

mates, but such are without the foundation of fact and are forecasts, and so do not carry weight with financial houses. To-day I do not propose to go into this question but would advise those interested to make a careful study of the position as detailed by Major Scott in his paper of July 29th, 1923, read before the International Air Congress, in London.

In the interests of the Empire, therefore, it will be necessary that the Government take a hand during this period either by close association with commercial interests in the form of guaranteeing portions of the capital and by subsidy or by taking all risks themselves. Knowing how close the late Government was to agreement with Commander Burney, I was very gratified to hear, by the reply made on February 18th, 1924, by Mr. Leach, the Under-Secretary for Air, to the question of Sir Samuel Hoare, the late Minister for Air, "that the present Government intimated their decision that there was no change in the policy of the late Ministry as regards air defence, and that they were also anxious to foster Civil Aviation, and that they were vitally interested in the subject of airships, and would do all they could to encourage and foster that branch of aviation."

With this declaration I must close by urging the Government to act quickly and put an end to the intolerable delay and procrastination of the past three years. We cannot let our Empire drift and the time has now come when our Empire trade must be quickly developed to its maximum. Airships can be a big factor in that development and simultaneously strengthen our Navy whilst decreasing its cost.

Since I wrote out these few words I have had interviews with the Secretary for Air and with other members of the Cabinet, and I am assured by them that they are keenly interested in the subject of speeding up air communications. They have definitely decided not to drop airships, but the method by which they will get the support of the Government is not yet determined. They, however, gave me the most definite assurance that they would as soon as possible get on with the matter, and when they have made up their minds as to how to support airships, they will then be prepared to give a supplementary measure regarding the proposals which have been before them for three years. I can only hope that definite proposals will soon be put forward before the House and duly sanctioned.

DISCUSSION.

COMMANDER BOOTHBY :—I think we all agree with Mr. Ashbolt's remarks as to the possibilities of a service to India, and if the route is properly surveyed first, there is no doubt that it would be a success. I do think that the Air Ministry should do as the Admiralty has done, and put a survey party on to the

routes first. I believe the Government are going to do something like this. I was talking to one of the German pilots about these Eastern routes, and he informed me that they had all sorts of difficulties in their trip to Khartoum during the war, and had to drop all their cargo before they got home. It is largely a question of the gas-bag fabric, and it is believed that we now have a satisfactory material, but tests on the route should be got through before establishing a service.

Mr. Ashbolt mentioned about the £40,000,000 worth of stores, etc., that have been scrapped. He did his best to save them, but it is appalling to think of the damage done in this way. Good sheds and good accommodation for the personnel were designed and built to last for years, and yet they scrapped those at Selby, Longside, East Fortune, Cranwell, Inchinnan and Kingsnorth (which should have been the station for London). Howden, the largest airship station in Europe, is now being demolished. All will have to be built up again some day.

Re airship masts, I think it is most important to know their history correctly, as they have such an influence on flying. The people who really started the airship mast are very seldom heard of in these days. In the Royal Aero Club there is a cartoon by Cruickshank showing a mooring mast built of granite, but the first practical mast was at Barrow, and Admiral Sir Reginald Bacon ought to have the credit for it, as he was Controller of the Navy when Naval Airship No. 1 was laid down, and sanctioned it. Both Scott and Masterman have added improvements—one for rigid, and the other for non-rigid, ships, while the Royal Aircraft Factory at Farnborough did some useful experimental work in 1913.

We have heard much in the press lately about the Burney scheme, and that it will be a great disaster to the country if the scheme does not go through. It is inferred that he has a special heavy oil engine. It would be interesting to know what this is. He cannot use the hydrogen-paraffin engine, as that belongs to another company, and no other heavy oil engine has yet reached the flying stage, as far as is known. If he really has a new engine, or any other airship patents of value, we shall be glad to hear of them.

As far as I can gather, this route out East is going to be encouraged by the Air Ministry, and what we want is to get every possible commercial firm running on that route. The Conservative Government wished to give a monopoly, but I think that the best scheme is to encourage all firms by giving them special rates for fuel, gas, harbour dues, and possibly insurance, so that everybody can come in. I have the authority of one of the principal shipping companies running to Australia for saying that if it can be proved that an airship will pay $\frac{1}{2}$ per cent., all the biggest shipping companies will go in for them as auxiliaries to their existing fleets.

I think we are very much indebted to our lecturer for the interest he has taken in this matter. He was one of the first people after the war to realise the importance of such a scheme, and what we hope is that more business men will see its possibilities in the future.

DR. THURSTON :—I must respond to the invitation to say something on this very interesting subject, though I know nothing about airships, except that when inside one I found it very comfortable. I am certainly convinced that there could be no better way of linking up the Empire than by an airship service, and the only thing I can say is : Why don't our Members of Parliament get the scheme going, when we, as engineers, will soon get the airships and engines going as well as we can. Of course, it would be possible to pick out and string together a telling address about the artistic views, the wonderful air, the glorious beauty of it all, and how we shall simply be able to jump into our airships and go sailing away to Australia, or, better still, New Zealand.

I am very much in sympathy with the whole thing, and only wish I could just supply a little initiative to help to set the scheme going. We cannot devote too much time, energy or money to it. If we can increase the means of communication and decrease the expense, making it possible to get quickly from one part of our Empire to another, then we are helping to develop it and make it more powerful.

MAJOR GNOSPPELIUS :—I should very much like to ask Mr. Ashbolt one question. We live in this smoky country, and we know that the weather is a most important factor for aerial transport. It is very possible that our country would be the worst part of the route in that respect. I know the tropics, and the weather conditions there are very much better, but I do not know anything about Australia. I should very much like to hear if the weather conditions there are steadier than ours, which are never the same two days together. I rather fancy that Australia and such parts are better.

If you have steady weather you can guarantee your running, but with fog and such things the difficulty will be keeping to schedule over North-West Europe, where the conditions are worst. I think that is one of the chief problems in running these things. An airship has the advantage that it can wait for the weather, but it is not very cheerful waiting for two or three days until you can see your way down. That is one of the difficulties which I foresee. Even trains are held up by fog, and I am sure an airship would suffer to an equal if not a greater extent.

MR. ASHBOLT :—As far as Australia is concerned, I do not think you would be delayed one day in ten years through fog. The weather conditions in Australia are almost as ideal as you can possibly imagine. In the route going down towards Perth they have been running for eighteen months with hardly a single hold-up for weather, and unless there was a very high gale there would be nothing to cause trouble. It was in order to discover what weather conditions would operate that a two-year experimental period was proposed. During that first two-year period there would only be two or three boats flying, instead of a fleet, so as to get actual flying knowledge and enable the charting of the upper currents to be made during that period.

There is no doubt that, with wireless and proper meteorological arrange-

ments, it could be ensured that no airship should ever be in the middle of a storm, but should go round it.

CAPTAIN SAYERS :—It was once my fortunate experience to spend about 18 hours on R.36—the only British ship which was properly fitted for passengers—and I must say there is no method of travel in existence which can compare with an airship for absolute comfort and peace. The only drawback on that ship was that there was not enough food and drink on board, but I am perfectly certain that once airship travel has come into existence, no one will ever dream of travelling by train or steamship again if he can avoid it. From the point of view of comfort and the feeling of security the airship will have very little difficulty in persuading people to use it.

There is one rather curious thing about the development of all forms of transport. Examine the conditions of transport in this country. Take railways: if you take the amount of money that has been lost and the amount that has been returned to the shareholders, you will find they have not paid. Shipping, if we can believe what we are told, scarcely pays, while at the present moment the traffic of London is disorganised because it is claimed by the transport companies that London transport does not pay sufficiently to provide its personnel with a fair wage.

It is therefore obvious that under fairly good conditions transport is not a paying proposition, and therefore we are going to have very great difficulty in carrying on a new form of transport and persuading business men that it is going to pay. The business man of to-day is not so adventurous as was the case 50 years ago, and he is not prepared to gamble in a new form of transport.

It therefore seems certain that we shall not get air transport of any kind except by Government support, and that being the case, it is quite obvious that we have got to make the Government support it. One of the most disquieting things at the present time is that advance of any kind has become practically a political matter, and, therefore, advance has to be slow. It is no use complaining that our Government has wasted £40,000,000; we ought to be thankful they have not wasted £140,000,000. We may apparently hope that as Governments to-day appear to be tending towards a little of the enterprise which commercial people have lost during the past century, air transport will eventually come into its own, but not for a very long time yet.

COLONEL HACKING :—As one who has taken a great interest in aeronautics, and as one who knew several of the crew of R.38, I think perhaps I might make one or two remarks.

Every enterprise goes through certain vicissitudes. One of the tragedies of the airship is that, so soon after the successful trip of the R.34, the destruction of the R.38 occurred. It was not only the tragedy of the destruction of a new airship, but the tragedy of the death of those who were on board. That has been followed by the tragedy of the Dixmude, so you have to get over those two very important facts.

I am sure we all agree with Mr. Ashbolt in his ideas on a line of airships. It is in a sense a national question, and, like every other national question, it is one on which we must look to the Government for financial assistance, which can alone make development possible.

If you go back to any other industry you will find as a general rule that development has progressed, not because of the Government, but in spite of it. The Government never did much for railways, and I daresay it is just as well they never tried, but we have to look at this question as a matter of research. The Government did assist research during the war, and have assisted it since, with some success. We have to look at the question in the first place as an experiment, and there are certain directions in which the Government can possibly be induced to assist.

First, I think if perhaps might follow the lines of the assistance which the Government have given—and gave : before the war—to the development of the commercial motor-vehicle industry. They started a subsidy scheme, thus providing a precedent which they could follow in the case of airships. As a quid pro quo they would expect the airships to be placed at the disposal of the Government in time of war.

Secondly, there is the question of insurance. People still have an idea that to travel to Paris or Cologne is a risk that nobody should take, and that the ordinary insurance policy is void if travelling by aeroplane. The insurance companies are chary of entering upon a risk which they cannot ordinarily calculate. The Government, therefore, should not only subsidise, but should also assist in the matter of insurance if the insurance companies will not do so themselves.

Thirdly, there is the establishment of stations on trade routes. That is a matter which can be worked in not only with such an airship service as is contemplated, but also for the development of aeroplane depots in all parts of the Empire.

With those three considerations commercial enterprise should be able to play its part. I should be sorry if the Burney airship scheme was undertaken by the Government themselves as a commercial enterprise. It is not their business to undertake it, but I think some progress might be made if, in the discussions in the House of Commons (in which I am sure Colonel Moore-Brabazon will take a large part), it can be driven home to the Air Ministry how necessary it is to first subsidise commercial enterprise by certain sums on the lines indicated, secondly to provide a scheme of insurance, and thirdly to establish airship stations on the trade routes. I think that under those conditions some progress might be made.

A very hearty vote of thanks to Mr. Ashbolt for his interesting paper was proposed by the Chairman and passed unanimously, and after Mr. Ashbolt had briefly responded the meeting closed.