

# THE FULL DAY DISCUSSION ON HELICOPTERS

*A Joint Meeting with The Royal Aeronautical Society was held on Saturday, 20th November, 1948, in the hall at the Institution of Civil Engineers, Great George Street, Westminster, London, S W 1*

The Meeting was divided into three sessions: Morning, Afternoon and Evening. The Morning Session was presided over by DR H ROXBEE COX, D I C , F R A e S , F I A e S , President of The Royal Aeronautical Society, the Afternoon Session by H A MARSH, A F C , A F R A e S , Chairman of the Helicopter Association. The Evening Session was devoted to General Discussion. The idea of holding the Meeting originated with The Royal Aeronautical Society, who extended an invitation to The Helicopter Association to participate. Normally the publication of the papers presented to such a joint meeting rests with the inviting body, but in this instance the Association also expressed a desire to publish the papers, which was readily agreed to Royal Aeronautical Society by the R A e S. For this, and for the very considerable assistance which has been given to the Publications Committee by the Society's Editorial Staff, the Association is greatly indebted.

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## MORNING SESSION

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### General Problems of the Helicopter for Civil Use

DR H ROXBEE-COX, D I C , F R A e S , F I A e S ,  
*President of The Royal Aeronautical Society*  
in the Chair

The CHAIRMAN opening the meeting, said he supposed that in aeronautics the helicopter was the dream which had taken longest to come true. He believed that LEONARDO DA VINCI had dreamed it and he was certain that JULES VERNE had done so. But there was a long period in a sort of borderland between dream and reality when helicopters were made which either did not fly or only just did so.

In the past few years the helicopter had truly become a reality, there were many years of research and development ahead, but the helicopter had arrived. In the Royal Aeronautical Society the helicopter had for long been one of the matters to which close attention had been given and in the past a number of eminent people had presented papers on the subject as well as on its sister, the "Autogiro," before the Society and one or two eminent people had also given lectures against the helicopter and the "Autogiro." In recent years the helicopter had attained such importance, and its potential had been so widely recognised, that those who were enthusiastic for it had felt the need for the creation of a Helicopter Association, in fact the Association had come into being in 1945 and had done a great deal of good work since. Many of its members, were also members of the Royal Aeronautical Society.

It was fitting, therefore, that the two bodies should meet together to discuss a matter of common interest, one which was the sole preoccupation of the Helicopter Association and one which the Royal Aeronautical Society

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believed to be of vital importance. Thus the joint meeting had been arranged, which they were glad to see was well attended. As President of the Royal Aeronautical Society, he was glad to acknowledge how much the Society welcomed the co-operation of the Helicopter Association in that joint effort.

He then introduced Wing Commander BRIE, and complimented him on the tremendous service he had rendered to the development of the helicopter and the "Autogiro". It was as long ago as 1935 that he had made history with an "Autogiro" off and on a ship at Spezia in Italy, and had repeated that sort of thing since. He did it in 1942 in Chesapeake Bay, and he had been an example and a stimulus to everyone engaged in that field, which was not always quite so popular as it had become today. He was with the Fairey Aviation Company just after the war, and since 1947 had been in charge of the Helicopter Unit of the British European Airways Corporation. He held Helicopter Aviation Certificate No. 1, was a Charter Member of the American Helicopter Society and a Founder Member of the Helicopter Association of Great Britain.

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## The Operational Point of View

By Wing Comdr R A C BRIE, A F R A E S, A F I A E S

Although barely two years have elapsed since the helicopter was first certificated for civil use, the problem associated with its operation are sufficiently well defined to enable their nature to be discussed with reasonable facility. Actually, of course, there are twenty-six years, including many tens of thousands of flying hours behind this particular development, and it is quite logical therefore that the most advanced and successful type of helicopter to date embodies the basic and well proven rotor features of the Cierva Autogiro.

There is still much to learn, however, and at this stage of development it has in many ways been advantageous that, so far, the field of operational use has been a professional one. Difficulties have been minor rather than of a major category, but circumstances could easily have been otherwise had there not been constantly available the requisite background of skill and experience not only to cure, but what is of equal importance, to anticipate and prevent trouble before it could assume proportions of a serious nature. Additionally the limited number of helicopters in use has encouraged and made possible a rather intimate and desirable liaison between constructor and operator, which in turn has given the aircraft a reasonable opportunity to establish itself and prove its value under strictly controlled conditions of inspection and operation.

Essentially a product of the mechanical engineer, the helicopter with its clutch, gear boxes, driving shafts, universal joints, together with numerous ball, roller and needle bearings is a mechanism comparable in many ways to that associated with more normal and accepted means of surface transport. That with the aid of this transmission system the helicopter is capable of becoming airborne with an adequate degree of control is in itself remarkable. The fact that it also has performance characteristics which enable it to be