

## THE ARCTIC AIR ROUTE

used Greenland and Iceland as convenient stepping stones for ferrying themselves and their machines across to Europe.

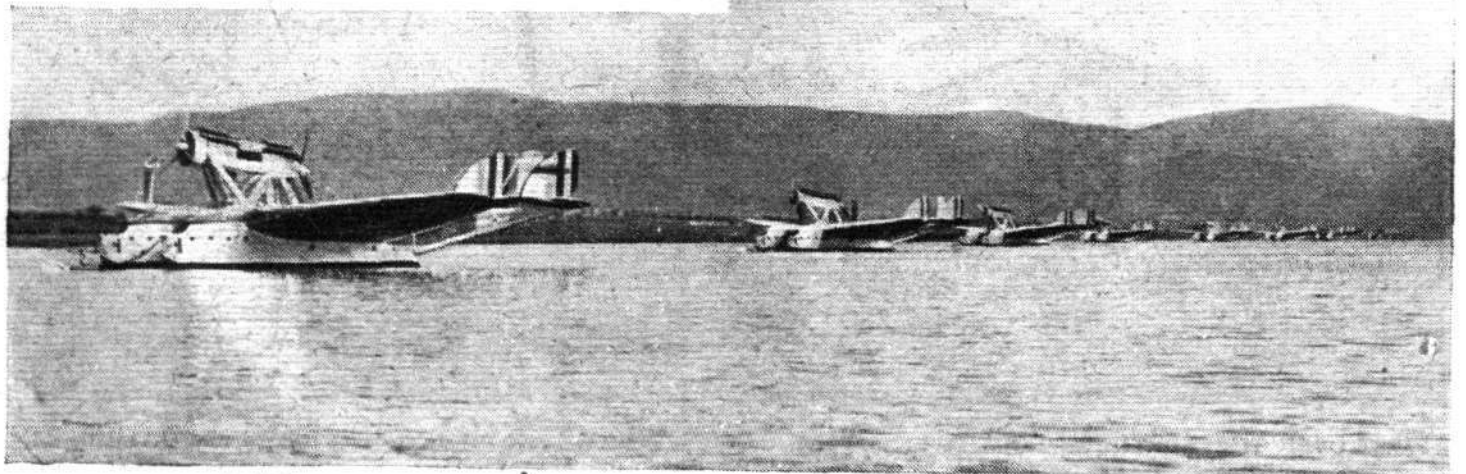
In reviewing the total exploratory work on the Arctic Air Route up to 1939, obviously the two most important contributions are those of the British Arctic Air Route Expedition and of Pan-American Airways by the Lindbergh survey flights. The comprehensiveness of the latter has not been generally realised, for the Lindberghs not only flew along the route as a whole, but made two crossings of the Greenland Ice Cap as well as flights around the coast. Thus even if the ill-advised, almost insane, excursion into politics of Charles Lindbergh may since have cast a slur upon his name, that survey of the Lindberghs must be remembered as one of the best ever made.

### The Short-stage Conception

The primary motive underlying all these pre-war flights was to discover a transatlantic route which could be flown by easy stages. On the map it would seem possible to reach America by way of Iceland, Greenland and Labrador by hops of little more than 500 miles, an attractive proposition in the days when the still-air range of our commercial aircraft rarely exceeded 700 miles and there was no immediate prospect of flying 2,000 miles non-stop with a useful payload. I must confess that I personally was as much taken in by this prospect as was anyone else. There seemed to be so much to be gained by dividing the long route into easy stages—the increase of payload and the greater confidence of passengers who would never be called upon to endure more than three or four hours in the air at a stretch. But this entirely overlooks the climatic difficulties. On the east coast of Greenland gales of 120 m.p.h. may blow at any time except during the short summer; Cape Farewell is renowned for its storms; and the west coast has a well-founded reputation for fog. Iceland's south coast is well known to sailors for its fog and bad visibility, whilst the Reykjavik area is accustomed to 90 m.p.h. gales, even in summer.

Then there was the question of using landplanes or seaplanes, a question the answer to which was almost bound to be in favour of the latter, at any rate before the war. For there was no land airfield in the Faroes; in Iceland there was a 400-yard airfield at Reykjavik and a slightly larger field at Kaldadarnes; in Greenland there was absolutely nothing that looked like an airfield. Indeed, there seemed scope there for unbounded enthusiasm if anyone should have come along with a few ship-loads of high explosive and enough machinery to convert the local scenery into a landing place for aircraft. The same conditions, more or less, would have been applicable to the east coast of Labrador.

**SPECTACULAR:** In 1933 a fleet of 24 Savoia-Marchetti twin-hull seaplanes flew from Europe to America and back under the command of General Italo Balbo.



Seaplanes, which could use the existing harbours, would suffer a great disadvantage on this route on account of the freeze-up. This difficulty could be reduced by using large floatplanes in place of the more seaworthy flying boats, and fitting skis instead of floats for winter use. But whereas the Greenland seas freeze solid (though not in the flat even-surfaced form which many suppose) those surrounding Iceland do not. Therefore, apart from the obvious difficulties of freeze-up and thaw when for several weeks the ice is not strong enough to bear, there would be the problem of taking off from the sea in Iceland, and landing on the ice in Greenland. The feat of swopping from floats to skis in flight has yet to be mastered, and even the Canadians and Russians do not seem to have evolved a universal landing gear for water and ice. In the absence of such a technical accomplishment, the use of the Arctic Air Route becomes limited to the months of July, August and September when, in an average year, ice conditions for landing seaplanes are sufficiently favourable throughout the route. Moreover, even during this short period, enough bad weather may be encountered to stop a service from running for several days at a time.

Therefore, in spite of all that I have said or written in the past, including a strong plea in "High Failure" for the establishment of just such an "easy stage" route as I have outlined above, I have no hesitation in saying, in the light of further developments, that the view was wrong. The factors principally affecting this change are, first, the successful development, before the war, of the Botwood-Foynes direct Atlantic crossing, and secondly, the very notable progress which has been made in extending the range of aircraft even since this war began.

### Great-circle Routes

Does this mean, therefore, that the whole conception of an Arctic Air Route must be abandoned? On the contrary, there is good reason to suppose that, in another form, air routes over the Arctic should constitute the most important links between Europe and America after the war. This is because of the predominating fact, already mentioned, that the shortest distance, or Great-circle Route, between many of the important centres of population in Europe and America lies by way of the Arctic. The non-stop flight of the Russian airmen from Moscow to San Francisco by way of the North Pole demonstrated this, and it is a fact that the shortest routes between London and Central or Western North America would run through the Arctic. To follow such routes non-stop will require aircraft with ranges of 4,000-5,000 miles, which would have seemed impossible a few years ago. But now such an achievement is well within our grasp.

Vilhjalmur Stefansson's prophecy that the Arctic will become the flying cross-roads of the world is no idle speculation, for with long-range aircraft the need to make intermediate landings will disappear. All that will be necessary