

and incredible ferocity ; there is the danger of conflagration in a ship composed of highly inflammable material. How can dangers such as these be ever surmounted ? I would like the Conference or the committee to examine my experts as fully as possible upon all these points. I need not tell you that, being a very cautious person myself, I have examined them again and again upon them. They and I are very far from being reckless optimists. Indeed, our attitude towards this great problem has been well described by a well-known Cambridge scientist as an attitude of " healthy cold feet." What I would say without fear of contradiction is that great progress has been made on both the theoretical and practical side during the last two years, and that we can claim to have made the fullest possible use of scientific theory, of full-scale and model experiment, of the testing of materials, and, by no means least important, of the study of meteorology. We believe that we have discovered many of the weaknesses and surmounted many of the difficulties that occasioned the failures in the past. I will give you two or three instances of what I mean. The structure of both the airships that are being built will be incomparably stronger in the matter of material than the structure of any airship that has been built in the past. I hope that the members of the Conference will find time to visit our construction shed at Cardington, where they will see for themselves the great advance that has been made in both design and material over anything that has been previously attempted. As to weather, the pages of my memorandum describe in great detail the intensive study that the Meteorological Department has made of the conditions of the air over these shores and on the route to India. You will find a series of most interesting maps showing the scale and detail to which the study of weather conditions has been carried. Accurate climate and weather reports are quite essential to the development of airship routes, and not only from the point of view of safety. For it should be remembered that, whilst from the point of view of safety it is essential that the airship should be able to avoid storms by means of weather warnings, it is no less necessary in the interests of speed and economy that the airship should make the fullest possible use of the prevailing winds upon the various routes. There is another way in which the danger of sudden wind currents has been met. Representatives of the Conference will see at Cardington the newest type of mooring-mast. The mooring-mast is a post-war invention of great importance from the fact that it enables the airship to be easily moored without the risk involved of pulling a structure 700 ft. long into a shed.

Then again, we have tried to meet the danger of conflagration. The airship that is being built at Cardington will be equipped not with petrol but with heavy-oil engines. This change shows a great advance in the way of safety, and particularly in the case of airships operating in tropical climates.

Mooring-masts and Meteorological Services in Overseas Countries for Demonstration Flights.

In all these directions, then, we have made a serious and scientific effort to avail ourselves of the lessons of the past, and to avoid the dangers that have hitherto been so formidable. Slowly but surely our programme has been developing. In a year's time the two great airships should be completed. It is then proposed to carry out adequate home trials, and subsequently to fly at least one of the airships regularly to and from India for a full period of trial in tropical conditions. When these trials are completed, it is hoped, if the Dominions so desire, to make demonstration flights to the capitals of the Empire. The details of this programme I hope to discuss fully at the sub-committee. To-day I desire only to emphasize one very important feature of it. If the demonstration flights are to take place to Australia and New Zealand, to Canada and South Africa, the co-operation of the Dominion Governments is essential. We cannot fly the two airships to the Dominions even for demonstration flights unless two conditions are satisfied : Firstly, there must be mooring-masts to which the airships can be attached at the end of their journey ; secondly, there must be meteorological data upon which the choice of dates for the flight can be based, and a meteorological organization for keeping the airship supplied with the necessary weather intelligence. These two conditions are vital to the programme, and, what is more, they are very urgent. Although the expense need not be heavy, the provision of masts and meteorological organizations takes a considerable time to complete. I am advised that this provision will take as long as two years to carry into effect. You will at once see the bearing of this fact. If the programme of demonstration flights is to be carried out without delay, the orders for the mooring-masts ought to be given immediately, and arrangements made without delay for the meteorological organizations. I have with me the estimates of cost for the masts and meteorology, and I am prepared to discuss them either at the Conference or at the committee, according as is more convenient. I will now only say that the provision of both masts and meteorology does not involve any very large sums—the masts and their equipment may cost £70,000 apiece, and meteorology should not entail more than a relatively insignificant expenditure. I much hope, therefore, that the Dominions concerned will examine as sympathetically as they can my request that they should, by ordering without delay the masts and by organizing the necessary meteorological services, enable us to carry out without check or hindrance a series of demonstration flights that may mean a revolution in the means of Empire communications.

Commercial Airship Lines with the Dominions : Imperial Air Conference suggested.

There is a further and no less important side of airship development that I desire to discuss in detail at the committee—the question of developing this stage of airship experiment into the further stage of commercial airship operation. I wish to see a commercial airship line started at the earliest possible moment between Great Britain and the various Dominions. When it can be started and how it can be started are questions that I suggest that we should discuss at the committee. It may be that we shall find that the question must be kept under the closest attention during the remainder of the experimental period, and that further conferences are necessary between the Dominions and ourselves before the normal date of the next Imperial Conference. Will it be possible to hold some time between