

INSTITUTE OF MARINE ENGINEERS INCORPORATED.

Patron: HIS MAJESTY THE KING.

SESSION



1919-20.

President: LORD WEIR OF EASTWOOD.

VOLUME XXXI.

Presidential Address

By LORD WEIR OF EASTWOOD.

DELIVERED ON

Tuesday, December 2, 1919, at 6.30 p.m.

I CAN imagine no higher honour being paid to a marine engineer than that of being asked to accept the Presidency of the Institute of Marine Engineers, and I welcome this opportunity of expressing to you my high appreciation of the honour you have done me.

When I reflect that my father, Mr. James Weir, is one of your oldest members, and that the product of his pioneer work is a familiar object of the marine engine room, and that in the early years of this Institute he contributed a paper characteristic of his special individuality, you may understand the sincerity of the thanks which I now tender to you.

This Institute of Marine Engineers possesses a character and an individuality entirely its own, and I take this opportunity of congratulating the members on the ability of its Council and Office Bearers in maintaining unimpaired attributes of such high value and so worthy of continued preservation.

The Institute is at one and the same time a learned society and a social club—it possesses a dignity worthy of the great profession it represents allied with a spirit of human camaraderie.

Its transactions contain records and papers dealing with the more commonplace, but none the less valuable records of everyday work, and possessing the hall mark of actual working experience. Its discussions bear evidence of the cultivated scientific mind, and of the practical and resourceful man at the wheel, who together typify the characteristics of the marine engineers of our country. And to these qualities of the marine engineer which have identified him in the past must now be added the new laurels gained during the war—the crowning qualities of gallantry, heroism and cool courage as evidenced on a thousand occasions in the great task which our country's need thrust upon him. Long may the Institute possess these characteristics of its activities—characteristics which command the respect, interest and loyalty of its world-wide membership.

A review of past Presidential addresses discloses to me the magnitude of my task to-night, but at the same time shows me the very wide latitude of subject accorded to my predecessors. May I also say that you have had from them the ripe philosophy and concentrated experience of time and age, whereas you necessarily must only expect from me the opinions and views of comparative youth and inexperience.

Under these conditions I ask your consideration in speaking to-night of some of the practical and suggestive problems of the moment forced on me by personal experience, rather than of the more technical and academical matters ordinarily associated with and expected in Presidential Addresses.

Since last session our Country and Empire have emerged victoriously from the great struggle waged for liberty and civilization. The feverish activity and artificial energy associated with war conditions have given place to the entirely novel but vitally important conditions of a post-war period.

The abnormal and disturbed industrial and social fabric left as a legacy of the war period is in process of being replaced by a new and transfigured structure, embodying in its design the many wonderful lessons and precepts disclosed to us by the war experience.

It is a truism to state that the industries of shipbuilding and marine engineering, in common with all our other great national industries, are passing through a phase of an entirely novel character, and their emergence from that phase either strengthened and fortified, or weakened and irresolute will depend on the nature of the policy and action initiated now.

Any attempt at analysis of the present conditions at once discloses certain outstanding features, among which we may note:

1. The great demand from all sources for engineering products of every description;

2. The unique opportunity presented for the application of the lessons in production learned during the war;

3. The imperative need for the closer study of production problems to secure greater efficiency and reduce waste of human effort;

4. The realisation of the national necessity for improved conditions for the workers, and the inauguration of a definite policy in regard to unemployment;

5. The reaction of all these factors on the principles and practice of trade unionism in this country, and the grave danger in the retention of the present rigid policy in regard to freedom of employment.

These matters are of such a fundamental character, and of such a comprehensive nature that it is impossible to offer more than a few disjointed and unco-ordinated reflections on them to-night.

Influence of Discovery.

In Sir Charles Parsons' address to the British Association in September of this year, he quoted the following statement made by Lord Inchcape when speaking on the question of the nationalisation of the Coal Industry:

"It is no exaggeration to say that coal has been the maker of a modern Britain, and that those who discovered and developed the methods of working it have done more to determine the bent of British activities and the form of British Society, than all the Parliaments of the past 120 years."

This statement will command the agreement of all thinking men, and I quote the reference for the purpose of alluding to the advent of what I can only term, another great, new influence in industry and transport—I refer to oil as a source of energy—and I deliberately class the coming of this agency as comparable in its importance with the introduction of the steam engine by James Watt.

Figures sometimes quicken the imagination, and the following is, I think, a good example from which many inferences may be usefully drawn. Taking Mexico alone, the wells already drilled and capped will produce oil at the rate of 80

million tons per annum having a calorific value equal to about 120 million tons of coal, representing the output of an army of British miners 530,000 strong. If Mexico could treble her present capacity (and there would appear to be no reason why she should not do so), the maintenance of it could replace the entire output of British coal and the product of the British mining industry. It must be remembered also that Mexico is only one of the large oil fields of the universe, and I commend this example to you of the influence of discovery on civilisation and the future character of our industrial structure.

Influence of Technical Progress.

Mr. Charles Merz, in giving evidence before the Coal Commission stated that the coal consumption required for the production of motive power in the United Kingdom amounted to 80 million tons per annum. On a very conservative basis, if oil were used for the production of this power in internal combustion engines, less than 25 million tons of such oil would suffice. This is an example of the character of influence which technical development has in the solution of the problems of the new world. It is of surpassing interest and value to note how silently and rapidly discovery in technical progress comes along, and disposes of difficulties which temporarily threaten a halt in the development of civilisation, and in the normal rate of acceleration of the standard of life of the people. The oil development furnishes an admirable example. Coal has reached an abnormal price, threatening the future of some of our basic industries and exercising a handicapping influence on the world's marine transport. The heavy conditions associated with the labour of mining, stoking and coal handling can obviously be classed as among the unpleasant duties of life, and labour naturally makes demands which bring about the abnormal and uncommercial prices we are faced with to-day.

Oil and the technical application of scientific discovery at once discloses one means towards the solution of these problems.

In a smaller degree, may be quoted the example of the very large locomotives now required in the United States where the coal consumption is greater than a single stoker can handle, with the result that the automatic trimmer and stoker are rapidly being installed. Apart, however, from this phenomenon of substitution, engineering science will find, and is finding methods for the better utilisation of coal—among which

I have only time to refer to the increasing use of pulverised fuel. Just as the Gas Companies were stimulated by the advent of electric light to improve gas illumination by the incandescent burner, so the appearance of a new competitor to coal will inevitably bring forth improvements in the methods of combustion and the application of fuel.

The adoption of oil as a fuel for steam raising appears at the moment to be only limited by the rate of the distribution of the oil over the world, and it is quite reasonable to look forward to ever increasing demands for oil tankers, oil station equipment, and to great developments in pipe line constructions, not only from the wells to the refineries, but possibly for actual bulk distribution over important commercial centres.

The impending great development of road transport will bring in its train the acute problem of transport and distribution of oil and petrol. In all these matters, the engineer must play the leading part, and the demands on the mechanical engineering industry will be enormous.

Influence of Imagination.

It has been customary to depreciate the work of the British engineer in regard to the development and production of the Diesel engine, both for land and marine work. Instead of criticism I would plead to-night for the display of a greater degree of imagination in regard to this branch of engineering in Great Britain, and while I do not offer the following example as an exact parallel, I suggest consideration of it as a stimulant to imagination. The example is the extent to which lack of imagination, adherence to old methods and to case hardened and rigid workshop labour conditions have temporarily at least lost to this country a large part of an immense industry and a vast field of employment. I refer to the British motor car industry.

The early pioneer work of technical development was largely carried out in France, which started on the basis of the inventive genius of Daimler. From this there arose a valuable but comparatively small French industry. Meanwhile, Great Britain slowly shaking off the shackles of restrictive legislation wakened up and developed another comparatively small but strong home industry, and created in this field the usual British reputation for a high-grade, reliable character of product.

Then came the United States, whose manufacturers early recognised that the motor car would become a necessary and vital factor in the progress of civilisation. They regarded it as a utility conception—a vehicle in which the passengers interest was confined to the speed and ease with which he could get from one place to another—something looked upon as utilitarian and necessary as a perambulator. On this basis, with faith and the display of a high degree of imagination applied to the problems of production methods, America built up an industry, which, to-day, ranks as third among all the great industries of the United States—an industry producing an annual turnover of about 400 million pounds. Such is the contribution of an imaginative policy in regard to production and technical skill towards the prosperity of a country and towards the maintenance of employment of the workers of that country. I commend a measure of that imagination and enterprise to be applied to the British development and production of land and marine internal combustion engines as being of incalculable value to the future of British engineering and British labour.

Influence of Foreign Markets.

It may be remarked that the United States home market provided the major part of the demand for American motor cars, but the real seriousness of the situation from the point of view of British industry and British labour is the part of the demand from foreign markets, and with this in view I suggest to the British industry the display of imagination in regard to the early inauguration of a really strong effort towards participation in the great future business of building commercial vehicles. Success in the world's markets will only be achieved by such combination and co-operation as will secure efficient conditions of production on a repetition and highly specialised basis. So long as Great Britain produces scores of different types of vehicles designed to do the same work, and built by dozens of separate companies, so long as fifty different designs of connecting rods are being made for exactly the same purpose, the markets of the world will be filled from other sources than Great Britain.

It is not widely or clearly enough realised in this country by the community and especially by the trade unions that their common prosperity in the future is absolutely and entirely dependent on the position which the industries of Great Britain can achieve in the industrial markets of the world. Our entire industrial policy, both from the employers and from the labour

point of view must be adjusted, and again re-adjusted to secure such conditions as will enable us to hold these markets if we are to maintain the present standard of life for the population which at present inhabits our islands.

Competition in Shipbuilding and Future Prospects.

Now, let me refer for a moment to American shipbuilding, in regard to which many very diverse views have been expressed by different British authorities. America possesses two assets of incalculable value in regard to shipbuilding :

1. A very favourable position in regard to the provision of raw material, and
2. A rare degree of imagination and industrial courage.

Shipbuilding is not an art learned in a day—the atmosphere of a successful shipyard cannot easily be acquired, and the value of experience is vitally important. In spite of these, the absence of which is the present handicap of American shipbuilders, America will definitely become an ever increasing factor in the world's shipbuilding, in spite of any effort of which this country is capable.

Prospects.

Now, some of my observations may have given you the impression that I am pessimistic as to British industry and its future—on the contrary—I believe that never in the history of our industries did the world offer such opportunities as it does to-day, but, equally, the realisation of such opportunities at no other time involved such a supreme necessity for the display of imagination, energy and unity of British National effort. At no previous time was work more plentiful and employment so certain, the possibilities of increasing our old and building up new industries so obvious in every channel of British activity. In no country does there exist better craftsmen or a more solid nucleus of technical skill and organising ability, but concurrent with these advantages there are presented to British industry many difficulties and many new problems. Certain of the problems lend themselves for their solution to the display of good judgment, hard work, energy and enterprise, but certain others are unfortunately political and social in their character, and involve quite directly a change in the spirit—change which can only come from appreciation, knowledge and education.

Nationalisation.

Among the many difficulties which assail modern industry and give rise to unstable conditions we must reckon the present outcry for Nationalisation, which at the moment, while strongly urged for the coal industry, is in reality aimed by a certain section of economic thought at many other industries. This movement is political in character, but we must recognise that industrial problems are every day becoming more and more political, and consequently engineers and manufacturers must take a more active part in dealing with these contentious questions.

No one will deny that private enterprise and ownership have faults and disabilities, but there is no structure of industrial society which can claim to be free from fault, and assuming that the coal industry, for example, may represent the worst example of private enterprise, it is equally fair to agree that faults and disabilities exist in Government Departments and to assume that a department of mines might reasonably enough constitute the worst example of a Government department. The main question is whether the faults of private ownership are inherent in the system, or are they abuses of the system which at least has established and developed great industries with advantage to the country. My main objections to Government ownership, control, and administration are as follows:—

1. Government service does not attract and retain a sufficient proportion of men of energy, initiative, and capacity. The conditions of service dampen the valuable quality of enthusiasm. The hierarchy is so great that opportunity to rise is restricted. Responsibility is avoided on account of the fear of criticism, thus spoiling initiative. The sporting and emulative instinct does not exist on account of the delay in taking action. Decisions are frequently made of a half-hearted and indefinite character dependent on approval of others. Everything must be judged from every point of view, resulting in protracted discussion, delayed action, or no action.

2. Under Government control I fear an unprogressive development and technical policy due to lack of enterprise and enthusiasm and to difficulty in obtaining financial support. For example, a great leader such as would be requisite as Minister of Mines might in a business of his own be able to justify some great expenditure from the advice of his experts coupled with his own intuitive instinct, but he might be quite unable, as Minister of Mines, to convince the Treasury. Many

of the largest and most successful enterprises in the history of industry have been examples of a policy directed by individual instinct, an instinct almost of adventure, which could never have been conceivably endorsed by any financial sanctioning authority of Government. It would indeed be a strange and unrecognisable Treasury which would have financed Henry Ford to enable him to create in fifteen years an industry of approximately half the annual value of the total British coal industry.

3. I cannot agree that the average standard of industrial equipment and productive facilities would be raised. There is no evidence that Woolwich, Enfield, or the dockyards have or ever had a higher standard of equipment than private enterprises. On the contrary, Government departments have rarely been the leaders in introducing new methods and processes.

4. Assuming the existence of keen initiative and enterprise on the part of the department, the display of these would be speedily stultified by the criticism directed in the House of Commons to matters concerning public services. This criticism and the explanations needed, while representing a legitimate right and privilege of Parliament, would be quite intolerable in the conduct of a producing industry. Many examples of this will suggest themselves to you.

5. The suggestion that overlapping, which is cited as an evil of private enterprise, is absent from Government organisation is a fallacy. There are many watertight compartments in Government offices, and overlapping is a state of affairs by no means rare.

It is adduced that the miner or other worker will, as an individual, work better and at a higher rate of intensity, and lose less time if he is under State employment rather than under private service. I suggest that there is no evidence to support this contention. Apart from the question of who owns the works or mine, the individual workman or miner in his everyday work is too remote to experience the slightest influence. I have known many artisans employed by municipal undertakings and by co-operative societies, and it has been my experience that they take situations indiscriminately under these services or under private enterprise. I know of no substantial difference in the spirit with which they work in the service of the Scottish Co-operative Society, the Glasgow Corporation, or the Fairfield Company's Shipyard.

A quite unusual degree of responsibility attaches to those who direct industrial affairs to-day, to those in charge of the workers' interest no less than to those who represent the employing interest, and above all to the Government faced with the phenomena of an unsettled industrial system.

It would appear to me that if the spirit that assails private ownership were directed to the bettering of the existing system instead of to its overthrow, it is practically certain that the grievances and hardships complained of could be remedied without recourse to gigantic experiments, the results and subsidiary effects of which no man is capable of predicting. The present movement is the outcome of the accumulation of the conditions, social, economic, and political, which have been concentrated and accelerated by the great war. But the changed orientation towards industry has affected not only one section of society; it has affected the whole, and employers not less than employees are desirous of making an end to many abuses that have justifiably caused complaint and unrest, and an appreciation of the human aspect of employment is undoubtedly fuller and more generous than ever before.

The present outstanding and legitimate demand of the consumer, the employer in all industries, and the Government speaking for the community, is a peremptory claim for the display of patience and a period of calm and stability to enable confidence to be regained for the future, and thus to ensure employment for the workers in all industries. We must get on to firm ground again in our industrial affairs rather than on to the shifting sand of experimentation in systems. The loss of stability and confidence which would follow the initiation of nationalisation in any one big industry at present will certainly manifest itself in a greater degree of unemployment than ever, and will permanently handicap our industries against those of countries where individual freedom of enterprise prevail.

Unemployment.

Of all the aspirations of labour the demand for some form of State or other insurance against unemployment appeals most forcibly to the entire community, and some scheme on a contributory basis may reasonably be expected to eventuate.

My only object in referring to this matter is my belief that the problem is not being faced with sufficient courage and frankness, and that it is being considered in too isolated a sense. For example, let me quote one of the authorities on the subject

—the Fabian Society's pamphlet on the nationalisation of the coal supply submitted by Mr. Sydney Webb in his evidence before the Coal Commission. Therein the following proposition is laid down:—

“If the miners are assured that improved processes would deprive no man of regular employment at the standard rate, it is difficult not to believe that a Government Coal Department could, in a few years, revolutionise the processes of the backward half of the collieries.”

Here we have the deliberate statement that the rate and extent of the application of new and improved processes is to be governed by the state of employment in the particular trade to which these processes might apply. The adoption of such a doctrine would manifestly kill all hope of ever improving either the workers' position or of preventing unemployment.

Let us assume the discovery of a new system of transmitting energy, particularly applicable to coal cutting, and having the influence of halving the number of miners employed at the face, according to Mr. Sydney Webb, the adoption of this improved machinery is to be contingent on the existing state of unemployment. As my personal belief is that the adoption of such a policy is the best way to cause unemployment in this country, I venture to emphasise the adoption of directly the opposite policy, and to suggest that a concentration of effort on improving the conditions and processes of production along with the policy of freedom of employment, is the one and only directional step which can be taken to solve the unemployment difficulty. In view of the present world's demand for British product, unemployment in this country will be measured only by the inefficiency of British production of these products. Let it be carefully remembered that no system of ownership or control of any industry in any country can give a definite guarantee against unemployment. The utmost possible to be done is to secure such an industrial system as will give efficient and economical production in relation to other countries. No Government or power can give any guarantee. It can give the artificial system of doles and out-of-work allowance, merely as a nostrum, not as a cure. The only cure for unemployment is opportunity of employment, and our efforts should be concentrated on establishing and widening these opportunities, not on trying to find some artificial means of getting round the mountain range of indefinite length. We must establish an industrial system comprising a contented, steady, well disci-

plined industrial corps, operating under broad-minded and progressive directional authorities, assisted by the highest degree of technical application of science.

Freedom of Employment.

At this point it is necessary to emphasise very clearly the question of freedom of employment as evidenced by the infinite and ever variable changes in industry brought about by technical progress, certain examples of which have been referred to to-night, and to which a more definite example might be added.

During the war, in the engineering industry, the many extensions and developments of works for munition purposes were, as a general rule, machine shops for handling the products of existing foundries and forges, and of the products of new forges. I cannot think of any very extensive and comprehensive additions to the foundry capacity of the country. Accordingly, in the reconstruction for peace, it will be found and has been found that the machine shop capacity of the country is infinitely greater than the foundry capacity with the result that new foundry schemes are springing up all over the country to bring about the proper balance of production facilities. Accordingly, I ask, where are the ironmoulders coming from to operate these foundries, and I hazard the opinion that within the next twelve months under the existing conditions governing employment in iron foundries and in default of other limiting conditions, the country will be short of five to seven thousand ironmoulders. Another example, and it is curious how the appreciation of these things is slow and belated, is disclosed in the Prime Minister's recent speech on housing, where he definitely pleads for the temporary abrogation of trade union practices in connection with the building trades. A phenomenon of the war is reproduced—he pleads for the dilution of labour, without which, during the war, our enemy would have been victorious, and unless the change comes about during peace the enemies of our industrial prosperity will prevail.

One hears a constant cry for the application of the war lesson of mass production. Mass production means specialised methods and freedom of employment for all grades of skill. After endless bickering, and with grudging consent, a measure of freedom of employment was secured in war time. Now in peace the old regulations apply, and the gate of employment is closed to all but sectional interests. It would seem unneces-

sary, but it must be again repeated that in any industry in any country, the initiation of new processes and methods enabling employment to be given to unskilled labour always in history has resulted in increased employment to skilled labour. The readjustment is sometimes a complicated one, but it takes place inevitably.

Publicity in regard to Industrial Conditions.

It has always appeared to me a strange thing why in an industrial country such as ours, greater interest is not taken by the Press and the community in the matters which are fundamental to our industrial prosperity. The Press is certainly a potent factor in this phenomenon. The most intense public interest is evoked by the proceedings of a wholly unimportant House of Lords inquiry, and columns are devoted to it, while the factors governing the present strike of the ironmoulders are dismissed in a few words, and with apparently little appreciation of the genuinely disastrous character and influence of the whole affair. The community do not appear to appreciate that the ironmoulders' strike quite directly affects them in many unpleasant ways. It represents or will represent practically eight weeks loss of output in every branch of the engineering industry in England. It has or will ruin the production programmes of the motor car manufacturers for a whole season, and definitely prevent improvements in the entire transport system of the country; it seriously affects the delivery of every ship being built in this country, thereby affecting our marine transport and the cost of importing our food. It has delayed all reconstruction schemes, and must affect even the housing problem; it has vastly increased the unemployment dole, and added 75 thousand to the numbers of those out of work. It has involved enormous losses to the industry which will have to be paid for by the community through enhanced prices; it has given employment to a large number of Swiss engineers and moulders instead of British engineers and moulders; it has exasperated every foreign customer of the British engineering industry, and it has delayed the essential repairs and re-conditioning of ships, locomotives and wagons. The community should be informed on these matters.

Conclusion.

From these cursory and somewhat disjointed reflections, and viewing the situation as a whole, it would be obvious that any constructive industrial policy must be based on an appreciation

that the foundation of industrial prosperity and of a country's ability to support its population is the scientific ability and ingenuity coupled with technical skill to create means and methods of enabling the tasks of life to be efficiently performed; that it is insufficient to be supreme in design and technique unless the production conditions are such as to enable efficient manufacturing to be secured; that Great Britain must depend on foreign trade, and that civilisation and industry are not confined to Great Britain, that in every line of industrial activity there is no insoluble difficulty in Great Britain retaining, if not increasing her past supremacy; that we are doing nothing to-day which we should not hope to do better to-morrow; that the most valuable driving influence of high wages is towards the creation of better methods to drive down costs; that unemployment will look after itself if we concentrate our attention on securing employment; that employment at better remuneration than ever can only eventuate from two causes—more efficiency on the employee's part and freedom from interference in production problems on the part of the trade unions.

The only certain way to ensure a higher standard of life for the workers, and an insurance against unemployment is for the community to encourage imagination, energy and enterprise on the part of the employer or the directional authority in industry, so that he may secure such a stable set of industrial conditions as will warrant him in adopting a progressive policy. The contribution which the community should require from the great trade unions as representing labour is a recognition of the variation of industrial developments, of the changes which manufacture and production have undergone since first their principles and constitutions were established, and thereafter as a result of such recognition, the reasoned revisal and readjustment of their policies and their practices.

I would also suggest that the success of remuneration by results from the workman's point of view is sufficient reason alone for its extension to other sections of industry from which it is debarred by trade union regulation, and with the changed atmosphere of to-day, it would not seem to be difficult to eliminate these abuses of the system in the past which have given strength to the opposition against it.

If only a genuine spirit of co-operation were achieved, there would follow the educative and helpful shop committee system, the delegation of the settlement of many domestic questions to the workshops themselves, and it is not beyond possibility that

the trades unions might come to recognise that an employer with poor facilities and out of date methods utilising the labour of their members inefficiently, is a menace to their industry, and that their interest lies in encouraging the enterprise of the employer, in cultivating the highest degrees of craft skill, and not reducing worthy and honourable service to the ignoble status of a commodity basis. If by all means in our power we can assist to bring about such a realisation of our respective duties and responsibilities, it will carry us far towards the goal of recreating that industry in which we are engaged on a basis which will ensure its pre-eminence, strength and prosperity and all the blessings that flow therefrom.



Mr. B. P. FIELDEN (Chairman of Council) in proposing a vote of thanks to the President said that the formal procedure on such an occasion as the present is to propose a vote of thanks to our President for his address. I shall presently do this, but I feel that a formal vote does not adequately express our regard for Lord Weir and our appreciation of what he has accomplished.

I can assure you that when the Members of your Council received his acceptance of the highest honour it is possible for the Institute of Marine Engineers to offer anyone, they were delighted because they thought he was one of the best. Now they are sure of it.

Immediately he became President he wished to be informed in what manner he could help the Institute most. You will also remember that when he was speaking at our Annual Dinner in regard to his position at the Air Ministry he said that "all he wanted to do was to help the boys in the air." These remarks are characteristic of him, as when he undertakes anything he works personally and helps others to make it a success. I think this excellent quality is hereditary, because his father built up their firm's business by hard work. Messrs. G. and J. Weir, Ltd., commenced in a very modest way, but they had an extremely valuable asset, viz.: a high standard of efficiency. They made machinery which could be depended upon, they ensured that it did everything that was required of it, with the result that the firm grew, the efficiency of their machinery increased, and the personnel of the firm continued working for improvement.

They are leaders on the auxiliary side of marine engineering and great credit is due to them for their share in building up the Royal Navy and Mercantile Marine.

On the outbreak of war such works as those owned by Messrs. G. and J. Weir were a national asset, and without our engineering works and engineers the result would have been very different.

Lord Weir tackled what was at that period an enormous problem, the supply of munitions, but the subsequent results proved his worth. His efficiency and work placed him in the position he held to the advantage of the British Empire and in the estimation of all engineers.

Lord Weir has assisted, and we hope will continue to assist marine engineers to reach that position in life which their work entitles them to.

This Institute was founded with the object of increasing efficiency and it is our duty to work for it. We must continue to improve, and this is a duty which all marine engineers, and especially the young ones, owe to the profession to which they belong.

We claim that the work done by this Institute is of a national character, because we contribute to the improvement of shipping, and I suggest that the British and Colonial Governments should assist us financially to carry on this educational work. An engineer's education is never completed and the progress of the nation depends largely on progress in engineering.

I am confident that I am expressing your opinion, as well as my own, when I say we are proud of our President, Lord Weir.

I have great pleasure in proposing a very hearty vote of thanks to him.

MR. A. BOYLE (Vice-President): I have much pleasure in seconding this vote of thanks to our President for his address, and I associate myself with and heartily endorse all that has been so well said by Mr. Fielden, Chairman of Council, when proposing this vote.

I have had the privilege of proposing or seconding this vote of thanks on several occasions and I do it again to-night with the greatest pleasure.

Our Institute, gentlemen, has been exceptionally fortunate in its Presidents. Look down the roll and you will find that the President's Chair has been occupied by noblemen and gentle-

men in the very first rank of their profession, whether as ship-owners, shipbuilders or engineers, or distinguished men of science with a world-wide reputation, and in Lord Weir we have a nobleman in every way worthy to be a successor to those eminent men who have preceded him in the Presidential Chair, and we all have seen how admirably his Lordship has carried out his Presidential duties. More than that: he is a leading engineer among eminent engineers (the Government found that out) and is the son of an engineer whose name is a household word. It is an open secret that Mr. James Weir was nominated by the Council for the presidency, but advancing years prevented him from accepting the chair, so not being able to have the father, the Council did the next very best thing by electing the son. I cannot refrain from mentioning the splendid generosity of Mr. Weir in assisting us to erect this building. One word more: with every new President the Institute has gained a new and lasting friend and I am sure that in the case of his Lordship, the same good fortune will attend us as in the past.

Annual Dinner.

The Annual Dinner—suspended for six years—was held in the Connaught Rooms on the 31st October, 1919. It was a welcome and successful event. Our President held a reception in the ante-room prior to assembling for dinner, when an opportunity was given to members to meet old friends and exchange greetings, with evident pleasure. The guests who were able to be present were welcomed by the President. We missed several who were expected but were called away on duty and sent their expressions of regret. After the reception, Lord Weir led the way to the dining hall and the well-filled seats showed an attendance of over 500.

On the conclusion of the dinner, the *Royal Toasts* were submitted by the President and loyally applauded.

The Naval, Military and Air Forces of the Empire was proposed by Mr. W. L. HICHENS, who expressed in glowing terms the indebtedness of the Empire to the three Services comprised in the Toast, which included representatives from every section of the Empire who answered to the call when it went forth on the declaration of war. The brave deeds performed in the discharge of duty were recorded in the memories of the present

generation and in the book of fame for succeeding generations to ponder over, illustrating united effort and community of ideals towards the highest ends.

Rear-Admiral Sir WM. NICHOLSON responded for the Navy and expressed the regrets of the Rt. Hon. Walter Long that circumstances had intervened to prevent his attendance. The Royal Navy, backed by the strong support of the Mercantile Marine, had done its duty, and it was realised that, without the valiant support of the engineers on whom so much depended, the efforts on the Bridge would have been short of the success accomplished.

Lord RAWLINSON, on behalf of the military forces, acknowledged the greeting he had received and referring to previous warfare methods, emphasised the changes which had been made and the important developments in mechanical and engineering appliances which had been brought to bear on military equipment. The genius of invention had materially helped to accomplish the ends in view—the defeat of the enemy.

Commander VYVYAN, C.B., in responding for the *Air Force*, paid tribute to the service rendered by Lord Weir in connection with the Department and its organisation. It had become an important feature in the War, and Aviation had developed to an extent which had brought it into such prominence that not only was it a necessary naval and military force, but it had become evident that useful commercial and industrial undertakings would follow.

Sir AUCKLAND GEDDES, in proposing the toast of *The Shipbuilding and Engineering Industries*, made an appreciative reference to the excellent work done in the shipyards and engineering works under the adverse conditions ruling during the war. The necessities of the day still demanded the making of continued efforts to build up the trade and commerce of the country and meet all the requirements of the Empire in competition with the nations of the world at large. The prosperity, the development and the future well-being of the Shipbuilding and Engineering Industry were greatly wished and desired, and all the skill and talent of those engaged in connection with industry should be united in advancing its progress.

The PRESIDENT responded to the toast and said that he regarded the presence of so many distinguished guests as a generous tribute to the great industry, and to them all were accorded a hearty welcome. Marine Engineers felt a justifiable pride in past achievements and their war record displayed a

courage and heroism, added to by energy and enterprise on the part of the Constructors. At no time in the history of the country were enterprise and painstaking industry—characteristics of the British manufacturer, more needed, along with courage and resolution. In the history of science and industry, when difficulties seemed almost insurmountable in the path of progress, the scientist and the engineer had stepped forward and found the solution.

The Prime Minister had justly said that the war which had been forced upon us was an engineers' war. The solution of the problems of the Prime Minister's New World would be largely an engineers' job. Waste and inefficiency might be alleviated by organisation, but the function of science was to exterminate waste. In regard to coal—the price of which had risen so high, the introduction of oil fuel and of the oil engine, with the aid of the scientist and the engineer, would form a technical solution for coal shortage and high cost. A new spirit had animated employers in the industrial world in its present critical state, and if Trade Unions did not recognise that the world would not be denied the production it demanded, they would fail in their duty to themselves and would inevitably retard and injure the re-establishment of the prosperity and well-being of the country and its interests.

Col. JOHN M. DENNY (Past President) submitted the toast of *His Majesty's Dominions Overseas*, and said we had met, on August 4th, 1914, the stiffest proposition ever faced, and the result, fortunately, was the overcoming of that race which had been preparing for war for many years, with all its horribleness. All our brethren and colonists from overseas had rallied around the standard; from Africa, Australasia, Canada and India they had come to help win the fight and uphold the great ideal to live in personal liberty.

The Rt. Hon. ANDREW FISHER responding, expressed thanks for the appreciative words spoken, and the enthusiastic echo from the assembly. The action taken when the mother country was faced with war, and yet unprepared for it, was simultaneous throughout His Majesty's Dominions, to settle the issue. The heart and soul of the Dominions were never shaken as to the result and they laid no claim that they were more true to the flag than were the sons of Britain, they counted it a privilege to take part in settling the nation that sought to dominate the world. The Imperial Parliament legislated for all, at home and abroad, and it would be well if those about to enter Parlia-

ment were first to travel over the Dominions to educate themselves in the requirements and needs of all, so that they might be in a better position to act as legislators.

Sir ERIC GEDDES proposed *The Mercantile Marine*, and said it was his privilege to propose this toast at the first dinner of the Institute held since 1913, and it was a unique occasion in that the Mercantile Marine had won a position in public esteem undreamt of before the war. As First Lord of the Admiralty, he had seen some of the work done by the Mercantile Marine and had travelled on merchant ships, armed merchant cruisers and on His Majesty's ships—manned to a large extent by the Mercantile Marine; he always visited the engine room, as his interest and admiration were centred there, realising the importance of the engineers' work and their intrepid courage in action. Referring to "McAndrew's Hymn" and Kipling's remark as to the engineer being unrecognised by the disembarking passengers, the remark was true, but recent events had altered that, and recognition had come.

Sir WILLIAM H. RAEBURN in reply, said that, as a shipowner, he could endorse all that had previously been spoken as to the Mercantile Marine, as he knew what they had done during the years of stress and strain and danger; he was glad to have the opportunity of adding his testimony; he was proud of the men for they had done magnificently and he appreciated the honour conferred upon him in responding to the toast and, further, on being present at the dinner of the Institute, as he did not know how we should have come through the recent contest but for the services rendered by marine engineers.

Sir FORTESCUE FLANNERY (Past President) proposed the toast of *The Chairman*. The Institute had progressed by leaps and bounds, and the position of President had become one of supreme importance. Amongst those who had emerged into celebrity during the war, none had had a more distinguished career than Lord Weir. He had done valuable work in connection with the output of munitions and later with the Air Ministry; he was elevated to cabinet rank, then to the House of Lords, and this all marine engineers hailed with pride, and esteem for him. High as was the honour thus conferred upon him, Lord Weir had an even greater honour conferred when he became President of the Institute whose interests he had so much at heart. He concluded by asking all to drink the health of the President with enthusiasm, affection and profound admiration, with long life to him and the Institute he splendidly represents.

LORD WEIR, in reply, said he appreciated the kind words of Sir Fortescue Flannery and the kind reception given to the toast. Commodore Vyvyan had recalled the days of the Royal Air Force; all he wanted to do was to help the boys in the air. When he looked around on the great gathering of Marine Engineers, he thought of the life-long association of his father with the calling, now almost sixty years, and it would be clear to all how deeply he was touched when he was invited to become President. He regarded it as the highest honour which Marine Engineers could confer upon him, and during his term of office he would make it his business to maintain and strengthen the dignity of the Institute of Marine Engineers. In conclusion, he proposed that the old Scotch custom be followed by drinking to "Auld Lang Syne."

—o—

Notes.

The following describes an experience which one of our members had:—

On or about 12th April, 1918, during the German advance, I was instructed to proceed to Robecq on La Basse Canal and scuttle two twin screw tugs, two single screw and one motor barge after removing important fittings.

Robecq was about three or four miles from where I was stationed at that time, and I proceeded by motor cycle. No lorry being available, the removal of important fittings was out of the question. On arrival I found a French barge, loaded with coal, had been sunk by shell fire two days previous and blocked the Canal. Our craft had been tied up at that point for 48 hours—under shell fire—and I understand the seaman section had reported to H.Q. that it was impossible for our craft to pass the wreck. On going on board the tugs, I discovered they had a good deal of coal in the bunkers, also a quantity of pig iron (ballast) aft, so I decided to lighten the craft as much as possible, and the boys worked like niggers for about six hours. It was not advisable to work the main engine, but by aid of a wire and rope from the windlass to a tree on the Canal bank we succeeded after some difficulty in getting the first tug past the obstruction by hugging the bank. The others were not quite so difficult, as we were able to make use of the first tug, and by about 8 p.m. that evening our four tugs and motor barge, also a Belgian tug and barge were safely past the danger zone without disturbing the sunken barge. The field R.E. were busy

laying a bridge over the Canal near that point and our craft just got clear in time. About two nights later the French barges (about 20) at that part were set on fire. In my report which was submitted, the following day through my district officer, I gave the crews great praise for their work that day and specially recommended three N.C.O.'s in charge of the large tugs for their hard work and the skilful way in which they handled their craft. I saw my Colonel (Chief Mech. Engineer) about a week later and he complimented me on my good work, and, as the General was highly delighted, he said he had recommended me for my Captaincy (acting). I was at that time 2nd Lieut., and a few weeks later was given a position at H.Q. on the Chief's Staff—rather an empty honour. In due course, after the usual 18 months good service as 2nd Lieut., I was made Lieutenant, while several seamen officers, my juniors, were made captains.

About September, 1918, I went to the trouble of inquiring why the N.C.O.'s I had recommended had not been rewarded, and was told by the Chief of the Nautical Section to mind my own business as those men belonged to his section, etc. However, I ascertained at that time my report was lost.

Thanking you again for your kind letter and for your kindness in the past, with all good wishes.

J.M.

ROYAL SOCIETY OF ARTS.—The session was opened on November 19th, when Sir H. Trueman Wood gave the opening address, in which he reviewed the conditions resulting from the great war and tragic events of the past and how these were met in the succeeding days by means of energy and thrift. Science and industry combined to add to the development of trade and commerce. The early years of steam on land and sea were reviewed, with historic references, as opening up new features in the world, the sequence of dates and leading events being given to refresh the memory and spur on present day activity. It was urged that the difficulties in connection with coal and its abnormal price demanded the finding of a substitute with elimination of the waste associated with coal, giving at the same time greater percentage in efficiency results. Sir Charles Parsons, in his address to the British Association had advocated investigation with a view to use the heat in the bowels of the earth and pointed out that in volcanic regions the heat referred to was being used*.

* See *Illustrated London News*, Nov. 1st, 1919.

The address was a very interesting one and conveyed to the mind many lessons to be derived from the days preceding the late war, as well as many which have been placed before us

J. A.

The Société des Ingénieurs Civils de France, with which we exchange Transactions, held a meeting at the Royal Society of Arts on November 24th, in order to inaugurate the opening of a British Section of the Society with a view to the advantage of their locally resident and visiting members, and to closer co-operation with similar Societies in Britain. The meeting was attended by representatives from many Technical Societies and the reception accorded to the French engineers and to the inauguration of the Section was very friendly and cordial, bethinking a closer relationship with our Allies in technical and social matters, to our mutual advantage on good lines.

J. A.

The following has been received in reply to a letter to the Secretary of " Société des Ingénieurs Civils de France " :—

Paris, le 29 Novembre, 1919.

Monsieur J. Adamson,

Hon. Secretary Institute of Marine Engineers,

85/88, The Minories,

Tower Hill,

London, E. 1.

Monsieur le Secrétaire et cher Collègue,

Je m'empresse de vous accuser réception de votre lettre du 27 courant et je prends note du changement d'adresse que vous voulez bien me signaler.

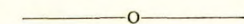
Je vous remercie très sincèrement de ce que vous voulez bien nous dire au sujet de la création d'une section britannique de notre Société. Nous pensons comme vous que de semblables créations contribueront à resserrer encore davantage les liens qui existent déjà entre les Associations diverses de nos pays pour le bien général.

Je vous remercie aussi de l'amabilité avec laquelle vous voulez bien vous mettre à la disposition de ceux de nos collègues qui se rendraient à Londres et je ne manquerai pas de leur signaler qu'ils trouveront auprès de vous 85/88 the Minories, Tower Hill, London, l'accueil le plus cordial et le plus amical.

Veillez ne pas oublier que, de notre côté, nous sommes à votre entière disposition et que tous ceux de vos Membres qui viendraient à Paris, pourront s'adresser 19 rue Blanche où je m'efforcerai de me mettre à leur pleine et entière disposition.

Très heureux de cette occasion qui me permet de faire plus ample connaissance avec vous bien que ce ne soit que par lettre, je vous prie d'agréer, Monsieur le Secrétaire et cher Collègue l'assurance de mes sentiments les meilleurs et les plus distingués.

Le Secrétaire Administratif,
A. JE DAX.



Election of Members.

Members elected at the Meeting of the Council held on 4th November, 1919:—

As Members.

David Lamb Balharrie, 118, Humber Road, Blackheath, S.E.

Walter J. Church, 17, Blake Hall Crescent, Wanstead.

Harold E. Fletcher, 39, Mount Pleasant Road, Lewisham.

A. E. Galtrey, 46, Londesborough Road, Scarborough.

William Theodore Hamlyn, Claybrooke Vicarage, Lutterworth.

Osmond Masonparry, 97, Blantyre Road, Liverpool.

Edward Other (Engr.-Lieut., R.N.), Woodkey, Rock Ferry, Cheshire.

Arthur Hurle Robertson, 413, Romford Road, Forest Gate, E.7.

Herbert Wm. Robinson, Nitelesdale, Foxley Lane, Purley, Surrey.

John Darque d'Eggesfield Robinson, 11, Rockfield Road, Waterloo, Liverpool.

Norman Seaton (Engr.-Lieut., R.N.), 40, Argyle Road, Ilford, E.

Cyril Walter Starnes, Messrs. Thermit, Ltd., 675, Commercial Road, E.14.

John George Tweedy, 7, Railway Terrace, Pontardawe, Glam.

George Frederick Underwood, 21, Union Road, Clapham, London.

Andrew Urquhart, Fort Johnston, Nyassaland, Africa.

Robert Ainsworth Ward, 8, Douglas Street, Ponsonby, Auckland, N.Z.

David Kyffin Williams, 41, Jersey Road, Ilford, E.

Companion.

William Adamson, 10 and 11, Lime Street, E.C.3.

Associate-Members.

David Brown, 15, George Street, Cellardyke, Fifeshire.
William Richard Goodier, 58, Victoria Road, Fulwood, Preston.
James Wm. O'Brien (Art.-Engr., R.N.), 169, Rock Avenue,
Gillingham, Kent.

Associate.

Patrick Kelly, 12, Roche's Terrace, Queenstown.

