

## LORD WEIR ON THE FUTURE OF FLYING

On December 20th, Lord Weir, Secretary of State for the Royal Air Force, visited the National Aircraft Factory (Crossley Motors, Ltd.), at Heaton Chapel, and was presented with a D.H. 9 machine subscribed for by 7,000 members of the A.I.D. In handing over the machine, Brig.-Gen. R. K. Bagnall-Wild, Controller of the A.I.D., said it was a token of appreciation of the staff's loyalty to their country, of the work done by the R.A.F. and pilots, and in token of gratitude for the way in which Lord Weir had ruled, guided and helped the A.I.D. staff.

Lord Weir said he accepted the aeroplane as a mark of the patriotism and generosity of the staff of the A.I.D., who, by their care and watchfulness, had earned the confidence of all the pilots and observers in the machines which it had been their duty to fly.

The machine was christened "A.I.D." by the Lady Mayoress of Manchester, who was then presented with a silver salver by Sir Kenneth Crossley on behalf of Crossley Motors, Ltd.

Lord Weir, accompanied by the Lord Mayor and Lady Mayoress (Alderman and Mrs. Makeague), Sir Kenneth Crossley, and the other members of the party, subsequently made a tour of the works, and saw some 300 aeroplanes in the process of construction.

Lord Weir was afterwards entertained to lunch by the Lord Mayor and Corporation of Manchester, and in responding to the toast of his health, drew attention to the growth of the R.A.F. In August, 1914, the Flying Services consisted of 285 officers and 1,853 other ranks. In November 1918, the strength of the Royal Air Force was 30,000 officers, 260,000 men, and about 30,000 women and boys. Some 15 per cent. of the flying officers in France were Canadian by origin. In the same period the number of aeroplanes and seaplanes had grown from 211 to 22,000, and against four small squadrons, we had 191 squadrons at full strength, and 60 in course of formation.

Turning to the development of aviation for civilian purposes, Lord Weir said:

"Any adequate survey of the future of civilisation must involve an enquiry into the future of transport. For transport is that which welds civilisation together, and its function in human progress is extremely important. We have hitherto had transport by land and transport by water, and to-day we have, in actual practice, transport by air. It may well be—but I am not here as a prophet—that the new mode of transport will one day rival, and even surpass, the other two. At any rate, the compelling influence of a very grave national danger has resulted in an intensive development of aviation, which when compared with the development of any other scientific and economic factor in our lives, seems not only astounding, but somehow artificial. Nevertheless, it has been a real development. The thing exists; and the problem before us is the problem of transforming that which has exclusively served the ends of frightfulness into an organism which will serve in the completest way the infinitely more valuable ends of peace.

"I want to-day to visualise for you, if I can, the method and the extent to which a nation inheriting from the War a legacy of aerial experience fuller, perhaps, than that of any other nation, can reinvest and adopt that inheritance for the bettering of mankind. Let me give you one little indication of the progress we have achieved in the mere mechanics of aviation. And let me admit that even those of us who live in the heart of this great business have scarcely grasped the significance of the prodigious strides made during the later months of the War. I will offer you just a single fact. We now possess aeroplanes which carry a crew of seven and passengers to the number of 30, which climb to a height of 10,000 ft., which travel at a speed of 100 miles an hour, and which can make a journey of 1,200 miles without a stop. We possess such machines for travel over land, and similar machines which, if necessary, can come down on the surface of the seas, float, and rise again with their full load. We have designed and constructed these machines; we have tested and tried them in every way; and, either actually delivered or under construction, we possess them in substantial numbers. So much for the mechanical or constructional side of aviation.

"But aviation must be viewed in two aspects—the constructional aspect and the operational aspect. There is the technique of the material, and there is the technique of the use of the material. It is not enough to make machines which are marvels. We must be able to navigate the machines and organise that navigation, to the last limit of the possibilities of the machines. This is what I call the operational aspect; and I have to say with the strongest emphasis that

there has been, and still is, a serious danger of it being overlooked, or at all events slighted, in favour of the constructional or manufacturing aspect. There is a serious danger that the adventurous and sometimes rather reckless commercial enterprise of the air industry may result in disappointments, unless the operational side of aviation is kept prominently in view. I perceive no immediate limitation on the constructional side; but I do perceive limitations on the operational side.

"The technique of flying and the organisation of air transport still demand long study and many experiments for their perfecting. True, wondrous 'stunts'—I feared that I might succumb to that popular word, and I have done so (laughter)—wondrous 'stunts' are performed in the air, and these 'stunts' have been immediately useful in the art of war, and they will continue to be useful for the testing of machines. But gymnastics and acrobatics in the firmament have really little to do with the operational side of aviation. The air traveller of the future will have no desire to take part in a circus. He will want to be sure that on a given day, to be settled in advance, he can leave, say, London at a certain hour in the morning and arrive, say, at Marseilles at a certain hour in the afternoon, whatever the weather.

"I am an enthusiastic optimist about the future of aviation, but I hope my optimism is sane—may I divulge the fact that I come from Glasgow?—I say I hope my optimism is sane, and therefore I shall venture to insist that at this highly critical period in the history of the new transport nothing but harm can come from not facing the facts; and I will add my opinion that the future may be gravely prejudiced by impatience for showy results. The success of the operational side of air transport will depend upon measures which cannot be carried out in five minutes. These measures are:—The development of the navigational instruction by really sound and severe navigational training, the creation of an energetic meteorological service specially designed to help air transport, the adoption of improved systems of wireless telegraphy and telephony, and the adoption of a first-class system of day and night marking of landing-places and aerodromes. If these measures are taken, I am quite clear that five years hence there will be no more difficulty in navigating an aeroplane over a long course in foggy or otherwise bad weather than there is now in navigating a ship. If these measures are not taken, if hard and continuous experimental study is not put into the problems yet unsolved, then trouble, delay, and discouragement will certainly ensue. I am happy to say that already we have machines so devised that they can land safely at definite gliding angles entirely without human control. This means that, when the pilot can set his instruments by means of a kite balloon anchored in clear air, he will be able to land with safety in an aerodrome completely fogbound.

"Having stated certain general aspects of the matter, I now come to the question: What part is the State to play in the developments which I have foreshadowed? This question, I am well aware, is as prickly as a hedgehog. There is only one satisfactory way of handling hedgehogs—and that is, to seize them with a peculiar light firmness. If you are in two minds about the prickles of a hedgehog, you are lost. I therefore seize this particular hedgehog with a peculiar light firmness. It has been argued that, since the whole of aviation is actually in the hands of the State, the State can start fair and run the whole of aviation in the future as a Government monopoly, just as it runs the Post Office, and as—I hear from Dundee—it will shortly run the railways.

"Well, I have had considerable experience of private enterprise, and I have had a shorter but far more exciting experience of Government enterprise. Both, in my opinion, decidedly have points. But I do not think that the best ends of civilisation will be served by keeping civil aviation for a Government monopoly. I am convinced that co-operation between the activities of the State and the activities of the private firms will produce the finest results. The State must be the pioneer—it must help, it must encourage, it must guide, it must exercise control, it must be in a position to say 'Thou shalt' and 'Thou shalt not'—but emphatically it must not monopolise. And I am sanguine enough to conceive a Government Department which will be, not an autocrat, but an elder brother to both the constructional and the operational sides of aviation.

"I will tell you one or two things about such a Department. It must be in the charge of few men, but of the best available men; and they must be highly paid. It must be in the charge of men who are accustomed to wait patiently for results, not of men who want to be in the middle of next