

# PRESIDENTIAL ADDRESS

of

A. LOGAN, O.B.E. (Member)

## THE MARINE ENGINEER, HIS RESPONSIBILITIES AND HIS TRAINING

May I repeat what I said to you at our Annual General Meeting last May, that when I joined this Institute as a Graduate member, little did I think some forty years later I would be your President. I am indeed honoured although, having in mind those men of note who have been your Presidents, I feel somewhat inadequate for the task you require me to carry out. While I am proud to come before you as the local boy who has made good—I must admit even today, after some years in management, I would feel more at home in the engine room, or perhaps I should say in this day and age at the “Control Station”, than standing before you here this evening.

I have, however, certain advantages over some of your earlier Presidents.

Firstly—I am one of your cloth and I talk your own language.

Secondly—I have myself had a full and interesting career in marine engineering.

Thirdly—I am sure (knowing I am doing my best) you will be sympathetic to my shortcomings.

Accordingly I ask your indulgence if, during my address, I continually refer to the oil tanker and its operation.

### *The Build-up of Experience*

Reviewing my own career I am glad I chose marine engineering, for experience has shown it embraces a creative and most comprehensive field of activities, including the production of power and the manufacture and operation of all kinds of machinery.

Consider the overall machinery installation of a ship; as you well know, this can broadly be divided into these main parts:

- 1) The propelling machinery with shafting, stern fastenings and propeller.
- 2) Auxiliary machinery, the electrical power plant being particularly important.
- 3) Pumps and piping systems ancillary to the main and auxiliary machinery.
- 4) Specialized machinery needed for safe carriage of cargoes in the trade for which the ship is designed.

We can sum up by saying the marine engineer *has* to be “a jack of all trades.” While it may once have been true to describe marine engineering as a branch of mechanical engineering, that was when its field seldom extended beyond those of the boiler and reciprocating engine, today the picture is completely changed. The marine engineer now needs familiarity with electrical engineering, some aspects of chemical engineering, a good knowledge of metallurgy and corrosion together with a

grounding of naval architecture. As each new development comes along he has to meet the challenge.

In my own case, with the support of a first class team of engineers and the technical specialists in all these fields, I latterly became responsible for the overall design of ships, the equipping of hulls and indeed the whole mechanization of ships. It was in recognizing this requirement, the Company with whom I have been associated for so many years, have by means of a scholarship encouraged men with a degree in marine engineering to obtain an endorsement in naval architecture. You will observe the order of approach. Questions on ship construction are, of course, included in the Ministry of Transport Examinations of Competency and I am particularly pleased that in the new Diploma in Technology course, sponsored by the Institute, this subject is also included.

I have been associated with 1) steam reciprocating engines including the re-heat cycle, 2) steam turbines, 3) internal combustion Diesel engines, 4) turbo-electric and Diesel electric and 5) gas turbines. In addition I have been privileged in recent times to serve on H.M. Minister’s Nuclear Ship Panel.

My first experience in sea life was in the stokehold of a coal-burning mail boat trying to keep the water level steady in five single-ended and three double-ended Scotch boilers and, incidentally, when the ship was rolling, lying on my belly under the boilers bailing small coal out of the tank top bilge pots. Getting rid of ashes before the end of the watch was, of course, another duty. Moving from the drawing office to stokehold was quite an experience and I am sure none of the “black gang” who trimmed and manned the fires were sorry to see fuel oil replace coal.

We saw the swing from the steam reciprocating engine to the Diesel with its low fuel consumption and high power/weight ratio—then came the improved efficiency of the modern watertube boiler together with increased turbine efficiency which halved the fuel consumption rate for steam propulsion and now once again it would appear the large-bore Diesel is leading in the race.

Could I, in passing, pay tribute to those ingenious and creative brains who developed the double-acting two and four-stroke Diesels of the 1920’s to 1930’s. Knowing the Werkspoor engine so well I must mention Dr. Lugt with his “Inex” valve, that is one set of cylinder head valves did the work of exhaust and inlet; also his development of the under-piston super-charge engine which held the lead in four-stroke Diesels for so many years.

I remember as a young certificated engineer in the late twenties showing my father, a superintendent engineer of the older school, a double-acting four-stroke engine undergoing shop trials at the N.E. Marine. He said “Wonderful.—Yes,



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wonderful that there are men these days with the courage to go to sea with such creations."

Another step forward in the Diesel was the burning of residual fuel and I feel sure you will agree a great deal of credit for this development must go to my late colleague—John Lamb—and I know some of us of the older school appreciated the valuable papers he presented to this Institute, earning him the "Denny Gold Medal."<sup>(1)</sup>

I thought to mention here a costly experience of the late 1920's in connexion with ten Diesel tankers. Each crankshaft—ninety tons in weight—was manufactured to the correct shrinkage, etc. It was decided that besides fitting dowels it would be beneficial to vee out and weld the 21 in. pins and journals to the webs. This action proved our undoing, the shrinkage was jeopardized and in fact it subsequently transpired that movement between pins and webs took place.

How easy to look back and say with our somewhat improved knowledge that such a mistake was obvious—but permit me to say here it is not too easy to learn from the experience of others. You will be interested to hear what a founder member of this Institute said some seventy-five years ago:

"The built shaft (meaning crankshaft) has great advantages over the solid forged shaft. With reliable forgings, the building of the shaft depends entirely on the nicety of workmanship, the right amount of shrinkage and the parts being bored and turned truly. Much has been said of keys in the webs and journals but, in my opinion, the whole depends on the shrinkage and that if this is right, keys are utterly useless".

We commend this old engineer for his wise comments.

Since the Second World War large scale electric welding has played an increasingly important part in ship and engine construction. Needless to say oil tanker men encouraged this development, for every rivet in the tanker hull is a potential source of leakage. Could I briefly sum up the principal advantages of the welded over riveted hull—by the avoidance of the riveted overlap of plates and the riveted angle flange of bars, there has been considerable saving of steel weight with the consequent increase in potential deadweight carrying capacity. The welded joint is, of course, much more oil tight and water tight than its riveted counterpart and the "flush" surface of the shell which has welded plate butts has been proved to reduce resistance to motion through the water with the consequent reduction in power required for a given speed.<sup>(2)</sup>

Today I know it is difficult for some shipyards to get a riveting squad together—but considering there were something like three million rivets used in some of the big ships in the past, is it not fortunate that welding developed so rapidly?

I am not going to say the advent of welding has not created its own problems, for while today we have both "all-welded" ship hulls and fabricated major engine parts and structures, this development has of necessity been gradual and we in the operating field now know only too well some of the many difficulties experienced due to locked up stress. Here I must commend the classification societies and Lloyd's Register in particular for their contribution, firstly in pressing for the adoption of a sound welding sequence and secondly for their advocacy of the use of special steels to minimize crack propagation.

On the subject of welded ships I must pay tribute to our friends on the other side of the Atlantic who produced at comparatively short notice the welded hull and turbo-electric machinery for great numbers of T-2 tankers. This form of ship propulsion is not widely employed today for, within my own experience, it unfortunately suffers from several disadvantages which are only infrequently outweighed by advantages. The advantages well known to you all include extreme flexibility of operation and the opportunity to dispense with reversing gears on the main engines themselves. The machinery is generally heavy and possibly bigger problems are created in the event of breakdown; and also while the initial cost is high it is subject to a comparatively high fuel consumption. However, to revert to the T-2 class of tanker, considering they came into operation over twenty years ago, what a step forward they were, both in

centralized control and in the use of alternating current. The automatic combustion control in particular has been a wonderful example of the superiority of the machine over the most experienced human operator and we all know the substantial progress this development has now made. In fact, the machinery layout of the T-2 was designed so that watchkeepers with little engineering background could take charge. Today some of my American friends besides jumboizing the hulls have successfully stepped up the power output of the original propulsion unit.

Besides helping to work a large group of T-2 ships, in the late forties and again in the late fifties I was privileged to take over two groups of American steam turbine driven tankers. As ships of similar tonnage were also being turned out by the U.K. and Continental yards the opportunity was given to make comparisons. In April 1960 I presented a paper on the service results of a tanker fleet to the North East Coast Institution of Engineers and Shipbuilders.<sup>(3)</sup> I would just say that after the then leaders of "Pametrada" inspected the machinery of the first group of American ships and perused the service results, they realized there was no time to waste in improving their turbine designs, otherwise the industry they represented would be left behind. The turbine machinery in the American ships is, of course, closely based on the latest land practice and co-ordinated experience. Unfortunately in this country difficulties as it were of frontiers exist even today which, in my opinion, hinder progress and do not react to the benefit of the ship-owner.

### *Design, Construction and Operation*

I now come to the first plea of my Address, that is to stress the need of greater co-operation between the ship operator and the ship and engine builder. Here let me wish the new British Ship Research Association all success in trying to bridge this gulf. There is no doubt, that big improvements in design efficiency resulting from past co-operation have taken place, but throughout my career I have been grieved at the apathy and lack of interest shown by certain builders in following up operational results. The net effect has been that design progress suffers because although the shipbuilder can relate quite satisfactorily the predicted and acceptance trial results of his ship, he has in most cases insufficient service performance data available to enable him to develop to the full those points of design and construction which would possibly result in achieving a higher average service speed for a given shaft output. You can imagine how pleased I was recently to hear a foremost British engine designer say "he didn't want to know the good points of his engine, he was only interested in its weaknesses."

Another issue has been that when drawing the attention of the builder to some operational difficulty or trouble, why so frequently have we been told, that this is the first time it has happened—and then through the grapevine we learn that other operators have had similar experience? I only mention the foregoing to support my plea for greater exchange of views between operator and builder and I suggest this Institute's platform could be used to much greater advantage—for surely it must be apparent that the sooner difficulties are brought into the open, the sooner the problems will be solved. Admitting one's mistakes is part of wisdom.

Let me turn to a more cheerful aspect. You will recall that at the last Annual Dinner, Mr. A. E. C. Drake, the President of the Chamber of Shipping, said—that this year the Chamber and this Institute would have tanker men for their Presidents. His remark has led me to consider in what way tanker development has clearly assisted marine progress.

Sir Donald Anderson in one of his brilliant speeches some years back in referring to tankers said, "They are produced like sausages in the machine, cut off at required lengths and once a year those in service are rounded up and counted, and if only one is missing that will be just fine." No doubt now that the Group with whom Sir Donald is associated is in the tanker field, he will agree his comment was somewhat of an exaggeration and I hope my Address will show some of the ways tanker



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development, both in hull and machinery, has not lagged behind.

For example, who would have considered some years back that today ships both steam and motor could be in continuous operation 355 days and sometimes longer without overhaul? There is no doubt that to get such results reliable machinery both for main and auxiliary operation has been necessary and the other side of the picture is that the overall plant efficiency figures in tankers today is second to none. Here I must refer to the auxiliary makers and suppliers, who I am afraid are so often situated between the devil and the deep sea, that is builders and owners. This branch of our industry I consider should be complimented for their readiness in up-to-date thinking and I propose to mention one or two happy examples—although I admit in passing that the instrumentation equipment in many ships is still the weak link and has a long way to go to give the reliability needed.

The watertube boiler as we all know is susceptible to breakdown through tube failure caused by the use of impure water. Thanks to improved condenser techniques and the alloy condenser tubes produced by our manufacturers, such troubles except possibly for an occasional split tube are now eliminated.

Again for the big tanker the propeller manufacturer has met the challenge. He has given us the large, four, five and six bladed propeller with superior characteristics and at reduced weight to one of conventional material.

Again in passing could I just say considering the famous *Great Eastern* of 1857 had a lignum vitae stern bush, it was high time, with the present day propeller weights and the high periphery speed of the tail shaft, that an oil sealed stern bearing came along. Seventy-five years ago our Transactions reported a Mr. Manual's comments on his superintendence of twin-screw steamers after some years' trial:

"The shafts were not cased with brass, but simply left large in the stern tube bearings, which were of white metal; on each end of the bearings were packing glands and a pipe led from the internal of the bearing to above the water line, so that thick lubricating oil could be permanently kept pressing into the bearing and thus prevent the water or corrosive action from getting at the bearing proper."

Some time ago in seeking ways to simplify the plant we were particularly pleased to get the co-operation of the makers in attaching the turbo-feed pump direct to the turbo-generator. Subsequently I asked a young engineer had he any misgivings on its operation? He said, "No fear, as long as the lights are burning I know the boilers are being fed."

Far from me to suggest the tanker has taken the lead in every development but in view of the large increase in tanker tonnage there would be something wrong if we hadn't forged ahead in our particular field. In the electrical field, for example, based on the high costs of direct current upkeep, the development of alternating current became a "must," and while there were considerable hurdles to get over, with the backing of the classification societies, a.c. has now become the standardized medium in tankers. I recall a year or two ago reading a paper by Mr. Kaudern of Kockums on "Some Aspects of Automation in Ships."<sup>(4)</sup> So far as steamships were concerned he stressed the desirability to co-ordinate the supervision of boilers, main engines and other equipment and suggested the following:

- a) The elimination of the bulkhead between boiler and engine room.
- b) The arrangement of boilers, main engines, turbo-generators and other important plant on the same level as far as possible.
- c) The incorporation of the boiler control panel in the panel for main engines.
- d) The introduction of automatic equipment for lighting up burners so that combustion control will be automatic instead of being semi-automatic.

So far as a), b) and c) are concerned all are common practice at sea today. In fact the elimination of the engine/boilers bulkhead was the first logical step towards making easier supervision and operation. When b) was adopted by my team in

their endeavour to simplify layout, the resultant saving in piping and valves and incidentally in cost, proved well worth the exercise. The need for the adoption of item c) for the benefit of the watchkeeper is obvious and while I am sure item d) can be applied, as a tanker is for most of her sea life under steady boiler load I am afraid the tanker owner will have to be shown in what way the additional expenditure is justified.

Many interesting papers and discussions covering centralized control in ships have been to the fore in recent times—my only comment here is this; we are dealing with a ship, with life and death, and Authority has to be convinced that our working arrangements besides being profitable provide for the safety of ship and crew.

As you know in the oil industry sometimes a hole is drilled without striking oil. Similar occurrences can unfortunately take place in the marine field. It was with deep regret that I had during my career to recommend to management that there was no alternative but to bring the *Auris* gas turbine project to an end<sup>(5)</sup>. I realized the great disappointment this brought to my team of engineers after years of work, but the facts were it was too costly a project to be continued by one company alone and also the economic advantages anticipated were not being realized. My further disappointment was that the other interested parties of our marine industry engaged in the project were not prepared to risk support in further development. Looking back now I realize we tried at the one time to tackle too much, that is, to prove the gas turbine cycle efficiency and at the same time to burn residual fuel and also to assist in the development of the fluid drive for ahead drive and reversal. Somewhere we finished up with "a hole in the heart" which was never resolved—however, I am confident the experience gained in the project will in due course be put to good advantage.

To sum up—with a similar development today I would tackle one issue at a time before attempting to bring them all together.

Some years back when I was an Assistant Superintendent Engineer I was called to attend a stricken tanker which, following discharge of her gasoline cargo, had had an explosion resulting in major casualties. Unfortunately as in so many accidents most of the evidence upon the cause of the casualty had perished. It was, however, shown that at the time of the explosion, steam was being injected into a non-gas-free midships cargo tank. This incident had a lasting influence on my subsequent years, with the result when I reached the position of authority I was able, with the support of management, to arrange for my team to work, together with the Shell Group Research, for the safety of personnel and ship.

Here I would stress that oil cargoes are safe provided they are contained in their proper place.<sup>(6)</sup> I can, however, recall:

- i) The entry of gasoline in an engine room and via compressors was burnt in the Diesel engine.
- ii) The entry of gasoline and fuel oil into the boiler feed system.

In this connexion I strongly recommend, in spite of additional cost and upkeep, that in the case of a tanker the secondary steam system in cargo, bunker heating, etc., be completely isolated from the primary or main feed lines.

One particular study which took a considerable time to resolve was what happens to the atmosphere in the cargo spaces of crude oil tankers when cleaning or washing tanks. Unfortunately serious accidents were taking place. Data were eventually produced which showed that during a certain stage of the cleaning operation the tank atmosphere entered the explosive range. We were able to evolve a technique whereby the explosive atmosphere could be avoided and further accidents prevented. I have been privileged to present papers on our results to this Institute.<sup>(7)</sup>

Another safety issue which for years has had my serious consideration, based on one or two unfortunate experiences when the *Auris* was Diesel-electric driven, has been the avoidance of explosions in the crankcase and while flame proof arrangements are today fitted to the crankcase doors of most



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engines I pay tribute to Mr. C. C. Pounder and to Mr. R. Cook and his B.S.R.A. team, together with D.S.I.R., for their work in producing equipment in the form of oil mist detectors which are able to give adequate warning of the onset of dangerous conditions to a crankcase atmosphere. To me it seems sounder policy to avoid such explosions rather than to try and mitigate their effects.

Before leaving the tanker field could I refer to the serious casualties which have occurred due to a tanker breaking in two. Doubts can be expressed regarding structural weakness, the quality of the steel used in construction, etc., etc., but I would strongly advocate that the prudent tanker owner should provide his seagoing staff with stress indicators so that in all cases of loading, whether with cargo or ballast, the stressing of the ship can be checked and kept within safe limits. The stress condition a tanker experiences when transferring ballast during cleaning operations must never be overlooked for in my opinion it is possible that the structure could be permanently weakened during such periods.

For some time now there has been an encouraging mood of self-criticism within our marine industry, with considerably greater interest in research and development not only in ship and engine design but in measures aimed at reducing operating costs. While I know so many of my engineer colleagues in other shipping companies have been hard pressed for sufficient time to deal with the day to day problems, I was able with the support of management to control a sound technical team engaged on research. It was apparent in the tanker field that our most costly item of upkeep was cargo tank structure renewal due to excessive internal wastage. Some of you will recall on the subject of corrosion control how some years back I stressed to the ship repairers that the time was fast approaching when the tanker owner would not be either renewing cargo tank sections or doing major repairs at the Second Special Survey.<sup>(8)</sup> This has now been established and in fact with sound protection methods the cargo tank structure should now last the economic life of a ship. No doubt prudent owners will now be taking steps to secure controlled wastage, particularly in the case of those ships whose structure requirements at the time of building included a high corrosion allowance. Based on the work carried out on steel preservation in tankers, that is, shot blasting of plates and application of primer coatings, this practice is now in general being applied throughout the steelwork not only of tankers but of all new ships. It can be shown that this clinical approach is economic. It has enabled the classification societies to reduce their wastage factor which to the ship operator means increased deadweight.

(At this point a film was shown, a B.P. production depicting a fire at sea.)

### *The Institute's Present Task*

Can I now briefly recount my personal interest in our Institute. As a boy I remember my father, then a seagoing member, attending the Institute premises at Stratford and taking part in discussions on the early carriage of refrigerated cargoes from Australia. Later I was a Chairman of Council during the Institute's residence in the Minories and was privileged to serve on the Building Committee of these our new premises. So, I think you will agree I have seen considerable growth.

Your first President, seventy-five years ago, asked the other members in the flowery language of the day—"to look back over the first year and trace the footsteps of the Institute of Marine Engineers from the early tottering of childhood to the firm tread of youth;" he asked the members "to allow their minds to soar beyond the limits prescribed by the time present, gaze fearlessly into the future and behold the Institute in the full force and power of its perennial manhood."

I would suggest that this Institute today has reached a status beyond the wildest dreams of our founder members. However, standing in your first President's place, I ask you members today to take stock and then to ask yourselves where does the Institute go from here?

We recognize our indebtedness to those leaders of the

marine industry who gave help and guidance in putting this Institute on her feet and finally supporting our own efforts to make our headquarters a lasting memorial to those of our colleagues who died in the country's service.

We have seen a great expansion in our membership which today represents all branches of marine engineering—designer, constructor and operator. There is no doubt by the means of our meetings and Transactions the opportunity is given for a free interchange of views and experiences.

Your Council has encouraged the formation and development of Sections both at home and in the Commonwealth countries so that no opportunity be lost by members to get together.

Now, together with kindred engineering societies this Institute has become a founder member of the Engineering Institutions Joint Council—we welcome this move towards giving members of the engineering profession wider recognition of their proper status.

Should we now sit back with a feeling of satisfaction and say we can now take things easy? My reply to you members is—there are greater issues to be tackled if:

- a) this Institute is to fulfil its role in marine engineering, and
- b) it is to live up to its responsibilities to the members of the profession.

The Council will earnestly endeavour to assist in equipping the marine engineer educationally so that he can face future technical requirements with confidence.

What are these requirements and at what levels will the engineer be asked to function in the marine industry? Clearly he can reach Technical Director status. Then why is it that so few shipping companies at this time employ trained professional engineers in the positions of greatest responsibility in company management? Possibly because we are not available in the right quality. Perhaps we are not available in the right quantity. Basically this is an educational problem. The Institute can help, not merely by advice but by proposing a positive solution to this lack of properly educated and trained responsible individuals in the marine industry. At the moment the problem is only being flirted with.

Let me go back one step. Some years back when it became apparent that the conventional method of intake for the seagoing engineer, that is, via works apprenticeship, could not meet current demand, an alternative apprenticeship scheme was advocated by a Special Committee of this Institute. In due course the scheme received the support of M.o.T., Shipowners and Officers Union and came into being. I do not know where our shipping industry would be today without such a scheme—for today men trained under the scheme have now reached the rank of chief engineer.

Many of these young men now in this Institute's pipeline as junior members have I am sure potential for higher academic qualifications and I consider we are under obligation to develop training schemes to give such men the opportunity to reach chartered engineer status.

There is the Diploma in Technology scheme for which the Institute has set aside £10,000 a year. There are also suggestions that financial support should be extended to include sponsorship of the Extra First Class Certificate course.

Good as these developments are they will not in my opinion provide the complete answer. Vast changes in the future manning of ships are now under review in many maritime countries and while radical changes must of necessity take time, we marine engineers must be ready.

To come to a concrete proposal long overdue: that is, the setting up of a central training college for marine engineers to serve the needs of U.K. and Commonwealth countries. Apart from providing a greater output of professional marine engineers this would enable them to benefit by exercise under instruction in other complementary subjects. However valuable attendance at daily establishments may be, there is not room in their curriculum to provide a balanced all round education. Further, opportunity would be presented in a residential establishment to give a marine engineer officer going into the Merchant Navy some personal experience in leadership and in the handling of

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men prior to being put in a position of responsibility on board ship. Personally I think in this day and age such a scheme is essential and no time should be lost in bringing it into being if we are to regain our position in shipping. Who would be better equipped to take the initiative in such a development than this Institute? Those before us were not afraid to tackle big problems and neither are we.

There are many factors that have modified this country's lead as a seagoing power. There has been the inevitable emergence of so many new countries, some of whom seem to feel that the first and most important outward sign of their new status is to create national airlines, mass communications and shipping industries. It might, however, be true to say that one of the factors that has borne upon this problem has been the effective employment, in rival countries with the most progressive shipping industries, of a higher proportion of professional engineers of the highest quality.

I want our own leaders of the marine industry to know that this Institute is very much alive and realistic in its current thinking; and by service given to its members now and in the future it is prepared to repay industry for its past help. Need I say more?

We still have problems on the home front at which I must glance in conclusion. This Institute in joining the Engineering Institutions Joint Council has been most anxious to maintain its independent autonomy—equally I am sure the other marine institutions and societies in the Kingdom are anxious to preserve their individuality; but surely the time is long overdue when a united technical front is needed for the benefit of the overall marine industry. Why, for instance, should there not be a complete exchange of papers and why, subject to academic standard and degree of responsibility, should a common membership not be established?

It seems strange at this time, when greater accent in all walks of life, is on co-operation between nations, between industries and between commercial concerns, that we have a state in the marine institution world where there is very little collaboration. At a time when the marine industry is fighting for resurgence, our hope lies in more collaboration so that constructive proposals can be put forward and developed. In any case there is already a great overlap of membership of these institutions. Could I, as a member myself of several institutions, make

a personal appeal to the separate Councils to consider quickly and generously the ways and means by which collaboration could benefit all concerned.

I have attempted in my address to offer a fresh appraisal of the responsibilities that have overtaken the marine engineer. I am confident that with the support of the members, this Institute, through its Council, will bring courage and imagination to bear upon the problem of his training.

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## INSTITUTE ACTIVITIES

### Minutes of Proceedings of the Ordinary Meeting Held at the Memorial Building on Tuesday, 21st April 1964

An Ordinary Meeting was held by the Institute, following the Annual General Meeting, on Tuesday, 21st April 1964, at 6.45 p.m., when a paper entitled "Developments in Waste Heat Systems for Motor Tankers" by A. Norris (Member), was presented by the author and discussed.

Commander F. M. Paskins, O.B.E., R.D., R.N.R. (Chairman of Council) was in the Chair and one hundred and fifty members and visitors were present.

Nine speakers took part in the discussion which followed.

The Chairman proposed a vote of thanks to the author which was accorded an enthusiastic reception.

The meeting closed at 8.25 p.m.

### Minutes of Proceedings of the Ordinary Meeting Held at the Memorial Building on Tuesday, 6th October 1964

An Ordinary Meeting was held by the Institute on Tuesday, 6th October 1964, at 5.30 p.m. Mr. W. Young, C.B.E. (Chairman of Council) was in the Chair, supported by the Honorary Treasurer, Mr. J. Calderwood, M.Sc. (Honorary Vice-President) and Mr. J. Stuart Robinson, M.A. (Secretary). One hundred and eighty members and guests were present.

The CHAIRMAN said that it was very gratifying indeed to welcome such a large number to the meeting, and it gave him particular pleasure to welcome, on behalf of the Council, representatives of their fellow members of the Engineering Institutions Joint Council and the wives of the members of the Council.

It was the first occasion on which they had been able to welcome representatives of the Engineering Institutions Joint Council to their headquarters since the presentation to the Privy Council of the Petition to Her Majesty The Queen to grant her Royal Charter to the Joint Council, which they regarded as a most important stage in the development of a body which engineers generally regarded as one which would become a very important influence in the national sphere.

It was a very great pleasure to him personally and as Chairman of the Council, to introduce to those present Mr. Logan to deliver his Presidential Address.

It had been the custom of the Institute to elect as its President annually a figure of eminence in the marine field—a shipowner, a shipbuilder or an engineer—and they were most fortunate on the present occasion in that their President was a marine engineer, not only of eminence, but one who was well known to a very great number of their members and had grown up among them since he joined the Institute as a Graduate member forty years ago. He had passed through the various grades of membership and served on the Council and on a great many of the important committees associated with it, becoming Chairman of Council in 1949. So it would be seen that Mr. Logan had rendered outstanding service to the Institute, and they had been delighted to recognize it by installing him in their seat of honour. He was sure that Mr. Logan's example would be an inspiration to many young men who were standing on the threshold of a career in marine engineering.

In addition to that Mr. Logan had found time to occupy important positions as a marine engineer, principally in the field of oil tankers—he was not quite certain which of those two interests Mr. Logan regarded as his sideline. He had presented papers to the Institute whose value had been very widely recognized.

He and Mr. Logan had both been members of the British delegation to the recent Conference on Prevention of Pollution of the Sea by Oil, and he knew that Mr. Logan's practical knowledge of tanker operation had been extremely valuable in the consideration of that very urgent problem.

He knew that Mr. Logan, with his customary modesty, was wishing that he would let him get on with his address, and he was sure that those present would join him in giving Mr. Logan a most sincere welcome to present it.

The PRESIDENT, Mr. A. Logan, O.B.E. (Member) then delivered his Address.

The CHAIRMAN thanked the President for a most interesting address which combined a backward look at some of the milestones which marine engineers and the Institute had passed and the difficulties which had been surmounted, together with a look into the future which must always be a challenge to progressive minds.

The review of the marine engineering problems of the tanker industry with which Mr. Logan had been so intimately associated during the period of its most rapid development was of great interest, and many engineers would envy him the opportunity which he had had to set up the important research system, to which he had referred, to deal with the problems which had arisen. Many of those were new problems peculiar to the bulk oil carrier, and their solution was of the greatest assistance to all who operated such ships. Having himself held a position of responsibility in the field of marine safety during the period which had been covered, he could pay tribute to the very valuable work which had been done by that organization. The papers which Mr. Logan had read on those subjects had been widely recognized as major contributions to the problems involved and had stimulated valuable discussion. Not every one had agreed with everything that Mr. Logan had said, engineers were, of course, notorious for disagreeing with each other on any given subject, and Mr. Logan had never expected that they would do otherwise. But the painstaking work which had been done, Mr. Logan had put freely before everyone interested in order to assist them in the work which they might be doing in the same direction. Work of that kind had helped to reduce the risk of such disastrous explosions as had been seen on the slides which Mr. Logan had shown.

There were many present who shared Mr. Logan's disappointment over the abandonment of the experimental work on *Auris*, which had been due in some measure to economic developments over which Mr. Logan had had no control, but he agreed with Mr. Logan that very good experience was gained which he was sure would be of great value when the development work on the marine gas turbine was eventually resumed, as he felt sure it must be in view of the great

## Institute Activities

advantages which were inherent in that type of prime mover.

There were also many present who would share the thoughts of Mr. Logan on the tasks which lay ahead in the field of marine engineering and in the Institute, and would be heartened by Mr. Logan's confidence in the future. The large membership at home and overseas had been built up on the appreciation, by marine engineers over the whole field, of the services which the Institute provided and the work which it was doing to forward its principal objective—"To promote the Science of Marine Engineering in all its branches".

Mr. Logan could be confident in the support of those members in striving to reach the goals which he had outlined. They had a well balanced Council, as he was well aware, and they devoted much time and thought to their problems, and they would appreciate the importance of looking to further development both in their domestic sphere and in collaboration with other institutions to improve the service which engineers generally could render to the community in which they lived. The means by which that could be achieved must be closely examined by the Institute in the immediate future.

It had been said that the only constant thing in the world of today was change, and they must ensure that engineers were adequately prepared to deal with the changing scene.

The interesting film which had been shown to demonstrate in a dramatic manner the hazard of fire at sea had been made for BP Tankers, which had kindly loaned it for the meeting, for which they must express their gratitude.

In conclusion, he thanked the President for a most interesting address and for his stimulating message which they would keep before them, and he expressed his confidence that the members and the guests would be happy to join him in showing their appreciation of it.

MR. J. CALDERWOOD (Honorary Vice-President) said that the Chairman had given him the difficult task of seconding the vote of thanks after he himself had said almost everything that could possibly be said.

Nevertheless, he thought that Mr. Logan's would be a memorable Presidential Address. They had had a technical paper. They had also had a dissertation on their President's ideas about the future, and he thought that very few people would disagree with those ideas. The latter part of the Address was of enormous value, not only to the Institute, but to the engineering world in general. He trusted that Mr. Logan's ideas would be realized, if not immediately, then in the not distant future.

They had, however, to thank Mr. Logan for something else as well as his Address—for having accepted the Presidency. They had tried on two or three occasions previously to persuade him to do so, and now they had finally succeeded. Mr. Logan had already proved himself, before his real period of work had started, one of their most hard-working Presidents ever, and he was sure that Mr. Logan would continue in the same way for the rest of his year of office and would support them as long as he was able to in the future.

He had great pleasure in supporting the vote of thanks to their President.

*The vote of thanks was carried by acclamation.*

The PRESIDENT made an appropriate reply, thanking the Chairman and Honorary Treasurer.

### Autumn Golf Meeting

The Autumn Golf Meeting was held at the Grim's Dyke Golf Club, Hatch End, Middlesex, on the 29th September 1964. Forty members took part in a Stableford Competition in the morning and a Stableford Greensome Competition in

the afternoon. The leading scores for both competitions were as follows:

#### *Morning Competition*

1st Prize	J. F. G. Arman	(18)	38 points
		(better score over last 9 holes)	
2nd Prize	H. P. Granlund	(24)	38 points
3rd Prize	L. M. C. Robinson	(24)	36 points
4th Prize	R. D. Fielder	(14)	35 points
	R. K. Craig	(24)	34 points
	J. White	(13)	34 points
	H. Armstrong	(14)	33 points
	T. L. Kendall	(17)	31 points
	E. F. J. Baugh	(11)	30 points
	G. M. McGavin	(20)	30 points
	C. J. Probett	(3)	30 points

#### *Afternoon Competition*

1st Prize	{ W. J. L. Foreman	(22)	39 points
	{ H. Armstrong	(14)	
2nd Prize	{ J. G. Belsey	(10)	38 points
	{ H. P. Granlund	(24)	(better score over last 12 holes)
	{ P. S. Rosseter	(24)	38 points
	{ J. M. Mees	(18)	
	{ L. M. C. Robinson	(24)	37 points
	{ G. M. McGavin	(20)	
	{ R. D. Fielder	(14)	34 points
	{ T. L. Kendall	(17)	
	{ T. Chapman	(24)	33 points
	{ R. M. Hewlett	(24)	
	{ S. Hogg	(22)	32 points
	{ L. E. Hardy	(18)	

Mr. S. Hogg, O.B.E. (Honorary Vice-President), Chairman of the Social Events Committee, distributed the prizes and thanked the Secretary and Committee of the Grim's Dyke Golf Club for their hospitality in allowing members the use of the Club for the day.

Mr. W. Young, C.B.E. (Chairman of Council), on behalf of the members of the Golf Society, thanked Mr. S. Hogg and the Social Events Committee for their work in organizing the golf meetings every year.

It was announced that the next meeting would be at the Burhill Golf Club, Walton-on-Thames, on the 20th May 1965.

### Section Meetings

#### *Merseyside and North Western*

##### *General Meeting*

A general meeting of the Section was held on Monday, 5th October 1964 at 6.00 p.m. The first of the Session, the meeting was held at the new venue the Conference Room of the Mersey Docks and Harbour Board, Dock Board Building, Pier Head, Liverpool, 3.

A paper entitled "Northern Star" by G. S. Jackson (Member of Council) and C. Winyard (Member) was presented by the authors to an audience of over eighty persons.

The paper was followed by a very spirited discussion and "question and answer" period which demonstrated to the lecturers the appreciation felt by their audience more adequately than by any formal vote of thanks.

##### *Presidential Address*

A general meeting of the Section was held on Thursday, 22nd October 1964 in the Conference Room of the Mersey



## Institute Activities

Docks and Harbour Board, Dock Board Building, Pier Head, Liverpool, 3, at 6.00 p.m. when the President of the Institute, Mr. A. Logan, O.B.E. (Member) read his Presidential Address "The Marine Engineer, his Responsibilities and his Training" to an audience of well over a hundred persons.

Following the Address the Committee entertained the President at an informal dinner.

Many expressions of appreciation have been received for the trouble which the President had taken to visit Liverpool to present his interesting and thought provoking paper.

The attendance at the first two meetings of the Session indicated a resurgence of interest in the affairs of the Section which the Committee hoped would be maintained throughout the remainder of the session.

### North East Coast

#### Autumn Golf Meeting

The Autumn Golf Meeting of the North East Coast Section Golfing Society was held on Wednesday, 23rd September 1964, at the Tynemouth Golf Club, Tynemouth, Northumberland, in perfect weather conditions and was attended by thirty-four members and guests.

The morning Stableford Singles Competition was won by Mr. J. D. Hugill (10) with a score of 36 points. Mr. S. G. Watson (18) was second with 35 points and in third place was Mr. W. Henderson (9) with 34 points. A Hidden Prize was won by Mr. P. W. Winter (14).

Captain R. D. Fielder kindly donated a Rose Bowl for the best score achieved by a player with a handicap of 18 and over. Mr. S. G. Watson now has this prize in his permanent possession.

The afternoon Greensome Stableford competition was won by Messrs. J. Y. Loveridge (8) and C. J. Probett (1) with a total of 35 points; Messrs. T. Matthews (18) and B. Padman (6) were second and Captain R. D. Fielder (14) and Mr. G. E. Reveley (9) won third place. A Hidden Prize was won by Messrs. C. N. Thomas and H. C. Young.

The Spring Meeting of 1965 is being arranged at the Alnmouth Golf Club, Foxton Hall, on the Northumberland Coast, north of Newcastle an excellent course on the edge of the sea with a beautiful outlook, on Wednesday, 26th May.

#### Joint Golf Match

A golf match between teams from the North East Coast Section Golfing Society and the North East Coast Institution of Shipbuilders and Engineers, was held at Brancepeth Castle Golf Club on Saturday, 3rd October 1964.

The Shipbuilders, led by Mr. W. G. Brown, beat the Marine Engineers, led by Mr. E. C. Cowper, by five matches to two in a four-ball better ball competition.

A concurrent individual Stableford competition was won by Mr. A. J. S. Bennett of the Marine Engineers with a score of 37. Mr. J. Y. Loveridge, playing for the Shipbuilders on this occasion, won the second prize with a score of 36 points.

#### General Meeting

A general meeting of the Section was held on Thursday, 15th October 1964, at the University of Newcastle upon Tyne, Stephenson Building, Newcastle upon Tyne, at 6.15 p.m. with an attendance of fifty-eight.

Mr. J. F. Butler, M.A. (Member of Committee) was in the Chair and asked for approval of the Minutes of the meeting held on 2nd June 1964.

Mr. Butler tendered the apologies of the Chairman of the Section, Mr. D. H. Sword, who was away on business and called upon Professor G. H. Chambers, D.S.C. (Member of Council) to propose a vote of thanks to the retiring Chairman, Mr. G. Yellowley.

Professor Chambers referred to Mr. Yellowley's years of distinguished service on the "River" and to his guidance during the Engineering Institutions Joint Council discussions and his indefatigable and cheerful work for the Section. His only re-

ward was the satisfaction of the job well done, and the respect of all the members of a large Section. Professor Chambers' remarks were greeted with prolonged applause.

Mr. Yellowley in response to this warm tribute said that his record as Chairman was due to the support of the Committee and Officers and in particular to the strength of the support of the members who had so well attended the meetings.

Dott. Ing. A. Gregoretti, who was accompanied by his colleague Dr. F. Prati, was then introduced by the Chairman and presented the paper of the late Dott. Ing. R. De Pieri entitled "Service Performance with the Fiat Marine Diesel Engine Type 900S".

Mr. Yellowley opened the discussion which followed and Messrs. B. Taylor, B.Sc. (Eng.), A. W. Jones, B.Sc. and P. Jackson, M.Sc., were amongst those who made contributions. Tributes were paid to the late Doctor De Pieri by Doctor Gregoretti, Mr. Butler and Mr. Jackson.

In proposing the vote of thanks, Mr. Butler said that he was full of admiration for the way in which the speaker had presented the paper and had answered the questions. The Chairman's remarks were strongly endorsed by the whole audience.

The meeting closed at 8.20 p.m.

### Scottish

#### General Meeting

A general meeting of the Section was held on Wednesday, 14th October 1964, in the Weir Hall of the Institution of Engineers and Shipbuilders in Scotland, 39 Elmbank Crescent, Glasgow, C.2, at 6.15 p.m.

Commander A. J. H. Goodwin, O.B.E., R.N. (Chairman of the Section) presided at the meeting—the opening meeting of the Session—and extended a welcome to the ninety-five members and visitors present.

The Chairman then presented his address entitled "Some Naval Engineering Calamities" copies of which had been exceptionally well produced and illustrated and were available for distribution before the meeting.

Commander Goodwin held the attention of the audience by the capable way in which he presented this most interesting subject, from personal experiences in H.M.S. *Thunderer*, during 1922, through the occasion of a serious fire in the boiler rooms of H.M.S. *Renown* in 1927, when the then Duke and Duchess of York, later to become King George VI and Queen Elizabeth, were aboard upon their return from Australia and New Zealand, up to the propeller trials in H.M.S. *Savage* during the years 1950-53, being in the unique situation of having instrumented the transmission system and having the instruments working when the propeller blades fell off. In closing his address, the Chairman expressed the opinion that he included amongst the casualties, the failure so far, to build any surface nuclear ships in this country.

A very interesting discussion followed in which Commander Goodwin dealt with the points raised in a very capable and confident manner.

A vote of thanks to the Chairman for presenting such an interesting address was very ably proposed by Mr. D. W. Low, O.B.E. (Vice-President) and carried with loud applause.

The meeting closed at 7.50 p.m.

#### Presidential Address

A general meeting of the Section was held on Wednesday, 21st October 1964, in the Rankine Hall of the Institution of Engineers and Shipbuilders in Scotland, 39 Elmbank Crescent, Glasgow, C.2, at 6.15 p.m., when the President of the Institute Mr. A. Logan, O.B.E. (Member) presented his Presidential Address "The Marine Engineer, his Responsibilities and his Training".

Commander A. J. H. Goodwin, O.B.E., R.N. (Chairman of the Section) presided at the meeting and after extending a welcome to the fifty-three members and visitors present, introduced Mr. Logan.



## Institute Activities

The President opened his Address by pointing out that he had been a working member of the Institute for some forty years, starting as a Graduate member. He reviewed his own career, stating how glad he was that he had chosen marine engineering because it embraced such a creative and comprehensive field of activities. Mr. Logan went on to describe, briefly, the progress which he had made and also the progress that had developed in design, construction and operation with reference to some of the difficulties and problems which obtain in operation.

Mr. Logan showed a film "Fire Below" which could not but impress upon everyone the need for quick thinking, a good head and the ability to do the right thing in difficult situations.

The final part of the Address, but none the less important, was a statement of the action which the Institute was taking to improve the status of the marine engineer and the steps that had been taken to assist engineers to obtain higher academic qualifications.

The vote of thanks to Mr. Logan was in the capable hands of Mr. D. W. Low, O.B.E. (Vice-President) who highlighted the pride with which the Section welcomed the President who had started in the ranks and had graduated to be Chairman of Council on his pathway to the Presidency. Mr. Low stated how proud the Section was to see a marine engineer who was held in the highest regard and respect occupying the President's Chair. The vote of thanks was carried with great enthusiasm.

The meeting closed at 7.45 p.m.

### South Wales

The first meeting of the Session was held on Monday, 5th October 1964, in the South Wales Institute of Engineers, Cardiff, when a paper entitled "The Götaverken Diesel Engine" was presented by Mr. G. Yellowley (Member).

In the unavoidable absence of the Chairman of the Section, Mr. T. C. Bishop, Mr. J. Wormald, B.Sc. (Member of Committee) presided at the meeting which was well attended by over seventy members and visitors, most of whom came from either Swansea or Cardiff.

Mr. Yellowley's lecture was profusely illustrated by slides and, on this occasion, his approach to his subject was practical rather than theoretical. This approach was appreciated by his audience and the interest aroused by the lecture was emphasized by the fact that no fewer than twenty members of the audience took part in the subsequent discussion.

Among those present was Mr. K. J. Bateson (Member), Marine Superintendent and Superintendent Engineer of the West Wales Steamship Co., whose vessel *Welsh Herald* has one of the latest and largest Götaverken installations. He was invited by Mr. Yellowley to give some of his views, based on first hand experience in the maintenance of this type of engine; this he did in a manner which both confirmed and gave realism to the information supplied by Mr. Yellowley.

A vote of thanks to the lecturer was ably proposed by Mr. Binnington, a BP trainee engineer and this was endorsed enthusiastically by all present. The well deserved thanks were

### West of England Section



Photograph by kind permission of Tudor Facey and Miller Ltd.

At the Fifth Annual Dinner and Dance of the Section held on Friday, 9th October 1964, at the Grand Hotel, Bristol. From left to right: Mr. A. E. Franklin (Assistant Secretary) and Mrs. Franklin, Mr. J. P. Vickery (Vice-Chairman of the Section), Mrs. W. Young, Mr. W. Young, C.B.E. (Chairman of Council), Mrs. F. C. Tottle and Mr. F. C. Tottle, M.B.E. (Local Vice-President, Bristol)



## Institute Activities

suitably acknowledged by Mr. Yellowley.

The meeting closed after Mr. P. Thomas (Member) had proposed a vote of thanks to the Chairman, Mr. J. Wormald.

### West of England

#### Annual Dinner and Dance

The Fifth Annual Dinner and Dance of the Section was held on Friday, 9th October 1964, at the Grand Hotel, Bristol.

Some 150 members and their guests were received by Mr. J. P. Vickery (Vice-Chairman of the Section) at the reception which preceded the dinner. The principal guests were the Chairman of Council, Mr. W. Young, C.B.E., and Mrs. Young, Mr. A. E. Franklin (Assistant Secretary) and Mrs. Franklin.

Following the Loyal Toasts, Mr. Vickery extended a warm welcome to the guests and said it was an unexpected pleasure for him to do so. This was due to the absence of the Chairman of the Section, Captain A. C. W. Wilson, R.N., who had left the country to serve aboard an aircraft carrier in the Far East. On behalf of all present, Mr. Vickery wished both Captain and Mrs. Wilson all good fortune for the future.

Turning his attention to the official guests, Mr. Vickery outlined the career of Mr. Young and said how prominently he had featured in the affairs of the Institute. Not only was he playing a large part on behalf of the Institute in the formation of the Engineering Institutions Joint Council, one of the major endeavours of the forthcoming year, but he was also going to visit, and review the workings of, the Sections in India, Pakistan and Singapore at the end of the month.

This task would undoubtedly take much of his time and energy and it was because of this that the Section was particularly grateful to him and Mrs. Young for being present on this occasion. Mr. Vickery thanked the other guests for being able to attend the Dinner and Dance, and added that the presence of the ladies was something the Section could look forward to but once a year. At this point the toast "The Ladies and Guests" was proposed.

In reply, Mr. Young thanked the Vice-Chairman of the Section for his kind words and said that the presence of the ladies was absolutely essential at such a function and he congratulated the Section on such a wonderful attendance. remarking on the E.I.J.C., Mr. Young said that the Institute had now been in existence for some seventy-five years, and the time had come to pause and see where it was going. In conclusion he thanked all present for a very pleasant and enjoyable evening and wished the Section all success for the future.

Dancing to the orchestra of Arthur Alexander then followed, and a number of novelty dances was included.

The proceedings ended to the strains of Auld Lang Syne, at 1.00 a.m.

#### General Meeting

A general meeting of the Section was held on Monday, 12th October 1964, in the New Lecture Theatre, City of Bath Technical College, at 7.00 p.m., when a paper entitled "Developments in Waste Heat Systems for Motor Tankers" by A. Norris (Member) was presented by the author.

Mr. J. P. Vickery (Vice-Chairman of the Section) presided at the meeting and after introducing the speaker extended a warm welcome to all those present.

The paper, which dealt with utilizing waste exhaust gases from the main propulsion unit of motor tankers for generating steam for auxiliary purposes, was illustrated by slides.

Mr. Norris said that when heavy residual fuel was brought in for main propulsion on Diesel driven vessels, so did the waste heat boiler really come into its own.

A comprehensive heat recovery system was a comparatively expensive proposition and the initial cost of this plant and its installation had to be correlated to the overall saving in running costs of the auxiliary services over the succeeding years. The plant was at its most efficient when it was applied to vessels which spent a large proportion of their time at sea under

full load conditions. Furthermore, a great improvement in the auxiliary installations was possible, and the amount of routine maintenance was considerably reduced. This was due to the auxiliary machinery being of a reliable nature, requiring very little attention over long periods.

Following the reading of the paper many questions were asked and were answered by Mr. Norris with precision.

The Chairman proposed a vote of thanks to the speaker and the meeting closed at 9.00 p.m.

### Election of Members

*Elected on 19th October 1964*

#### MEMBERS

William Dalziel Campbell  
Ing. Jose Luis Cubria  
Peter Thomas Dunne  
Robert Henry Greedy  
Elgin A. McArthur  
William McDermott  
Frederick John MacKerron  
John Watson Norie  
Arthur H. R. Strong  
Efraim Tsouk

#### ASSOCIATE MEMBERS

Terence Arthurs, Lieut., R.N.Z.N.  
Maxwell James Bailey  
Norman Clark  
Jude Denzil Dias  
Jack Feherty, Eng. Lieut., R.N.  
John Patrick Gardiner  
Stanley Hetherington Harrison  
Thomas Leslie Heddles  
Paul Tolson Heywood, B.Sc. (Dunelm)  
Brian McDermid  
Andrew Graham McDicken  
Arthur Alexander Mitchell  
Robert Davidson Ogston  
George Dewar Paton  
John Reilly  
Bruce Kemp Saunders, M.A. (Hons.) (Oxon.)  
Dipesh Sen  
John Skelton, Lieut., R.N.  
Peter Ronald Sowrey  
William Alan Taylor  
Hugh William Mowatt Wilson  
John Anthony Wyndow

#### ASSOCIATES

Thomas Duncan Cairns  
Kenneth H. F. Creamer  
Colin Thomas Crotty  
Joaquim Castanheira de Carvalho  
Harry Denning  
Thomas Brady Hooke  
John Frank Jacob  
Peter William Robson Laverick  
William McGie Macmillan  
Ernest Adamson Shotton, B.Sc. (Hons.) (Dunelm)  
Syed Abdul Rashid Sultan  
Thomas Albert William Threlfall  
Mohammad Ali Jan Yousafzai, B.A. (Karachi)

#### GRADUATES

Themiya Gunasekera  
Sushanta Mohan Mukherjee  
Brian Kenneth White  
Haile Woldemariam, Lieut., I.E.N.



## *Institute Activities*

### STUDENTS

Llewelly Geert Borg  
Chin Soon Siong  
Edward Stewart Cochrane  
Nigel Robert de Sylva  
Peter George Dick  
Efiong Okon Efiom  
Colin Gemmell  
Alan Gooch  
Adrian Philip Hague  
James Stuart Haston  
Paul Anson Heard  
Donald Sinclair Lorimer  
William George Murdy  
Ian Michael Naylor  
Patrick Efiom E. Okon  
David John Richardson

### PROBATIONER STUDENTS

David Reginald Arrowsmith  
Peter Charles Atkinson  
David William Barrett  
Eric Robert Borrer  
Paul Templeton Burkey  
Christopher Peter Cowx  
Philip Stuart Cryer  
Peter Norman Elmore  
William James Donald English  
Terence Harrison  
David Heather  
John Keith Molyneux  
Robert Henry Musker  
George Percival Park  
Anthony Clifford Parker  
Thomas John Pennington  
John Edward Tenney  
Johannes Jan van Bergen  
S. G. Wilson  
Keith Oswald Worthy

### TRANSFERRED FROM ASSOCIATE MEMBER TO MEMBER

John Randolph Barraclough, Lt. Cdr., R.N.R.  
Laurence Olaf Christensen  
Peter Fedoroff  
William Liston  
Neilson George Craig Morris  
Robert Owen Frank Pimlott

James Raymond Clarke  
James Herbert Beetham Raw, B.Sc. (Eng.) (London)  
Richard Waters, Lt. Cdr., R.N.  
George Weston

### TRANSFERRED FROM ASSOCIATE TO MEMBER

Max Raymond Goodacre

### TRANSFERRED FROM GRADUATE TO MEMBER

Ronald Gurney  
Antony Charles James Stevens

### TRANSFERRED FROM GRADUATE TO ASSOCIATE MEMBER

James Anderson  
Frederick William Best  
Peter Edwards  
Stian Erichsen, B.Sc. (Trondheim)  
Alan Albert Fagg  
Derek Gordon Hugh  
John Kidd  
Arthur Eric Train  
Gerald Arthur Stephen Wilkes  
Edward Cheuk Kin Young, B.Sc. (Eng.) (Manchester)

### TRANSFERRED FROM STUDENT TO ASSOCIATE MEMBER

William Robert Oswald Mann  
Richard Dudley Payne

### TRANSFERRED FROM PROBATIONER STUDENT TO ASSOCIATE MEMBER

William Sidney Thomas Dowse  
Edward Gerald Owen  
Alan Thornton Stanley

### TRANSFERRED FROM PROBATIONER STUDENT TO GRADUATE

John Henry Roberts

### TRANSFERRED FROM GRADUATE TO ASSOCIATE

Ahmed Soliman Aly

### TRANSFERRED FROM STUDENT TO GRADUATE

Abdolreza Azhar, Sub. Lieut., I.I.N.

### TRANSFERRED FROM PROBATIONER STUDENT TO STUDENT

Michael William Jefferson  
James Christopher Nicholls



## OBITUARY

### JAMES BRYDON (Honorary Vice-President)

An appreciation by R. G. Boomer (Member)

MR. JAMES BRYDON (Member 5840) died after a short illness at Vancouver, B.C. on 16th August, 1964. He was in his 77th year at the time of his death.

He was born and educated in Scotland and served an engineering apprenticeship at Denny Brothers, Dumbarton, Scotland. On completion of his apprenticeship he served at sea with the Ellerman City Line and obtained a First Class Ministry of Transport Certificate. During the First World War he served with the British Army in the Middle East as a lieutenant in the Inland Water Transportation Corps. He went to Canada in 1919, settling in British Columbia, and after a short period in the stationary engineering field he joined the Canadian National Steamships as a member of their shore staff at Vancouver, B.C. He joined the Canadian Department of Transport Steamship Inspection Service in 1927 and was appointed as a Steamship Inspector at Vancouver, B.C. He was promoted to Senior Inspector in 1947 and to Divisional Supervisor at



Vancouver in 1950. He retired from the Steamship Inspection Service in February 1957. After his retirement he retained his home in Vancouver but lived for the winter months in California.

Mr. Brydon was, for many years Vice-President of the Institute for British Columbia and was instrumental in forming the British Columbia Section, serving as its first Chairman. The British Columbia Section which subsequently became the Vancouver Section and the Vancouver Island Section, was the first section of the Institute established in Canada, mainly due to Mr. Brydon's efforts. In recognition of his long and faithful service to the Institute he was made an Honorary Vice-President in 1961.

During his long career his integrity and ability earned him the highest respect and admiration of his associates in the marine industry in Western Canada. His outstanding personality and great consideration for others will be sadly missed by his many friends in this country. He is survived by his wife and daughter.

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DAVID WILSON BOYD (Member 23792) was elected a Member of the Institute on 17th July 1961. He was educated at the Bathgate Academy and Bathgate Lindsay High School, and also attended the Macgibbons School of Marine Engineering when studying for his Second and First Class Certificates. His apprenticeship was served, as a mechanical engineer, with United Collieries Ltd., from 1940 to 1947, after which he served at sea, in various grades up to second engineer, with Thos. and Jno. Brocklebank Ltd. In 1956, he joined the Eagle Oil and Shipping Company as second engineer and, in 1958, became chief engineer with the Elder Dempster Lines.

His death occurred on 10th June 1964.

REO HEMI GOWER CHAMBERS (Member 11270) was born on 29th January 1895. He was educated at Wellington College and Wellington Technical College, New Zealand, winning a scholarship which entitled him to a further three years' training at evening classes. He served his apprenticeship with Cables Ltd., of Wellington, New Zealand.

On completion of his indentures, in 1914, he went to sea with the New Zealand Shipping Co. Ltd., serving as sixth engineer for two years. From 1916 to 1919 he held the rank of Engineer Lieutenant in the Royal Naval Reserve. In the latter year he returned to the Merchant Service and, until 1925, served as third and second engineer with the Atlantic Transport Line and with Shaw, Savill and Albion Co. Ltd. He then joined the Sudan Government, Railways and Steamers Department, as a ship's engineer, rising to dockyard manager. He had held a First Class Certificate of Competency since 1920.

In 1947 he accepted an appointment with the Board of Trade Directorate of Salvage and Recovery, but later tried to return to his own sphere of marine engineering. However, his health, which had suffered during his many years in the Sudan, and the fact that he was no longer a young man made this extremely difficult and, approaching the age of sixty, he went into retirement.

Mr. Chambers, who had been a Member of the Institute since 10th April 1947, died on 7th April 1964.



## Obituary

FREDERICK CHRISTIAN (Member 16157) died suddenly on 12th May 1964, at the age of sixty years.

Mr. Christian was educated at Toxteth Technical Institute, Liverpool, and Holt Technical School, Birkenhead. He served his apprenticeship with Lever Bros. Ltd., from 1921 to 1926.

On completion of his indentures, he went to sea with Alfred Holt and Co. and served with that company until 1950, from junior to chief engineer. He gained a First Class Steam Certificate in 1936 and a Motor Endorsement in 1937.

He took up a shore appointment with Stewarts and Lloyds Ltd., in 1950, and, a year later was appointed assistant engineer manager by Barclay, Curle and Co. Ltd. He was subsequently appointed engineer manager in charge of engine repairs in July 1962 and held this position at the time of his death.

Mr. Christian was elected a Member of the Institute on 2nd March 1955. He leaves a widow.

FRANK RONALD STANLEY DAY (Associate Member 16847), a member of the Institute since 12th December 1955, died on 11th July 1964, at the age of thirty-nine.

Mr. Day served an apprenticeship, as an engine fitter, at H.M. Dockyard, Portsmouth. He later studied for his Certificates of Competency at Poplar Technical College and at Southampton University. Following his sea service, during which he gained a First Class Motor Certificate, he was employed, from 1955, as an inspecting engineer by the National Boiler and General Insurance Co. Ltd., being responsible for examining mechanical and boiler plant, and for issuing Factory Act Certificates of Worthiness where necessary. He held that appointment at the time of his death.

Mr. Day leaves a widow.

LEIGHTON B. HANSEN (Member 4030) died at his home in Victoria, Australia on 4th June 1964. He had been a Member of this Institute since 14th September 1920, and was also an Associate of the Australian Institute of Marine and Power Engineers.

Born at Williamstown, Victoria, at the end of the last century, he served his apprenticeship with the Hobson Bay Dock and Engineering Company. In July 1915, he went to sea in the Wm. Crosby vessel s.s. *Wanganelle*, which was then trading to Nauru and Ocean Islands in the Central Pacific, where phosphate deposits were being worked.

After obtaining his Second Class Certificate, he joined Howard Smith's coastal ships to obtain qualifying sea service, following which he came to England. Here, working in shipyards and marine engine works, he gained the necessary experience to sit for his First Class and Extra First Class Certificate examinations, and was successful in obtaining a creditable pass in all subjects.

He then joined the Aberdeen and Commonwealth Line and served in vessels of that company's fleet, until they were sold, mainly as second engineer in the *Largs Bay*. This was followed by an appointment with the Shell Company, as plant installation engineer at their depot at Fremantle, Western Australia. When the plant was established, he moved to Melbourne and operated, jointly with Mr. Russell Hall, a lubricating and consulting engineers service.

During 1942, after the Japanese had entered the war, he joined the American Small Ships Service, with which he served until the cessation of hostilities.

Mr. Hansen then resumed his consulting business and also commenced the tuition of marine engineers at the Royal Melbourne Institute of Technology; he also undertook the private tuition of members of the Australian Institute of Marine and Power Engineers at its headquarters.

When, during 1953, the Victorian Local Section of the Institute of Marine Engineers was formed, Mr. Hansen was a foundation Committeeman.

It is recognized by his contemporaries that he made a great contribution to the training of marine engineers in Australia and his influence will be very much missed, especially in Victoria.

Mr. Hansen is survived by his wife.

JOHN KENNETH LIGHTFOOT, M.B.E. (Member 9429), who was elected a Member of the Institute on 27th July 1942, died on 13th May 1964, at the age of fifty-seven.

Mr. Lightfoot completed an apprenticeship with Imperial Chemical Industries, from 1923 to 1927, after which he served for nine years at sea, achieving the grade of junior second engineer. In 1937 he became senior oil engine erector with the English Electric Co. Ltd. at Rugby and in 1952 was appointed superintendent, at the Heavy Electrical Plant Works, by the same company. He became works manager of the Electrical Machines Division in 1963 and held that appointment until the time of his death. He was awarded an M.B.E. in the New Year Honours List for 1958.

Mr. Lightfoot is survived by his wife.

SIDNEY GEORGE MARTLEW (Member 3202) died at his home on 21st June 1964, at the age of eighty-five. He had been a Member of the Institute since 1916 and was also an Associate Member of the Institution of Mechanical Engineers.

Mr. Martlew was educated at Higher School, Portsmouth, H.M. Dockyard School, and Portsmouth Technical College. He served his apprenticeship at H.M. Dockyards from 1894 to 1900.

From 1901 to 1904, he was a seagoing engineer, achieving the rank of chief engineer of a passenger/mail steamer. He served as an engineer in China, under Sir Robert Hart, from 1905 to 1907. Between 1907 and 1923, he gained a wide experience of engineering, engineering inspection, design work and management, with various concerns. He was a lecturer in London technical colleges from 1923 to 1934. He was engaged on the design of a rolling mill for Australia from 1934 to 1936, and from 1936 to 1953, was design engineer with the Fairey Aviation Company.

During his retirement he travelled right round Africa, revisiting many places which he had last seen over fifty years earlier. Shortly before his death he had completed arrangements to visit the United States.

JOSEPH PRENTICE (Member 6404), a Member of the Institute since 14th April 1930, died on 20th April 1964.

Mr. Prentice was born on 7th January 1890. In 1911 he joined Andrew Weir and Co. Ltd. as a seagoing engineer, remaining with the company until his retirement in 1954, except for a period of naval service during the First World War. During his many years with Andrew Weir, he served in all grades, being appointed chief engineer in 1920, and was holder of a First Class Board of Trade Combined Certificate of Competency. At the time of his retirement, he was superintendent engineer for the Far East, in Hong Kong.

Mr. Prentice, who was predeceased by his wife, is survived by a son, a civil engineer.

PARVIZ NOWROJI RABADY (Member 10233) was born at Bhavanagar on 14th November 1914. He served his apprenticeship with Mazagon Docks, Bombay, and, after obtaining his L.M.E. and L.E.E., joined the Scindia Steam Navigation Company, in 1936, as a junior engineer. He rose to the rank of chief engineer and subsequently joined the Mercantile Marine Department as a surveyor. After the Government of India took over full control of the Eastern Shipping Corporation Ltd. (which was subsequently merged, in October 1961, with the Western Shipping Corporation, to form the Shipping Corporation of India Ltd.), Mr. Rabady became the Corporation's first superintending engineer, on 28th January 1958. He rose to the position of Chief Technical Superintendent, in which capacity he continued to work until his untimely death, on 20th July 1964, as the result of an accident while inspecting a ship at Naples.

Mr. Rabady was elected an Associate of the Institute on 13th February 1945 and transferred to full membership on 12th April 1948. In 1957, he was elected to the Bombay Section Committee.

Mr. Rabady leaves a widow and three children.