

# The Helicopter Association of Great Britain

## THE FOURTH ANNUAL DINNER.

*The President : J. G. WEIR, C.M.G., C.B.E., F.R.Ae.S., in the Chair.*

### A VERY NOTABLE SPEECH.

Major-General R. H. BOWER, C.B., C.B.E., Director of Land/Air Warfare at the War Office, was the Guest of Honour at the Association's Fourth Annual Dinner, which was held at the Hanworth Park Hotel, Feltham, Middlesex, on the 23rd September, 1950.

The General's speech, in reply to the toast of "The Guests," came as a fitting climax to a day which is likely to be remembered by the ninety or so members and guests who were able to come to Hanworth.

Mr. VON BAHR's entertaining lecture in the early afternoon was followed by the landing of the Westland S-51 helicopter on the lawn before the members assembled on the steps of the hotel. The Bristol 171 was then beautifully demonstrated after a pretty display of flying by two C.30 Autogiros. The Bell 47 was on view, and there was a show of some ingenious flying models.

The lecture and films gave proof of what has been done in the past under difficult conditions and in remote places using a now obsolete aircraft, and the powerful modern machines had demonstrated the present possibilities. So members were in a mood to listen eagerly to a speech which gave more than a glimpse behind a curtain which some of them may have felt has been drawn overlong. However much the opinions given are personal to the speaker they cannot be taken lightly, since he is an expert on such matters. Major-General BOWER was responsible for the detailed planning of many large airborne operations, and he is the man now responsible for policy and equipment requirements for the Army wherever it touches aviation.

### The President.

In proposing the health of "Our Guests" the President first remarked on the choice of the place for the dinner. He thought it a happy one for it was ground hallowed by historic events; if not the actual birthplace of the Association it was next door to being conceived in that place. The President then glanced back over the past year. Of the loss of our Chairman and friend, ALAN MARSH, and those who perished with him, he said, "We must take their memory as an inspiration to pursue our purpose, which is to remove the dangers and to help the development of a vehicle which we all firmly believe will greatly extend the limits and applications of our conquest of the air." The President mentioned the first British scheduled helicopter passenger service, between London and Birmingham during the British Industries Fair, and stressed the great importance of the inauguration of the British European Airways Cardiff/Liverpool service, involving implications of major policy in regard to the whole of our internal air communications. After welcoming Mr. NORMAN HILL as our new Chairman and thanking him for accepting the onerous duties of his post, Mr. WEIR said that he hoped that a growing appreciation of the importance of our

activities will be reflected in an increase in our membership figures, satisfactory though these are in view of today's difficult times. In associating Major-General BOWER with the toast, the President pointed out that the General's experience and present duties make him particularly aware of those characteristics of the helicopter which have such a great potential value. It was our task to help to develop those characteristics and to overcome its present limitations, and therefore anything that General Bower might say in this regard would have for us the greatest interest and significance.

### **Major-General Bower.**

In replying on behalf of the Guests, Major-General Bower said :—

“ I and my fellow guests are indeed honoured to have been asked to your Annual Dinner tonight. We are most grateful for your kind hospitality and for the way in which the toast was proposed. Personally, I feel specially honoured as I notice that I am practically the only layman in an otherwise highly select aeronautical gathering.

It is very gratifying to find that there are so many distinguished men who are concentrating on a problem which is likely to be of vital consequence to the Army, and I for one am watching the development of helicopters, both here and in America, with expectation and even impatience, and I am not the only person who is impatient. I find that when I lecture to the various Staff Colleges and elsewhere I am always asked about the progress of helicopters, and why an aircraft of such obvious value to the Army is not already in use. So I can assure you that it is not only my attention which is fixed on your work.

Before I enlarge on the reasons for the Army's wish to have the use of helicopters, I must explain that I am not voicing the considered policy of the General Staff in the War Office, and still less of the Air Ministry, from whom all orders for aircraft originate. I can only give you my own opinion as to the Army's future requirements, and I hope you will not rush into production as a result of my remarks and then send me the bill !

In the future, we think that there are requirements for three types of helicopters in the Army. The first is a light two-seater which will be required for Air O.P. use in the areas which for various reasons preclude the construction of air-strips.

Then we shall want a four-seater helicopter for such purposes as evacuating casualties, a few of which as you know are already operating in Malaya, and for the movement of Commanders and Staff and for carrying messages, letters and so on.

This will be our general purpose helicopter and the one which we hope will be made really easy to fly. It has been agreed that these aircraft operating in front of Army Headquarters shall be flown by Army pilots, but we do not expect to be able to provide officers for this purpose, and the pilots will be mainly Sergeants of the same type that used to fly our gliders in the last war. It is essential that these aircraft shall be made so that they are simple to maintain and easy to fly.

Finally we shall almost certainly need a heavy lift helicopter, unless some genius can produce a converter plane which will get the best of two

worlds. This heavy lift helicopter would be required to have a pay-load of the order of three to five tons.

It seems that the provision of the first two types, the two- and four-seaters, will not be too much of a problem except from the point of view of initial cost and the training of pilots. But the heavy lift helicopter is, I understand, a much more difficult proposition, and so I had better explain why I think that we in the Army shall require it.

It seems to me that there are both tactical and administrative advantages to be gained. It is difficult to predict the tactical advantages which should accrue, but they probably include landing of troops and stores from ships in combined operations, use on *coup-de-main* operations, the quick forward movement of bridging material, crossing of minefields or rivers, and even establishing radar stations on the tops of hills. Then there will be the movement of troops and reserves, and it might even be possible to use helicopters on airborne operations if remote from enemy defences.

At present we think that these tactical advantages would be somewhat reduced by the great vulnerability of helicopters as compared with gliders or powered aircraft. Their vulnerability is such that they must generally fly above or beyond the range of small arms fire. There is therefore possibly a case for improvement in their power of manoeuvre, and particularly in rapid descent, which might give some measure of protection against enemy fighters.

Personally I feel that this vulnerability factor is such that the main use of the heavy lift helicopter will lie in areas which are out of range of enemy A.A. and small arms fire.

On the administrative side there are also great possibilities. I think that the main advantages of the helicopter in the administrative field lie in its great flexibility, and in the fact that it can move stores direct from base to user, thus eliminating the need for many handlings by large numbers of men. In terms of administrative advantage there should be big dividends here, not only in economy of road transport but also in such things as wear and tear of certain key roads, elimination of the need for bridges, and so on. But if you work out the logistic data behind these military advantages, the figures are not as encouraging as one would wish. Assuming that a three-ton helicopter in full production costs £40,000, the initial cost would be forty times that of the three-ton lorry. As, however, I think, allowing for 50% serviceability rate, the three-ton helicopter will do the work of four three-ton lorries the initial cost factor might be reduced from forty to ten.

It is possible that maintenance and running costs, excluding manpower, would be in about the same proportion, and to this must be added the cost of training helicopter pilots or converting them from normal aircraft. From these figures I deduce that in terms of money helicopters would be about ten times as expensive to operate, and in terms of manpower I think they would be about twice as expensive to operate, as a corresponding lift of three-ton lorries.

I have so far said nothing about payload/range because this, in my view, is not as important a feature as one might imagine. Naturally one would always like to have the greatest possible payload/range, but as the purpose of the heavy lift helicopter in the operational area will be to reduce road haulage and all the overheads that go with it, I would say that a radius of

300 miles at full payload would suit the Army well, though this might not meet the R.A.F. requirement.

I hope I have indicated to you that although the military advantages of the heavy lift helicopter should be great, the expense in production and operation may be held to offset these advantages in some degree. The trouble is that while the manpower and financial drawbacks can be predicted in actual figures, the military advantages to be derived by its use cannot. That is why it is so difficult to make a case for an aircraft which does not yet exist except in prototype form.

Personally I am quite sure that there are great dividends to be gained, certainly by us, and I hope also by you, from the development of the heavy lift helicopter. From the military point of view I feel that the bigger the helicopter the bigger the dividend, because overheads should be proportionately reduced. But the helicopter must be easy to fly in all weathers and at night, it should have a good power of manoeuvre, and be easy and quick to maintain and load. There is a great field for progress which the Army is awaiting with keen expectation. We realise that true economy is something more than the mere non-spending of money and if by using new and improved methods we can shorten a war by even one day, we and you will have achieved something that is certainly worthwhile.

I cannot leave the subject of the heavy helicopter without mentioning the irreparable loss we in the Army feel in the death of Squadron-Leader ALAN MARSH and his associates who did so much towards the development of this important aircraft.

I hope you will forgive me if I have detained you for too long, but I felt that this was an opportunity which I should not let slip to tell you how some of us in the Army are thinking and what we feel we shall want. Finally, may I once again, on behalf of my fellow guests, thank you for giving us such an excellent dinner and such an interesting and enjoyable evening."

Major-General BOWER was followed by Major OLIVER STEWART, Editor of "Aeronautics," who proposed the toast of "The Association" in a very entertaining speech in which he stressed his belief in the great part to be played by Rotating Wing Aircraft in a balanced pattern of aviation. Mr. N. E. ROWE, C.B.E., replying, gave reason to believe that British European Airways are not wavering in support of helicopter development.

A fuller record of the day's activities, with a further note on the evening's principal speaker, is contained in the number of the Bulletin which should appear concurrently with this journal.