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H.M.S. "DREADNOUGHT"

Nearly fifty-five years ago, Britain launched a warship of revolutionary design—H.M.S. "Dreadnought". She was the first all big gun battleship. To-day when H.M. The Queen launches a second "Dreadnought" at Barrow, another warship of revolutionary type will take the waters. But this time Britain is not the first in the field; already there are no fewer than fifty-six nuclear powered warships built, under construction or authorised for the United States Navy, including fifty-three submarines. None the less, the choice of Trafalgar Day for the date of the launch and the request to The Queen to perform the ceremony suggests that the Admiralty is anxious to emphasise the importance of the occasion. Underwater vessels have been units of the world's navies for the past sixty years. But they have, in fact, been submersibles—surface ships with the ability to submerge, for a limited time and at a very reduced speed, when required for attack or defence. Yet in both world wars these submersibles, with all their drawbacks, nearly brought Britain to her knees. To-day the underwater ship confronts this country with a menace greater than ever before. Nuclear-power plants have transformed her into a vessel which will remain permanently submerged while at sea and will operate as long as desired with the speed of a fast surface ship. No longer need she surface to concentrate with others of her kind to make a combined attack. Even the snorkel tube is no longer necessary, but in that connection it is well to note that this "half-way house" measure effectively prevented the detection of U-boats in the winter of 1944-45 by aircraft or 10cm. radar, which did so much to win the Battle of the Atlantic in 1943.

The launch of the "Dreadnought" must emphasise the now growing realisation that the H-missile is a deterrent only to its own kind of action and that the Admiralty visualises large-scale attacks on our trade routes. True, although not contributing to the deterrent, our Fighting Services are being organised to prevent the spread of "brushfire" campaigns. But if there is any meaning in the principle of economy of force, we do not require eighty new fast frigates and now also, with the "Dreadnought" and her recently ordered sister ship, anti-submarine submarines to deal with a few "Hottentot" underwater vessels. It must be emphasised that the anti-submarine submarine is the most effective means of profiting from the now greatly increased range of asdics. Russia has always been skilful in devising and laying new types of mines and both her minelaying and missile-firing submarines will avoid coming within range of surface vessels' asdic. Moreover the presence of thermal layers, due to the mixing of waters of different density and temperature, greatly reduces the effectiveness of asdics in surface ships. The presence of these layers has a marked effect on the passage of sound or super-sonic waves. A submarine which takes refuge in them can thus only be detected by a vessel of its own type, able to use her asdics and listen at any depth. In view of the time taken to build nuclear-powered vessels and the probability that in

the not too distant future the Navy will take over responsibility from the R.A.F. for the British deterrent contribution, Parliament will clearly have to consider at an early date a problem of importance. Is Britain then to continue to give priority to measures to prevent an almost incredible war by building £40 million very large Polaris submarines? Or is the Royal Navy to be adequately prepared to safeguard the sea routes by building more "Dreadnoughts" and also surface ships armed not only with 6-inch guns but with Polaris missiles as the British contribution to the deterrent?

VOTING FOR AN INSTITUTION MERGER

Corporate members of the Institution of Civil Engineers and of the Institution of Municipal Engineers were last week sent voting papers to record their votes on the proposal for amalgamation of the two Institutions. There are 16,544 corporate members of the Institution of Civil Engineers and 5765 of the Institution of Municipal Engineers of whom 2270 are corporate members of both Institutions. As far as the Institution of Civil Engineers is concerned, there will be a special general meeting next February when a resolution approving the amalgamation will be put to the meeting. During the past year or so the *Journal of the Institution of Municipal Engineers* has published numerous letters arguing the pros and cons of amalgamation, but the members of the Institution of Civil Engineers appear to have taken less interest in the matter. The two sides of the argument can be quite simply stated. On the one hand is a feeling of enthusiasm for the smaller, more specialised Institution, and the greater intimacy amongst its members; on the other hand, is the principle that there should be unity in the profession. Sir Herbert Manzoni put this latter point succinctly in his explanation of the proposals. "The ultimate aim should be," he wrote, "that of one society of professional engineers whose corporate members should be Chartered Engineers. This would resolve the difficulties presented by the present multiplicity of titles which professional engineers have bestowed upon themselves during the past 100 years, and which have created such confusion in the minds of the public." The present proposals are intended as a step in the direction which Sir Herbert indicated, and it is considered that they might well set a pattern for future amalgamations.

It will be interesting to see how the corporate members of both Institutions will have responded when the results of the ballot become known. The need for unity has been stressed often enough, and when the arguments for it are marshalled together, they decisively outweigh the advantages of the present situation with, in the field of civil engineering at least, its main Institution and the various "splinter" groups. This is becoming more evident as, with the passing of the years, the work of engineers becomes increasingly important to the community, and so it becomes more necessary that the profession should be able to state its views authoritatively, and be held in