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COMMENTS ON THE PAPER BY MM. BOYÉ AND CAILLEUX

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THE observations of MM. Boyé and Cailleux are of considerable interest. In conjunction with those of Ahlmann and Seligman they give good evidence of the petrographic similarity between the ice at the ends of alpine glaciers and that of the marginal zones of ice caps which have been subjected to summer melting.

Nevertheless, it seems to me, as it does to the authors, that further observations are very desirable before one can definitely fix the characteristic sizes of the glacier grains in these regions.

Further, the slight heterogeneity of these sizes poses a delicate problem, for the interpretation of the problem, not of the sizes, for which two alternate hypotheses can be stated:

(*a*) Homogeneity is the last phase of the growth of the crystals (by coalescence or recrystallization or both these factors).

(*b*) Homogeneity results by change following melting, the small crystals disappearing before the larger ones.

The total mass of the small grains is relatively small, and when these grains melt they cannot have great influence upon the "index of smoothness" of the larger grains.

For temperate glaciers, as for the marginal ice studied by MM. Boyé and Cailleux, the exclusive interpretation of the homogeneity by the first alternative cannot be accepted without reservation. The final phase of the growth of the crystals must be studied well *inside* the body of the glacier to the exclusion of any process of change. Nevertheless, the interesting work of these authors, and the reserve with which they temper the discussion, shows once again the necessity to direct the study of the physics of glaciers towards the conditions in the interior of the ice mass which so far have been studied all too little.

ALPINE RESEARCH COURSE, 1953

THIS Course took place from 8 to 18 September 1953 at the Gepatschhaus in the Oetztaler Alpen. It was the tenth in the series of Research Courses and was again under the leadership of Professor R. Finsterwalder, who had led the last five courses of the series. The party numbered thirty-five.

The work, which was both theoretical and practical, covered a number of subjects. A 1:5000 photogrammetric map was drawn, mainly to determine the extent of the glacier recession. On the subject of the mechanics of glacier flow the new concepts of Nye and Glen were tested; the results of new and detailed petrofabric analysis of the ice of the Pasterzenkees provided good evidence of the value of their work.

In addition to the photogrammetrical measurement of glacier speeds these were also measured with high-accuracy theodolites.

Glacial, periglacial and geological conditions and the study of the vegetation of the periglacial regions were the subjects of lectures and excursions. Seismic soundings of the depths of some of the firn fields made during the Course were examined and discussed in session.

It is proposed to hold the next Course in September 1955. R. FINSTERWALDER

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