DISCUSSION CONTINUED

ON

MONDAY, DECEMBER 12th, 1898.

CHAIRMAN:

MR. J. E. ELMSLIE (MEMBER).

THE HON. SECRETARY: The following is from Sir John Durston, K.C.B. (Past President):

"As I am unable to be present on Monday, I venture to send you a few remarks on the Admiralty system of training Royal Naval Engineers. For many years the Admiralty trained their own engineer officers exclusively, but since 1890 a proportion, usually about a quarter of the annual entries, has consisted of gentlemen who have received their professional education at private establishments, the object in view being to induce a healthy rivalry between engineer officers who have been trained by the Admiralty and those who have received their education outside the Admiralty, and also to prevent the Admiralty system of training from falling into a groove from want of practical means of comparison with the results obtained by the technical colleges and private workshops of the country. At Keyham a thorough and practical workshop training is combined with a technical collegiate course, which, in addition to instruction in steam and the steam-engine, embraces physics and mathematics, pure, and as applied to mechanical engineering. This training, which extends over five years, is not severe, and plenty of time is afforded for recreation. Sports of all kinds are encouraged, the object of the Admiralty being to produce good engineers mentally and physically. Students who have been five years under training are examined for entry as probationary assistant engineers, and outside candidates take the same papers. Those who obtain a

certain percentage of the total marks are selected for a more advanced course of study at the Royal Naval College, Greenwich, and at the end of a year a further selection is made by examination. The two or three men at the top of the list are given a thorough mathematical and physical course of instruction, and officers so trained, after they have acquired sufficient sea-going experience—not less than three years—are eligible for posts at the Admiralty and dockyards in connection with the design and construction of machinery and boilers for the Royal Navy. The examination for entry into the Navy, though not severe, is searching in its character, and each candidate who has received his education outside Keyham must have completed $4\frac{1}{2}$ years' training in approved workshops and technical colleges, and must also be between the ages of 20 and 23. The great body of Royal Naval Engineers spend the greater part of their lives afloat, and as they mount up the ladder to the higher ranks they continually acquire knowledge in the best of all schools, that of practical experience. The Keyham students are trained under strict discipline, but it must be said that the officers who enter the Navy from outside sources very readily conform to the customs and discipline of the service, which necessarily differ considerably from those of the mercantile marine. With the view of making the R.N.R. engineer officers acquainted to some extent with the naval routine and discipline, and the differences existing between naval machinery and boilers and those of the mercantile ships with which they are familiar, the Admiralty have recently established instructional classes at Portsmouth which have been very successful. The R.N.R. officers have taken such an intelligent interest in naval matters that their lordships are now considering the desirability of making these classes permanent. If this be approved, the necessary rules and details in formation will be published as *addenda* to the existing instructions for Royal Naval Reserve officers. Perhaps some of our members will favour the meeting with their views on

this subject, which may be regarded as part of the general subject of the education of a marine engineer."

The HON. SECRETARY: The point upon which Sir John Durston desires our opinions is as to the permanency of the instructional classes recently established at Portsmouth Dockyard. At our recent annual dinner, it was estimated by Mr. Manuel that at the present rate it will be fifty years before all the Royal Naval Reserve engineers can go through a few months' training, but I have no doubt that if the classes were established on a permanent basis their influence would distinctly be for good. There has been a good deal written in the engineering press and elsewhere of late with regard to the position of the naval engineer, especially as to the amount of power which he ought to possess in his own department on board ship. This appears to be one of the standing grievances with naval engineers, and has been referred to from time to time, and, as far as I have seen, the arguments and illustrations strongly go to prove the necessity for an improvement being made in respect to their relations with the stokers and men in their department. Just after the paper on the "Marine Engineer" was read, one of our members in Glasgow (Mr. Dobbie) sent me a cutting from the *Glasgow Herald*, in which the matter was put very clearly; and I have no doubt that these articles which have been appearing in different quarters will tend to an improvement being made. The article referred to is as follows, and I give it with the permission of the editor of the *Glasgow Herald*:

"SHIPBUILDING AND ENGINEERING.

"The subject of the status of the engineers in the Navy is forcing itself upon the attention of the officials, and if the agitators be not indiscreet some action may be taken. But the Admiralty authorities have a serious and well-appreciated objection to anything savouring of combined action in the service, as

it affects discipline more or less, so that the main hope of the engineers rests with their friends or on anonymity, wherein, unfortunately, lurks danger. I have lately had occasion to discuss the subject with some officers of the executive branch, and it is satisfactory to note that there is a growing sympathy even here with some of the claims of the engineers. This is especially so in the matter of allowing the engineer a larger measure of power in his department. At present, if one of the lowest ratings, a stoker or greaser, disobeys orders in any way, he cannot be punished without the sentence of the chief executive officer. This officer may be twenty years the junior of the engineer who appeals for help in maintaining discipline. This is not as it should be, and has been a cause of complaint for years. It is a survival of the old days when there were no propelling engines on board. Admiral Cooper-Key, an old time First Lord, and a distinguished officer, whose biography, by the way, by Admiral Colomb is to be published this week, took the view most pronouncedly that engineers should rank as executive officers, and should be able to give an order to any man in the ship without the possibility of that man disobeying or even questioning the order. That was one of the findings of the Cooper-Key's Committee twenty-five years ago, and even Mr. Goschen when formerly in power at the Admiralty contended that the safety of the ship demanded that the engineer should have well-defined powers. There is surely no difficulty that cannot be overcome in providing this power. At present out of 845 there are only fourteen engineering officers who hold the equivalent of the rank of captain, or one in sixty; whereas in the executive branch there are sixty-five admirals and 185 captains out of 1,676 officers, or one in six; so that to divide the honours fairly there ought to be 140 engineering officers of the rank of captain. Again, there is only one engineering officer to twenty-seven men employed in his branch, against one executive officer to every thirteen

men, so that here again the disparity is as great; but the principal grievance is not so much the disproportion of officers to men, although that affects promotion, as the absence of rank and the authority it brings."

Mr. J. T. SMITH (Member of Council): I was exceedingly pleased to learn from one of our members —a Royal Naval Reserve engineer—that when he attended these instructional classes at Portsmouth he was received in a manner that gave him much gratification; but it seems to me that engineers should be given longer notice of an opportunity to attend the classes. Some means should also be devised by which engineers could be certain of returning to the employ in which they were engaged before going to Portsmouth.

Mr. KEAY (Member): I think it very important that the position of the engineer in the mercantile marine should also be improved and put on a better footing, so far as the control of the men in his department is concerned. A chief engineer cannot log his men without the captain, and the captain and the chief engineer do not always pull together. In the case of a breach of duty or refusal of duty by firemen the chief engineer has no power. The only remedy he has is to take them to the captain, and if the captain declines to log them the chief engineer is helpless. I think the chief engineer should have more control in his own department. Of course the captain is master of the ship, but on the other hand, when the chief engineer is the only man who can really say whether a man has done his duty or not, in such cases he ought to have the right to punish the man—at any rate he should have the right to fine the man. The captain ought certainly to back him up, and if they pull together he does, but unfortunately they do not always pull together.

A hearty vote of thanks to the chairman for presiding, proposed by Mr. AUKLAND, concluded the meeting.