge are at least comparable with those of other branches of engineering. It discusses the contents of university courses and suggests the lines they should follow. And there are many other proposals.

I hope that those of you who are interested in this subject - and that must include most of you - will look at the report and discuss it freely.

My second topic concerns the movement to give all engineers above a certain level of academic quality and attainments the new dignity of Chartered Engineer. The movement has largely been promoted by the larger Institutions at home - such as the Mechanicals, the Electricals and the Civils but many other Institutions have associated themselves with the scheme. As a result, a Royal Charter was granted on August 3rd last to an Engineering Institution Council on which these founder Institutions are powerfully represented.

Our Institution had doubts in the early days as to whether it should join this scheme. We have particular problems. Not all those who make a large contribution to Shipbuilding possess University degree qualifications or the equivalent.

Nevertheless, the Institution is now quite convinced that we must seek membership of this new Council so that the prestige of the Institution can be kept high and its membership can be prized all the more in days to come.

This will require that the Institution looks at the qualifications it demands of candidates for membership since we must accord with the general standards set by the Engineering Institution Council and thus enable our members to qualify for the title of Chartered Engineer. Throughout all branches of engineering represented on the Council, there must be high professional standards of competence.

The President added in his recent statement that the Institution hopes and intends to retain the interest and the support of all who now comprise the membership, including overseas members. The new membership structure will be studied to this end.

I hope that these developments will be studied closely by your branch so that you in turn may achieve the double objective - of securing the title of chartered engineer for all present and future members of your branch who match up to the required standard and also of retaining the interest and support of all who now comprise the membership.

My third topic is the Geddes report. After a period of prosperity following World War II - largely due to the exceptional demand for making good tonnage lost during the war - our industry at home has been passing through an anxious time. The pattern of firms has remained largely the same for many years - whereas some other countries have been able to lay on new Yards in areas of their own choice. Our industry has ploughed back a lot of capital into modernising shipyards and yet remained unfavourably placed to secure enough orders. In addition, the older workmen - those now in responsibility in Trade Union movements - still remember the grim days of the thirties.

The skills are still present, there is the undoubted pride of construction on the various rivers, our new construction - I believe - compares favourably with that of any other country, the enterprise is clearly in evidence in most of the industry. But too much work has been going elsewhere leaving our industry at home with too small a share of world orders.

And so the President of the Board of Trade set up a Shipbuilding Inquiry Committee under Mr. Ray Geddes. Its members were not closely connected with the Industry and a completely independent examination of the problem has been made.

The Committee's report was published only a week or two ago and has caused a deep impression in our country.

Its three main recommendations are -

- (a) the district grouping of shipyards into more effective entities,
- (b) the separation of engine works from the shipyards so that they, too, can be grouped more effectively, and
- (c) the reduction of shipyard Unions from fifteen to five in order that there can be much greater flexibility of labour employment and fewer labour disputes.

Let me say a word or two more about each of these three points.

As regards the Groups, the Committee suggests that each should consist of a combined headquarters and about five specialised Yards. The target of the Group should be an output of four to five hundred thousand gross tons of shipping per year. The Groups should be concentrated as favourably as geography will permit.

The suggestion is that there should be just two Groups in the North-East and either one or two Groups on the Clyde, with Belfast and the West Coast dealt with separately.

The central management with the unified resources of the group should give particular attention to good planning and control, punctual supply of bought-in items and full utilisation of labour.

Within the Group, Yards should specialise - say one on Naval work and merchant ship of somewhat comparable complication, one on multi-deck cargo ships, and one on the simpler type of ship.

On the naval side, the Committee recommends that orders for surface ships should be placed in three Yards only so as to secure greater continuity of effort on the Naval programme. Three efficient specialised

Yards would, in the opinion of the Committee, provide an adequate capacity for this part of the Naval programme as well as for most of the Overseas Naval orders and for any merchant ship work which calls for a high proportion of fitting out capacity. The two Yards at which nuclear submarines are being built would confine themselves to this work.

The Committee recommends that engine building should be concentrated in four production units separate from shipbuilding. Each unit would manufacture all the designs of diesel engines and also turbines, although in practice it may specialise in one design. Shipyard engineering shops would continue to do general engineering work but cease to make engines. The Doxford and PAMETRADA design teams should be integrated in one or other of the production units.

The Committee also urges urgent review by both employers and Trade Unions of past attitudes with the object of establishing mutual confidence at all levels. It advocates the setting up of new national negotiating and consultative machinery covering not only wages and working conditions, but also such things as prospective manpower requirements and the removal of obstacles to the full use of the labour force. It seeks improvement in procedures for dealing with disputes and demarcation issues. It also recommends that the Unions should review their organisations and merge their activities into five Unions.

The only other point I have time to make is that the Committee have recommended the setting up of a Shipbuilding Industry Board initially of three persons whose objective should be to stimulate the reorganisation of the industry. This Board would control financial assistance by the Government.

The report has been welcomed by the shipbuilding industry which is given a valuable lead - albeit with quite a number of difficult decisions to make - in reconstituting itself for a virile future.

The time table which Mr. Geddes has put forward for implementing his new look is very tight and the General Election at home has caused a short delay in the treatment of the report. Nevertheless it could well follow that the industry will take a very different - and I hope an increasingly impressive - over the next few years and by the end of 1970.

The President of the Board of Trade stated immediately the report was issued that it is a constructive basis for studying the action required to secure a healthy future for the industry. The Chairman of the Shipbuilding Conference has said: "We are greatly encouraged by the support which the Geddes Committee has given to the view which we have long expressed that shipbuilding is a growth industry and that, given the right conditions, a progressive and prosperous future can be obtained by the industry in this country and all who work in it.

To bring the story up-to-date, two further developments have occurred since I left England on Monday of last week. The first is that the Minister of State at the Board of Trade, Mr. Roy Mason, addressed a gathering in Glasgow on Tuesday last of shipbuilders and sub-contractors from many parts of Scotland and North-East England. Newspaper reports give the following accounts of what he said:-

"The Government, said Mr. Mason, were looking for a declaration of intent, and it was wanted within three months so that a start could be made in setting up the Shipbuilding Industry Board.

"We would require all the recommendations to be honoured by unions and employers because of our conviction that £68m. should be invested in the industry to give it a fresh look and a future.'

"The trade unions, he suggested, should be brought in at an early stage in any discussions of mergers, and before making their declaration of intent the shipbuilders should assure the trade unions that there was no fear of unemployment."

"Emphasising the need for speedy decisions, Mr. Mason pointed out that before the Government could go ahead they must get the co-operation of both sides, a statement would have to be made in Parliament, and legal action taken to establish the Shipbuilding Industry Board."

The second development is a newspaper report of a possible merger between two firms in the North East. It says -

"The first big shipbuilding merger talks since the Geddes Report are now on, it was disclosed last night in a joint statement by two Tyneside companies.

"The £22 million Swan Hunter and Wigham Richardson Group and the £8 million Smith's Dock Company announced they are having talks 'with a view to arriving at a basis for a scheme under which the interests of the two companies would be merged'.

"They also said: 'A considerable measure of agreement has already been reached'.

"The talks are taking place in the context of the proposals in the Geddes Report. The statement made it clear that the £30 million merger would only be a step towards a much bigger Tyneside get-together."

This leads into the fourth section of my talk which deals with nuclear shipbuilding in Britain at this time. During 1965, British shipbuilders secured orders for 219 ships of rather more than $1\frac{3}{4}$ million tons gross, a much improved situation since in 1964 the orders were rather less than 1 million tons gross.

The larger commercial orders held by British shipbuilders include some projects of considerable interests. There is the new Cunard liner Q4 of 58,000 gross registered tons - 960 ft. overall. The order is worth £23m. and the ship is planned to complete by August, 1968. She has been laid down on the shipway on which QUEEN MARY and QUEEN ELIZABETH were built and will be launched late this year.

There are interesting ships of considerable size in the bulk carrier group such as SIGLION - 63,750 tons deadweight - at Cammell Lairds and five Norwegian ships of 67,750 tons deadweight each at Harland and Wolff.

The largest tanker so far completed in Britain is the BRITISH ADMIRAL of 100,000 tons deadweight at Vickers Armstrongs, Barrow-in-Furness. There is a report that Harland and Wolff have an order for a tanker of more than 170,000 tons deadweight for Shell International Marine.

The exploration of the bed of the North Sea for oil and gas has led to British shipbuilding firms securing orders for the unfamiliar work of constructing oil drilling rigs. In January, Harland and Wolff launched the SEA QUEST, the largest semi-submersible oil rig in Europe. John Brown have launched their second rig CONSTELLATION and have laid down a third.

As my fifth and last topic, may I refer to some of the interesting developments in warship construction which have been mentioned in our Press.

The first of two new Assault ships - HMS FEARLESS - was commissioned at Harland and Wolff on November 25th last. This is the most versatile ship we have yet designed for amphibious warfare and will pioneer a new era in the Fleet's capability in this respect.

It is fitted out as a Naval Assault ship/Brigade Headquarters ship and has an Assault Operations Room from which naval and military personnel, working in close co-operation, can mount and control an amphibious operation.

She is designed to carry heavy tanks and equipment and will be capable of landing troops of an Infantry Battalion or Royal Marine Commandoes.

She can land military forces complete with full supporting armour, including a squadron of tanks, or armoured Scout Cars or a complete unit of the Royal Engineers with their heavy equipment. This is principally achieved by landing craft carried in a well in the ship and floated out through a stern aperture with the ship ballasted down to a suitable draught.

A flight of Assault helicopters can be operated by day or night.

Tender documents have been issued for a new type of Guided Missile Destroyer. This ship is of about the same size as a DEVONSHIRE Class but moves into a new generation of weaponry and supporting systems.

The ship has a SEADART missile system which has been developed to meet the air threat of the seventies and the eighties and which also has an anti-ship capability.

We have been glad to benefit from the development of IKARA in Australia and are adapting it in this ship to the Action Data Automation system which will be such a marked step forward in weapon utilisation.

The machinery for these destroyers will be a combination of steam and gas turbine which has already given such successful results in the County Class destroyers and Tribal Class Frigates. The essential difference, however, is that the Bristol Siddeley Olympus Turbine will replace the G.6 gas turbine in these former classes in view of the fact that this engine is of higher power and has so much aircraft development behind it.

Another exciting development in the Naval field is the conversion of a BLACKWOOD Class Frigate, HMS EXMOUTH, to all gas turbine propulsion in the expectation that the Royal Navy will have the first major warship in the world with this method of propulsion.

She will have one Bristol Siddeley Olympus Turbine for high powers with two Proteus Turbines from the same stable for cruising.

We hope that EXMOUTH will get this turbine arrangement to sea as a main propulsion plant some years earlier than would be possible in new construction and will enable the operational characteristics and benefits of this policy to be fully evaluated in the rigours of Naval service.

The installation in this ship and probably in future frigates will be operated and controlled entirely from the Bridge. A controllable pitch propeller will facilitate astern operation.

Two Royal Fleet Auxiliary ships designed from the outset as Fleet Replenishment ships are under construction and have been launched. They are most interesting ships with holds fitted with modern equipment to handle and stow the cargo, special lifts for delivery from these holds to the replenishment deck and new design sea rigs at the replenishment deck for transferring stores to ships under-way. A Wessex helicopter will be carried for vertical replenishment.

Over and above this there is the considerable effort being devoted to getting the Polaris four-force submarine fleet into service and in progressing the nuclear hunter-killer programme.

There are many other projects of interest which time does not allow me to describe in depth. Work on the two new Guided Missile Destroyers, HMS FIFE and HMS GLAMORGAN, is still in hand and these ships should join the Fleet next year. Two further ships of this class were ordered last year.

Six new LEANDER Class Frigates have been launched in recent months, one other has been laid down and still more are being ordered. These frigates are very popular in the Fleet and we have had the benefit of improving them gradually as successive programmes have been placed.

The new HECLA class of survey ships built by Messrs. Yarrow embody very interesting features. Special attention has been given to their manoeuvrability and sea keeping qualities, their drill equipment, their

accommodation and airconditioning, their helicopter operating facilities and many other qualities.

We are giving all possible support to the development of hovercraft. The commercial firms concerned have now merged so that their resources can be concentrated to drive through the research and development involved in more ambitious concepts. We believe there will be increasing military use of such craft up to the limits of their potential.

You asked me to talk about Shipbuilding in the United Kingdom and I have dealt with many facets of the problem - the training of naval architects and shipbuilders, the Chartered Engineer, the Geddes report and typical topical projects in both the merchant ship and warship fields.

We in the old country like to advertise our strengths and weaknesses and oftentime put the emphasis on the latter rather than the former. I believe, however, that the present position can be judged very wrongly by the ill-informed. A century ago the industry had to recast itself severely and the fight was still on for training and status of those concerned. In the last century, however, there have been proud achievements by our shipbuilders, and the training and status of those concerned have enormously improved. We are, I think, passing through a period of serious re-assessment of all facets of the problem of keeping our shipbuilding industry in line with the requirements of the late twentieth and early twenty-first centuries. That we shall succeed is beyond any doubts on my part.

* * * * *