

the glacier bank. This diagram is an attempt roughly to illustrate this differential action although Pfaff's description is not full enough to show the exact new positions of the four posts.

Although there is no way of knowing what degree of accuracy Pfaff's methods ensured, these irregular movements seem to have their counterpart in the undulatory motion of the firn as recently noted by several observers and the irregular flow of grain past grain in the surface layers which the Jungfrauoch Research Party recorded in 1938.

There certainly seems to be evidence that the *névé* area moves in a gently irregular manner rather like a slow-motion reproduction of the waves and eddies of a river in spate. G. S.

II

SWISS GLACIERS IN 1668

Extract of a letter written by Mr. Muraltuf of Zurich, to M. Haak, a Fellow of the R. Society, concerning the Icy and Chrystallin Mountainf of Helvetia, call'd the Glestcher. English'd out of Latin by the Publissher, as followf ;

THE higheft Jcy Mountainf of *Helvetia* about *Valesia* and *Augusta*, in the Canton of *Bern*; about *Taminium* and *Tavetsch* of the *Rhatianf*, are alwayef feen cover'd with Snow. The Snow, melted by the heat of the Summer, other Snow being faln within a little while after, if hardned into Jce, which by little and little in a long tract of time depurating it self turnf into a Stone, not yeilding in hardneff and cleareneff to Chryftall. Such Stones clofely Joynd and compacted together compose a whole Mountain, and that a very firm one; though in Summer-time the Country-people have observed it to burft afunder with great cracking, Thunder-like: which if also well known to Hunterf to their great coft, forasmuch as fuch crackf and openingf, being by the Windf covered with Snow, are the death of thofe, that paff over them.

Thif if, what I have observed about the Hillf; What I shall farther learn of the people, inhabiting thereabout, to whom I have written a month fince, I fhall impart to you.

In *September* 1668.

(Ref. *Phil. Trans. Roy. Soc. London*, Vol. 4, 1669, published 1670, pp. 932-3.)

WIND SLAB AVALANCHES

A Correction

In my article on wind slab avalanches in the July 1947 number of this *Journal* (p. 70) I expressed surprise at Dr. R. U. Winterhalter's statement that "slab avalanches occur after many snowfalls without wind."

A conversation last summer with Dr. Winterhalter made it clear that I had misunderstood him. He uses the word *Schneebrett Lawine* (snow slab avalanche) to denote an avalanche of snow hardened by any process whatever, whether by wind or other causes, whereas his *Windbrett Lawine* refers exclusively to what we call a wind slab avalanche. In addition to their formation by wind, snow slabs can develop as a result of accelerated crust building caused by sudden heat; also probably by the freezing of melt water in surface layers. Snow slabs can fall as avalanches under the compulsion of their own stresses, or as wet avalanches owing to the lubricating effects of melt water.

Hitherto the term "snow slab" has appeared little in English writings. Lunn in his *Alpine Ski-ing* uses it interchangeably with "wind slab" and I cannot find it mentioned in any other works.

It seems desirable to reconsider our nomenclature on the basis of the generic snow slab and the specific wind slab.

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