fields, (2) studies for dam construction and reservoirs, (3) drainage regulation and canal projects, (4) communication lines, (5) city zoning, (6) industrial and mining studies, (7) river control studies, (8) development of agriculture, and (9) illustrations for tourists and passenger guidebooks.

The following cameras are used for the photography: (1) Zeiss H.M.K. 21 film camera, (2) Hugershoff and Heyde hand operated camera of 16 cm. (6.4 inch) focal length with 13×18 cm. (5×7 inch) negatives, and (3) Löschner (Prague) model 34 camera of 21 cm. (8.4 inch) focal length with Benar objective of 1/4.5 aperture.

Negative materials are the orthochromatic film and plates of the Czechoslovakian firm of Foma-Hradee Králové; plates of the firm of Renée-Kutná Hora; and the Gevaert orthochromatic film.

An automatic developing machine of the Czechoslovakian firm of A. Haager is used.

The Technical College uses photographs at a scale of 1:5,000 for architectural studies.

The Department of Geodesy of the Agricultural College owns a Hugershoff-Heyde hand camera.

Air photographs are used extensively for the scaling of forest areas and for forestry studies.

Denmark

N. E. Norlund, Correspondent of Committee No. 2

Since the last congress the Geodetic Institute of Denmark has continued its survey of Greenland by means of an air camera, and in 1937 such a survey was also commenced in Iceland.

The photographs were taken as oblique views for use in stereoscopic plotting. The camera is a single lens precision camera, Eagle III (Williamson Manufacturing Company, Ltd., London), focal length 6 inches and the size of the photograph 5×5 inches.

The photographs were taken at a flying height of 4,000 meters (13,124 feet) at a right angle to the flying direction, and were tilted so that the horizon was just visible on the photographs.

The film used was Agfa aeropan which has been very valuable in Greenland.

For the development the Williamson equipment has been used, and the drying of the film has taken place on a large drum in the darkroom and only by air.

The aircraft in use were Heinkel seaplanes supplied from the air force of the Danish Navy.

The organization of the expeditions has been different in Iceland and in East- and West-Greenland.

In Iceland the fishery-inspection ship "Hvidbjörnen" of the Danish Navy was mother-ship to the seaplane during the survey flying. All the members of the expedition lived on board, and there too all photographic work and all work connected with supervision of the flying were executed. The necessary fuel was placed in depots in certain sea towns selected as bases, prior to the beginning of the photography.

In East-Greenland all the year round a strong south-going current carrying a lot of floes from the pole basin runs along the coast. It is therefore necessary to use a mother-ship here which can take the seaplane on board if the ice packs in the flying base. The ship is a comparatively small wooden ship suitable for

sailing in those seas. Owing to the limited room on board, the greater part of the expedition members had to camp on shore during the flying period and the darkroom was erected on shore.

In West-Greenland no floe-carrying current runs in the summer. The chances for emergency landing are far better here than on the east coast. Here too are many inhabited places capable of rendering assistance. Here it has been possible to base the work on motorboats sized about 15 or 22 tons (36 or 48 feet in length). Most of the members of the expedition camped on the shore, where the darkroom was erected. When moving from one flying base to another, the schooners of the Administration of Greenland rendered assistance, as it was often impossible for the motorboats to carry all the supplies.

Wherever the survey flying has been undertaken the mother-ship as well as the motorboats and the seaplane have been equipped with wireless facilities for safety. In the plane, the wireless station was a Telefunken Radio Type Station 274 u.F. During all the flying, the mother-ship or the base-motorboat was listening for the plane. It may be noticed that the motorboats very often corresponded with the Danish inspection ships so that they might be called to aid in case of emergency.

As to the weather it may be said in general that:

1. In Iceland the chances for proper weather for photographing are very small, the atmosphere being full of humidity setting many clouds. Only very seldom is the weather fine and clear over great areas.

2. In Greenland the east coast as a rule offers better chances for fine weather than the west coast. Here, especially in the southern part, it is generally cloudy, misty and foggy, but days with real fine and clear weather may also come. In the southern part of Greenland strong gales have been observed at a height of 4,000 meters (13,124 feet), and rapid vertical atmospheric currents have been observed as well.

The air surveys expeditions are organized and sent out under a leader from the Geodetic Institute. The staff of the expeditions comprises besides the people from the Institute (surveyors, photographer, boatsmen) the crew of the aircraft from the Danish Navy and an air photographer from the air force of the Army.

Further information regarding the areas where air photographs have been taken is stated in the report to Committee No. 4.

Finland

Aarne Rainesalo, Chief Geodetic Engineer
Correspondent of Committee No. 2

For air photographic surveying in Finland only the Nenon camera of the Zeiss-Aerotopograph Company is being used.

For remaining at a constant altitude during the photographic flights a Leader statoscope, constructed by Dr. V. Väisälä, Helsinki, is being used. For greater accuracy, a recording statoscope is attached to the camera; this indicates slight variations of the fixed height for every picture with an accuracy of 1 to 2 meters (3 to 6 feet).

All air photographs for surveying purposes are being taken on panchromatic film. The question of film shrinkage in Finland has not been settled as yet, as up to the present time we are without stereoscopic measuring devices. The paper shrinkage is avoided because of the wet-process (refer to the magazine *Bildmessung und Luftbildwesen*, 1932).