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FIFTY YEARS AGO ...

Volume XX of the International Hydrographic Review (August 1943) published the article "Mapping by Aerial Photography in Antarctica" by Hans RICHTER, Head of Department of the Hansa-Luftbild, Berlin, Germany. An extract of the paper is given below:

"The German Antarctic expedition of 1938/39 produced in seven flights about 12,000 aerial photographs, titled photograms of the surveyed ground. It was first of all intended to compile therefrom a general geographic map to the scale of 1:500 000 and possibly later a topographic map of a few prominent masses of mountains to the scale of 1:50 000. In order to carry out this work and to determine the orientation, it was necessary to obtain geodetic points in addition to titled photograms.

The completion of the general map was required by 15 June 1939. As the order was only issued at the end of April, there remained but about six or seven weeks for the plotting of photographs and cartographic work. In consideration of the legitime motives for this short time limit working arrangements were made accordingly and the map was delivered in due time.

For the choice of projection, only a conformal representation could be considered. As no eventual extension of the region could possibly by known at the outset of the expedition, the choice of the projection was rendered more difficult. It was assumed that eventually an extension towards the pole would be taken in hand. On the strength of this and of the short time available, a conformal cylindrical projection in transverse position was selected. Calculation for the projection were made by certificated engineer Rudolf FORSTNER of the Hansa-Luftbild.

The choice of the mode of representation was left with the Hansa-Luftbild GmbH. Here again, the technique was governed by the short period of time available. In order to appreciate the work done, it is necessary to draw a comparison with the known area of our own country. The surveyed region which was to be mapped, with its 600,000 km² is practically of the same size as greater Germany. The edge of the insular shelf ice would correspond to our North and Baltic sea coasts. Here a few points were known through position determinations, viz the flights were made inland from 200 to 400 kilometres from the coast. This could correspond to the distance from the Baltic sea coast to the Mittelgebirge and partly to the Main. That region, which like in Germany kept rising from the coast towards the south, presented therefore no sort of basis for a conclusion a posteriori permitting to infer the determination of the heights above land from the heights above the sea. Work previously carried out, for instance in Arctica (North East Greenland) revealed a region with fjords cutting deeply into the coast mountain, which facilitated considerably the determination of heights. Here, this facility was completely lacking. Plotting had to rely exclusively on the data supplied by wireless from the navigation and observation reports. From the observed and transmitted absolute and relative heights of flights, it was possible, for various land points to ascertain the heights above the sea. There were also a few isolated observations of mountain heights.

So that, apart from the positions of the flight polygon only these few height observations were available as control heights.

The cartographic elaboration of the map was made in four colours: green for ice, blue for water, brown for mountains and black for letters. The names were allotted by the directing staff of the expedition. The map was reduced to a scale of 1:1,500,000 for publication."

This extensive work carried out by the German Antarctic expedition in 1938/39 provided new practical knowledge which was very useful for further expeditions.