

statements which might mislead him. It is a book, however, that will whet the appetite of anybody first visiting the Alps or of anybody thinking about glaciers for the first time, and as such it is welcomed.

The Publishers claim that this work is "the first of its kind" and that it contains a unique series of photographs. They seem to have overlooked earlier works, particularly *The Oberland and its Glaciers* by H. B. George (Editor of *The Alpine Journal*), with photographs by Ernest Edwards and published by Alfred W. Bennett in 1866. Many subjects photographed in the book under review are to be found in the earlier one and, in the reviewer's copy, its original photographs can still bear comparison with some of the modern ones.

The topographical details are instructive and satisfactory except that when the Author states that the Aletsch Glacier is 15 miles long he appears to have forgotten that the glacier from the Jungfrauoch to the Konkordiaplatz is the Jungfrau firn and that the Grosser Aletschfirn, and thus the Aletsch Glacier proper, commences at the Lötschenlücke (pages 39, 85-86, 117). The hyphenated "Jung-frau" appears several times and cannot be regarded as a misprint. It is to be hoped that it will not be copied.

The lover of poetry will be sorry to see (page 32) that the moment of exaltation which led Coleridge to write his paean of praise "... Before Sun-rise, in the Vale of Chamouni," has been attributed to Shelley.

The photographs should prove a considerable attraction but they cannot be favourably compared with recently published mountain picture books at a similar price by well-known authors. As these photographs are the product of a F.R.P.S. it must be assumed that the original negatives are good. The illustrations, however, frequently lack detail or contrast and in some cases appear out of focus.

In spite of these few inaccuracies it can be said that the book should serve as a useful introduction for the layman and the tourist to the many interesting and scenically grand features of the Alpine glacier regions. It also gives a good general idea of the structure and functions of glaciers.

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SIR, *Recession of the African Glaciers*

Recently a leading Sunday newspaper published an aerial photograph of the Kibo summit of Kilimanjaro. This photograph was taken by a B.O.A.C. aircraft within recent months. I have been fully aware of the rapid retreat and desiccation of the Kilimanjaro glaciers which were discussed in my paper published in the *Journal of Glaciology*, Vol. 1, No. 5, 1949, p. 277-81. This photograph brought home to me with a shock how rapid the process has become since the mid 1940s.

Aerial photographs of the same glaciers taken in 1943 showed erosion around the edges but the main firn surfaces were still intact. This particular photograph shows very severe ablation effects over almost the whole surface of the North Glacier in the foreground with the Credner and Drygalski Glaciers to the right showing the same degree of deterioration. Yet less than ten years ago one could have skied on those surfaces.

One can only assume that the rest of the intact glaciers of Kibo have suffered to a similar extent, which lends confirmation to my gloomy prognosis made some years ago that these rare equatorial glaciers will have almost completely disappeared within one or two centuries, provided there is a continuance of the dry climate oscillation which East Africa is at present experiencing.

Quite unwittingly this Sunday paper has provided me with the means of a rough check on the rate of regression of the Kibo glaciers since my last visit in 1945. I have on several occasions appealed for the institution of a series of annual photographic comparative checks, both aerial and at ground

level, of these interesting surviving remains of the former ice cap, and I had hoped that this might have been undertaken systematically by a responsible body domiciled in East Africa. Such a service would be of utmost interest to glaciologists and climatologists alike.

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SIR,

The terms "Névé" and "Firn"

On page 68 of Vol. 1, No. 11 of the *Journal of Glaciology*, Dr. Brian Roberts draws attention to the confusion introduced by the synonymous use of the terms *névé* and *firn*. Certainly these terms, when used interchangeably in the same publications in English might cause one to ask whether they should in fact connote a difference in meaning.

The word *firn* is derived from the German adjective *fern* which means "of last year" (also "far" or "distant"), and thus in its most usual application is used to refer to glacier snow from the preceding year or years.* The French word *névé* by definition means "a mass of hardened snow of glacier origin."† In English we have no single descriptive word but would probably use a phrase such as "consolidated, granular snow not yet changed to glacier ice." Therefore a similar connotation exists in each language.

Several French and Swiss glaciologists, with whom I have discussed the matter recently, consider that *névé* is a more or less dense and settled, although permeable, aggregate of medium to large individual grains formed and welded together by frequent alternations of melting and freezing on original snow crystals, and in which one often finds numerous layers of ice. More generally, they use the word to refer to the overall snow cover which exists during the melting period and sometimes from one year to another.‡

The definition of *firn*, adopted by the Eidg. Institut für Schnee- und Lawinenforschung, and included in the latest "Draft on an International Snow Classification" suggested by the Committee on Snow Classification of the International Association of Scientific Hydrology, is as follows: "old snow which has outlasted one summer at least (transformed into a dense heavy material as a result of frequent melting and freezing)."

Since all of our scientific nomenclature cannot practically be reduced to one language, it should be acceptable to use the French, or German or even an appropriate English equivalent, according to the dictates of one's training or one's particular native tongue. We English speaking persons actually bear the burden because we are more willing to employ either of the foreign terms than to use a phrase of our own. This is due to the advantage of brevity and also, of course, since each has become well-ensconced in the mass of glaciological literature which has been written in French and in German.

If any differentiation is warranted, it should certainly not be one which eliminates all synonymity. On the other hand, it might be useful for publications in English more universally to adopt the word *névé* as a geographic term, e.g. the Taku Glacier *névé*, meaning the highland area of the Taku Glacier covered with perennial snow and thus lying entirely in the zone of accumulation. Then the word *firn* could be more usually applied in reference to the material itself. In this way the original meaning of both terms would be left intact and the confusion introduced by indiscriminate use of them interchangeably would be eliminated. This would also be in accordance with the view taken by some British glaciologists including Mr. Gerald Seligman, who as long ago as 1936 published the following suggestion:

"If we take 'Firn Snow' (I prefer this word to Firn) and use it for snow particles in the befirned condition and 'Névé' to indicate the accumulation area above a glacier, we give the two words distinct meanings and have neater and conciser terms for the two things than exist in either French or German." (§)

* *German-English Science Dictionary*, Louis De Vries, McGraw-Hill Book Company, Inc., 1946. Also see Cassell's *German and English Dictionary*, 1951.

† *Nouveau Petite Larousse, Dictionnaire Encyclopédique*, 1951.

‡ Roch, André. "Précisions sur quelques termes de langue française concernant le neige et les avalanches," *Die Alpen*, Jahrg. 20, 1944, p. 21.

§ Seligman, Gerald. *Snow Structure and Ski Fields*, MacMillan and Co., London, (1936) p. 110.