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PRESIDENTIAL ADDRESS

of

LORD HOWARD DE WALDEN

I am deeply conscious of the honour which your Institute has accorded me in asking me to be your President and it is with some trepidation that I now address such a highly technical body of professional marine engineers at a time when marine machinery and all the technical achievement behind it has reached such a high plane of advancement and when ships have become, quite apart from main propulsion, such a mass of engineering equipment and mechanical devices. Almost from stem to stern and truck to keel every part of the modern vessel's navigational and safety requirements and all the creature comforts of everyone on board spring from engineering invention and ingenuity, and all are linked to the engine room from which their prime source emanates, to such an extent that the marine engineer of today symbolized by this Institute is a most vital factor in the well-being of the national economy and of every one of us in this island kingdom. Although my technical knowledge is, in the face of such a distinguished body as this, of little consequence, I am, as a shipowner, very well aware of the numerous problems which beset you and have in fact always marvelled at your unfailing ability to solve them, making available still better ships for shipowners to use.

Your recent achievements include satisfactory arrangements enabling heavy fuel oils to be burnt in motorships and the first propulsion gas turbine to go to sea in a commercial vessel, and there is no doubt that you are addressing your attentions towards atomic engines and will be in the forefront when the time comes. The amount of thought, study and research behind such developments is most impressively exemplified by the papers read before this Institute and the lively discussions that follow, as can be seen from your monthly TRANSACTIONS, the value of which cannot be over-emphasized.

The work of the British Shipbuilding Research Association, Pametrada and similar bodies in the development and advancement of new ideas in ships and their machinery is worthy of special mention, and will surely lead to the most rapid development and testing of new engines for the minimum expenditure of time and money, thereby avoiding the early mistakes of motorships, some of which went to sea before their time and at the shipowners' expense and sometimes sorrow. It should be remembered that the cost of everything in connexion with ships, be it research, development or final construction and fulfilment, together with the time of everyone engaged at every intermediate stage, is ultimately borne by the shipowner, who eventually pays the bill and shoulders the responsibility for sending the finished product to sea with human souls on board. Shipowners therefore do well to follow technical developments as closely as possible and indeed to reiterate from time to time exactly what it is that the shipowner wants. First of all must surely come reliability, followed very closely by durability and for these reasons the decision to try out at sea the first gas turbine in a vessel having three other prime movers would appear to be absolutely right, safeguarding the shipowner as it does against anything worse than a slight reduction in sea speed in the event of teething troubles, stoppage or breakdown during the experimental period.

Rising costs of everything connected with the building and operation of shipping have brought about a number of great changes in the type of ships which can be commercially operated satisfactorily and manage to show a profit, without pushing freight to such a high level that economic chaos would result.

Firstly, it has become expedient to increase the speed of ships for no other reason than to reduce the number of days on voyage to which such high running costs apply, the additional expenditure on fuel, expensive though bunkers now are, being very much less than the expenses for the days saved. Again, since running costs do not increase in direct proportion to cargo carrying capacity, it is expedient to increase the size of ships considerably. Engines are therefore very much bigger and more powerful than previously and it seems that the days of the 10 knot 8,000 ton deadweight ships are over. We now have twice or three times the horsepower that we used to have in otherwise comparable ships. Concurrent with this demand for bigger and faster ships, marine engine builders have produced bigger and better engines such that it is now general for all ships to be single screw except for the larger and faster specialized vessels. Reliability of bigger engines is, however, perhaps not always so easy of attainment, yet when it is realized how much costs have risen since the war it will be appreciated that this question of reliability has become more important than ever, for it now becomes unthinkable that an ordinary ship worth over a million pounds (and many cost more) costing between £500 and £1,000 per day should be immobilized at sea or delayed in port by machinery troubles, and I now suggest that for the modern single screw ship of this value, one engine driving one propeller is too many very expensive eggs in one basket. Further, if that engine should be Diesel, then to ask the shipowner to feel happy about being dependent on a single 90-odd ton crankshaft, which apparently cannot be guaranteed against failure during the ship's normal life, is now becoming rather a tall

order. All future machinery types should therefore be concentrated on at least two engines per propeller linked together either by mechanical or other means and so arranged that either partial or complete failure of one engine for however short a period of time does not, even momentarily, cause that propeller to be inadvertently stopped, thereby ensuring that our ships will at all times be under command and the hoisting of two black balls to the masthead becomes even more rare than happily it is at present, even though gas turbines or other types of new prime movers come along and take to the sea in increasing numbers.

The biggest remaining risk of total immobilization would then probably be failure of propeller shafts and it may well be that this would be much reduced by the adoption of slower propeller speeds possible with a multi-engine arrangement employing gearing or electrical transmission, whilst the isolation of the propeller shafting from the prime source of power would no doubt have a similar beneficial effect.

There is another difficulty which, with the larger single direct coupled engine unit, makes itself increasingly felt as engine powers advance over the 4,000/5,000 horsepower mark. I refer to the matter of dock trials after repairs and adjustments. Whereas in the past it was possible to try gently engines of about 2,000 horsepower alongside the quay before sailing without interfering in any way with normal cargo operations, it is becoming increasingly difficult to obtain permission from dock and harbour authorities to turn over the propeller of the modern medium to high powered vessels having 5,000 or more horsepower, where the disturbance and danger to other craft, also mooring difficulties, make it unwise to do so. Yet, from the shipowner's point of view, it is very necessary that, after every repair or adjustment made to the engines in port, they should be tried before leaving the quay and casting off. Surely it cannot be right in this year of grace 1952 that we should load our million pound ship with expensive cargo, take passengers on board, cast off from the quay and wait until the pilot orders the first engine movement, maybe with a contact damage imminent, before the engines are tried. Some disconnecting arrangement between engines and propeller is necessary to enable the engines to be run at will whilst alongside the quay and this is at once feasible and easily possible in the geared or electric drive already referred to and a second very important reason for development to be along these lines as much as ever possible.

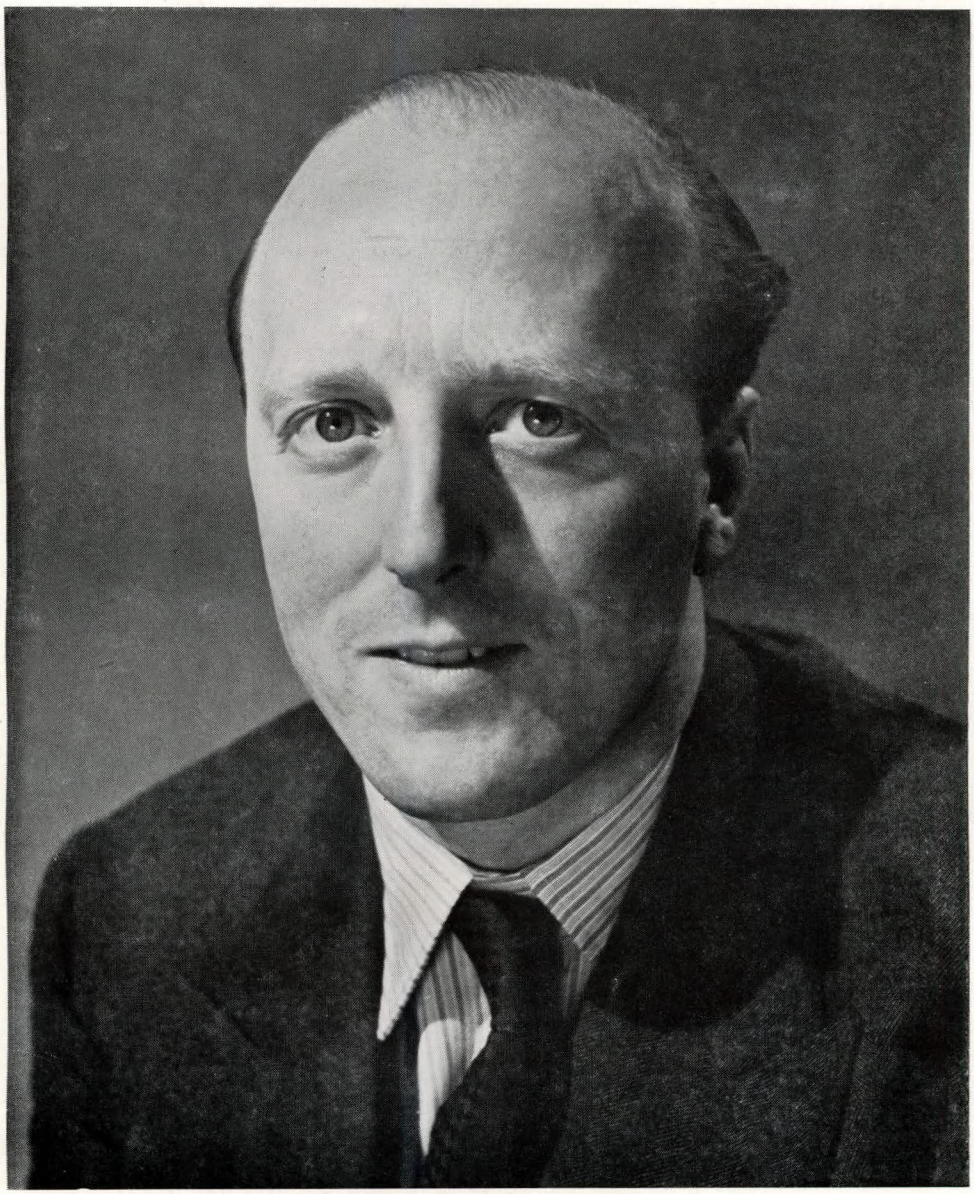
None of these thoughts should be taken as criticism of the reliability of engines as a whole. You, as engineers, will know better than any how remarkable it is that such intricate and complicated machinery can, day in, day out, year after year, so faithfully and wonderfully turn out the revolutions without falter, indeed I am sure that many inventors and designers have been truly amazed at the unfailing reliability of their brain-children. But materials can and do fail under stress without warning or apparent reason and all concerned will rightly wish to ensure that, even so, ships can and will continue in service and reach port without assistance.

The larger engines now common in most ships have resulted in an increasing importance being attached to the engineering department at sea and a higher standard of engineering skill and ability is required to tend the machinery which daily becomes more intricate and complicated. The work of your Institute in the improvement in training and grading of the rising generation of future marine engineers is therefore of extreme importance and commendable in the extreme. It is gratifying that the shipowners, realizing the importance of the work you are doing to improve the status of those who go to sea, are playing their part in the provision of improved accommodation, the standard of which in most new vessels is now very high indeed and would seem to leave little if anything to be desired. There is, however, some room for improvement in service conditions from the human aspect, apart from living conditions and off-duty amenities. I refer to engine-room design and layout with a view to making the engineers' work down below not only as easy as possible, but even pleasant, which can be helped by careful engine-room layout even to the extent of taking in an extra frame space or two in the interests of accessibility for overhauling, ample space for working at all parts of the engines and auxiliaries, plenty of light, air space and ventilation, and even an attempt to make the whole engine room a pleasant place and, to the engineers, even a place of beauty. It is no exaggeration to say that so to do will result in a degree of pride in his engines in the outlook of every engineer on such a ship, which will result in trouble free operation at a tremendous saving in maintenance costs due to his extra and freely given diligence and care, without which all the improvements in engine design may come to naught, for of what avail all the efforts of all the engine designers and manufacturers if the final engine room environment is not conducive to pleasant watch keeping and easily organized maintenance from the human aspect of the operating staff. It is not too much to say that this human aspect should influence the design and layout of every part of the ship's machinery and auxiliaries from the earliest stages to the finished product, for without it any technical advancement may prove to be no advance at all. With it, coupled with the better living conditions now general, the best men of the right type will be attracted to and remain in the profession of sea-going engineering to the general benefit of the industry as a whole and to this Institute in particular.

Just recently, the new American liner *United States* has completed her record-breaking maiden voyage and, although the spotlight of success shines upon the Commodore of that fine ship, it must be remembered that the engines did the job. It is gratifying to recall that the late Sir Charles Parsons, by his invention of the steam turbine, made this possible.

The most disturbing feature of present day cargo ship operation is the proportion of time spent in port. Port congestion is general in many countries, in some very seriously so, with the result that on many trades at least half the ship's time is spent alongside the quay or at anchor awaiting turn to get alongside. With daily running costs and expenses as high as they are this is in itself a very serious matter, reducing as it does the effective carrying capacity of our merchant fleet, and increasing the cost of practically every commodity to the consumer. It must also be most discouraging to you as marine engineers to see your modern fast and efficient ships speeding on passage to destination only to wait about on arrival for a cargo berth. Fantastic, too, that on many occasions the maximum possible sea speed is necessary for no other reason than to get in the queue of waiting ships as soon as possible. It therefore becomes of the utmost importance to speed up cargo loading and discharging operations as much as possible and, although the principal delays are with the port rather than the ship, nevertheless any improvement in the ship's cargo gear would always be welcome. On this subject it seems strange that over the past years, when such huge technical strides have been made in every branch of marine and mechanical engineering, there still seems to be no better cargo gear than ordinary winches and derricks working in union purchase as has been general almost since the beginnings of sea transport. Of the ships' deck cranes available, none seem to be quite able to oust derricks from almost universal favour. Although this is perhaps not strictly a marine engineer's problem, it seems certain to me that if you can spare the time and tear yourselves away from the intricacies and delights of your engine rooms for a very short time, you could produce the answer in a safe, efficient, foolproof, not too bulky, not too expensive deck crane for ship's use.

In the meantime, a really safe topping arrangement for derrick booms capable of lifting, sustaining under load and lowering without having to transfer the hoisting wire from winch to cleats and cleats to winch every time, is rather necessary in order to eliminate the otherwise ever present risk of damage or injury which can, and frequently does, occur due to derricks crashing down out of control. When it is realized that the average ship has 12 or 14 derricks which



The Right Hon. Lord Howard de Walden.

THE RIGHT HONOURABLE LORD HOWARD DE WALDEN

Lord Howard de Walden, 9th Baron, was born in 1912. He was educated at Eton College and Magdalene College, Cambridge (B.A. 1934).

He served in the 1939/45 war with the Westminster Dragoons and on the Staff.

Lord Howard de Walden became a director of The South American Saint Line when this company was founded in 1935, the late Lord Howard de Walden being the first Chairman, and has been Chairman of the Company since 1950. He is also a director of the Alliance Assurance Co., Ltd., Goulds Foundries, Ltd., and General Real Estates, Investment and Trust, Ltd.

He lives in Surrey and his hobbies include the breeding of thoroughbred racehorses.

He married Irene, youngest daughter of Count and Countess Harrach, and has four daughters.

have to be raised and lowered every time she enters and leaves port, that this work often has to be done in the dark, perhaps when the ship has a slight list which, with present arrangements, makes it a tricky operation, and that any delay in getting things ready for cargo or ready for sea may result in considerable delay, all will agree that there is room for improvement.

The building of better ships is the aim of the shipbuilding industry, but their efficient and satisfactory operation throughout their entire useful life is the work of the shipowner and his technical and sea-going staff. The co-operation between all these through the medium of the Institute of Marine Engineers and kindred institutions is achieving commendable results of which we can all be proud.