

the ridge between the two peaks being struck near the base of the lower, the top of which was attained in a few minutes. This peak is 2,938 mètres in height, while the higher one is 2,974 mètres; but the former is more difficult of access if the ordinary route be followed, and is consequently very rarely ascended. From it the higher peak may be reached direct, but it saves time and trouble to pass along the Grand Vire on the S.W. side of the mountain, and reach the peak by a couloir on the same side. The party regained Bex the same evening, but, as Bex lies very low, the ascent is best undertaken from Les Plans de Frénières (two hours farther on), which is reached by a good char road, and where there is a good inn. The char road continues to the Pont du Nant, whence a good view of the N. side of the Dent is gained. From Les Plans the ascent should take about five hours, and the descent to Bex by the Grand Vire and Morcles should take about the same time.

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REVIEW.

Die Gletscher der Vorzeit in den Karpathen und den Mittelgebirgen Deutschlands. Von J. Partsch. (W. Koebner, Breslau: 1882.)

The earlier part of this work gives the results of the personal investigations of the author as to the traces of ancient glacial action in the Carpathian and other ranges of Central Europe; the latter part is chiefly occupied by the discussion of more theoretical questions connected with the action of glaciers. The first chapter is devoted to describing the remains of glaciers in the Hohe Tatra, a district of the Central Carpathians between the Kopa Pass and Goryvzkova. This has been carefully investigated, and the result of the author's work is indicated on a map, showing that formerly the valleys of the district were occupied by glaciers, which, however, do not appear to have passed the limits of the hill region. The second chapter deals with the district of the Riesengebirge; the third with the Böhmerwald, Harz, Schwarzwald, and other ranges of Central Europe, where, also, the author finds traces of glacial action. The later part of the book is chiefly devoted to more theoretical questions—as the climate of the glacial epoch, and the former extension of the ice. In regard to these the author appears to have made himself well acquainted (no light task) with the literature of the subject, and states very fairly the various opinions. But we cannot say that he appears to us to add materially to the controversy. The assumptions which are tacitly made by previous upholders of the more extreme views as to the extent of glaciers and their capability as agents of erosion are made by him; there is the same avoidance of grappling with the main difficulties on which the opponents of these views insist. For instance, it is easy to determine the former extent of land ice by the presence of boulder clay, on the hypothesis of this being a ground moraine; but what if there be no such thing as a ground moraine, except as a very unimportant and secondary phenomenon? What if there be no proof of a glacier being

capable of distributing its materials as the boulder clay is distributed? No proof, in short, that in a comparatively level country it could climb up hill and down dale, like an icy caterpillar with the ground moraine sticking beneath its belly? The author is very careful and conscientious in collecting and setting forward all that has been said upon the subject, but, as it seems to us, he does not always succeed in meeting those points in the arguments of the more moderate glacialists which, to the latter, appear to be of the greatest weight.

Errata in last Number.

Pages 301-2, *passim*, for 'Von Lindenfeld' read 'Von Lendenfeld.'
" 302-4, " " 'Besimanda' read 'Besimanda.'