

## AERIAL SURVEY MAKES GOOD

### A Busy Time Promised for the New Year

ALTHOUGH an unsubsidised branch of the Aircraft Industry aerial survey and photography, with both home and foreign concerns, has for some time past been steadily paying its way, Not only so, but it seems that business in this direction is increasing fairly considerably, while further developments in the future—when the full possibilities and advantages of aerial survey become to be even more widely appreciated—give promise of still greater activity.

In the last issue of FLIGHT for 1927, brief reference was made to a new contract secured by the Aircraft Operating Co., Ltd., in Iraq, and now we are able to give further details of this contract, and also of another contract secured by the same company in Africa. We are also able to give some particulars of the survey work of another British firm engaged in this capacity—the Air Survey Co., Ltd.

The Aircraft Operating Co.'s Iraq contract comprises an air survey of some 1,000 square miles of territory, adjacent to Baghdad, and work will be carried out in the late spring of this year. Under this contract, they are to make a mosaic of the area on a scale of 6½ in. to the mile, and also prepare maps from the photographs on a similar scale. This survey is being carried out for the purpose of pump irrigation.

In order to carry out this work, the Aircraft Operating Co., are equipping another expedition, and it is anticipated that this contract will be followed by several others in the neighbourhood—just in the same way as further contracts followed the one in Rhodesia as a result of the work they have carried out for the Rhodesian Congo Border Concession, Ltd.

Up to now, the Aircraft Operating Co. have concentrated on work in Africa, but the securing of this new contract is the first step in the policy for extending the company's air survey work to India and the East, where a very large field for development awaits the air surveyor.

The Iraq survey is of particular interest, because of the many developments which are taking place in that country, and recently important oil-field development work has been carried out there. The air survey operations which are to be carried out may possibly yield information of archaeological interest, as already the Royal Air Force have taken aerial photographs in the Near East, giving most valuable archaeological information.

The southern part of the area to be surveyed is bounded on the west side by the River Tigris; this river runs across the central portion of the area, and then forms the eastern boundary of the proposed survey.

In Rhodesia, the Aircraft Operating Co. are just on the point of completing the contract for The Rhodesian Congo Border Concession, Ltd., and are undertaking an air survey of the Zambesi River for the Government of Northern Rhodesia, and also taking aerial photographs of Livingstone, Lusaka and Broken Hill for town planning purposes. An extension of the Zambesi survey along the Lungwebungen River in Angolia will be carried out for the Benguela Railway Co., while a contract has also been secured to take aerial photographs of part of the boundary between Northern Rhodesia and the Belgian Congo for the Boundary Commission.

Finally, a new contract secured is with the Government of Northern Rhodesia, under which maps are to be prepared of some 12,000 square miles of uncharted territory from photographs which the Aircraft Operating Co. have already taken.

Turning now to the work carried out by the Air Survey Co., Ltd., in India, the first Air Survey in India was that of 1,400

square miles of the Irrawaddy Delta, which was carried out by Mr. R. C. Kemp in the season of 1923-24.

Since that date numerous large contracts have been completed by the Air Survey Co., Ltd., of which Mr. Kemp is the managing director, and Col. C. H. D. Ryder, C.B., C.I.E., D.S.O. (ex-Surveyor-General of India) is the chairman.

It is interesting to note that this company has been responsible for all the commercial air surveys which have been carried out in India and throughout the East and that they have been continuously engaged on this work since 1924.

Up to the present time the work has been confined for the most part to thickly wooded or swamp districts where the difficulties confronting the ground surveyor are enormous and the wealth of detail on the photographs affords great assistance to the Forest Officers in the compilation of Stock Maps.

In the early part of 1927 when a field party of the Air Survey Company were engaged on work in the Chittagong district of Bengal, an experiment was carried out with a view to ascertaining how far the requirements of Settlement Mapping could be fulfilled. A test area was photographed, and it was found that satisfactory maps to the scale of 16 in. to the mile could be compiled from these.

As a result of this experiment a contract has been recently concluded between the Director of Land Records and Survey, Bengal, and the Air Survey Co., Ltd., for the survey and mapping on this scale of the entire Malda district, which has an area of 1,600 square miles.

To obtain the high degree of accuracy which is essential for this class of work the latest developments of the radial method of plotting will be employed in conjunction with a close network of control points. The country consists for the most part of paddy fields and the boundaries of these can be clearly seen on the photographs.

Approximately, 1,680 control points are being established by the ground party, and as often as possible they will be located at the junction of the aisles of the fields. They will be marked by digging four trenches, 2 ft. 6 in. wide by 10 ft. in length, in the form of a cross, the earth being banked up on the East and South sides to ensure that a shadow will be thrown over them during the morning hours when most of the flying takes place.

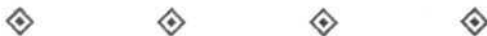
It is expected that in subsequent work of this nature such a close network of control will not be necessary, but in easily accessible country it is sometimes justified by reason of the less complicated and quicker methods that may be employed in the process of plotting-map detail from the photographs.

The company's field party will be based on Mathrapur where an excellent aerodrome has been prepared by the removal of a few trees. Temporary buildings will be erected for the accommodation of the D.H.9 aircraft and for the field darkroom.

The latest type of Eagle Air Camera will be used, while the main darkrooms and mapping offices will be equipped with the new Williamson enlarger and rectifier.

The importance of this work can be scarcely exaggerated, and it is likely to have far-reaching effects on the future of air surveys in the East, and in fact throughout the world.

The Air Survey Co., Ltd., are already negotiating for similar work over much larger areas, and this, together with their well-established business in lower scale surveys is likely to provide them with work for many years.



#### Hunt Ball at Aerodrome

THE Prince of Wales and the Duke and Duchess of York attended at the annual West Norfolk Hunt Ball which was held on December 28 at the R.A.F. Aerodrome, Bircham Newton, by permission of Wing Commander T. H. O'Brien Hubbard. Dancing took place in the pupils' lecture-room and the officers' lounge was used as a sitting-out room.

#### A Bristol Triumph Too

THE altitude record of 38,804·3 ft. set up by Commendator Donati on December 21, reflects great credit on the Bristol Aeroplane Co., Ltd., for the engine the pilot used was a Series IV high compression Bristol "Jupiter." He reached 3,000 m. in 4 mins., 5,000 m. in 9 mins., 10,000 m. in 27 mins., and 11,827 m. in 42 mins. Castor-oil was chosen for the attempt, and also extra light benzine of aviation type. Signor Nicola Romeo of Messrs. Nicola Romeo and Co., Italy, stated

in his congratulatory letter to the Bristol Company, "I feel once more obliged to express my sincere admiration, as an old builder for the engine you have so genially planned, and I hope I shall again have the opportunity of communicating to you many other successes obtained with the same machine. Please accept my renewed congratulations."

#### Utilising the Aeroplane

CAPT. W. L. HOPE has been delivering food by air to stranded villages during the recent spell of severe weather. De Havilland machines left Stag Lane carrying all sorts of food which was dropped by parachute, as the snowbound country made landings impossible. The services from Croydon were held up and so was the departure of the Far-East flight of Flying Officers Vincent and Newall in their D.H.9a's. For their Cairo stage, Mrs. Wise Parker will travel as passenger.