

some rough work on broken ledges, up steep couloirs, skirting cliff bases on hard ice slopes which necessitated a good deal of step-cutting. The rocks were loose, friable, and treacherous, and much covered with 'verglas,' which compelled great caution. At 12.20 we arrived, by way of a very steep icy gully, at the main S. ridge, about 800 ft. below the summit, and *for the first time saw the highest point*. An easy snow arête led to the top at 12.30. The summit is a double one, snow-crowned, with magnificent cornices overhanging the tremendous Eastern precipice. That on the Northern point was cloven by a large fissure, and was very near its fall. Crossing this twin summit, we descended in a few minutes along the top of the rocky N. arête to the point where it bends sharply down, an angle which in almost all the views from the N. appears to be the actual highest peak. Here we lunched, and remained for a full hour ere we commenced the descent by the N. side. This had a double attraction, as it would provide a traverse and second route, and also because it promised a distinctly difficult and interesting bit of climbing. And so it proved. The ridge is extremely steep, with a sheer precipice on the E., the Northern face falling away at an abrupt angle with glistening ice slopes and rocky belts, and the rocks we had to climb down broken, steep, and occasionally overhanging. The looseness of the formation and the hardness of the icy slopes made it a careful and rather slow progress, and even for our usually quick-going trio 2½ hrs. were needed to descend 1,000 ft. Lower down we were able to go faster, and one snow slope, soft enough to evade step-cutting, permitted us to reach continuous rocks and unrope at 6.10. Forty minutes more landed us on the glacier, and at 7.45 we were in camp, having accomplished the half-circuit of the mountain and a complete traverse in 13½ hrs., inclusive of halts, and enjoyed a grand panorama and the most interesting and difficult climb as yet on record in the Rockies. The next morning found us under snow, and our return to Field was mostly through driving snow, with Mt. Assiniboine clothed anew with her winter mantle, and impossible of ascent again this season.

[Rev. J. Outram, whose address till June is Pacific Grove, California, U.S.A., asks us to state that he proposes to visit next year the region of the unclimbed giants N. of the C. P. R., and will be glad to hear from any good climber who may wish to join him.—E.D. A.J.]

ALPINE NOTES.

'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction, price 3s., can be obtained from all book-sellers, or from Messrs. Stanford, Charing Cross.

THE LIBRARY CATALOGUE is now printed and may be obtained, bound in cloth, on application to the Assistant Secretary, 23 Savile Row. Price 3s. ; postage, 3d.

THE ALPINE CLUB OBITUARY.—William Mathews. One of the founders of the Club. President 1868–71.

DR. SVEN HEDIN.—We take the following from 'Nature' of October 17, 1901 :—

'A Reuter telegram from St. Petersburg states that a letter has been published in the "Turkestanskiya Viedomosti" giving the following information concerning Dr. Sven Hedin, the Swedish traveller, based upon a letter from him, dated July 10. It appears that Dr. Sven Hedin, at the time of the despatch of the letter, was at the foot of the Akka Tagh, in Northern Tibet, and intended to proceed in the direction of Ladak, in order to survey accurately the region about the source of the Indus. Next spring he proposes to return to Osh *via* Kashgar. Meanwhile a caravan of fifteen horses has arrived at Kashgar, bringing the results of two years of the traveller's work in the shape of scientific collections, maps, photographs, and diaries. Dr. Sven Hedin speaks in the highest terms of his Cossack escort, and extols their courage, endurance, and resource in critical situations. Up to the time of writing he had been in no way molested by the Chinese.'

CIMA FORNEI.—On July 16 J. H. Doncaster, with Maurice and Joseph Gaspoz, of Evolena, ascended the arête from the Bocca di Fornei direct to the summit. They found the rocks unusually firm for the neighbourhood.

KIRCHALPHORN.—On July 22 the same party left Kanal Alp, and crossed the nameless col between the St. Lorenzhorn and the Rothhorn, which is a much more convenient means of access to the Fanella Glacier than the Fanella Pass for those who start from Kanal Alp instead of from Zervreila (the inn at Zervreila is not opened until the last week in July). They ascended the W. arête of the Kirchalphorn, and found the rocks firm and interesting. From the col to the summit they took 1½ hr.

PIZZO TAMBO.—The 'Climbers' Guide' is obscure as to the route from the W. The above party found it perfectly easy to ascend the E. arête direct from the Lattenhorn, whilst the route described in the 'Climbers' Guide' would involve a long descent, followed by a steep ascent up the stone-swept rocks. Possibly for 'N. glacier' we should read 'S. glacier,' in which case the description would be correct.

LA VIERGE (3,222 m. = 10,571 ft. [Kurz]).—This conspicuous rock in the midst of the great Géant ice-field, about which the 'Climbers' Guide' says, 'No information,' was climbed on August 14 by Mr. G. Yeld, with Sylvain and Abel Pession, of Val Tournanche. They found three stones on the topmost crag in such a position as to indicate that some one had previously visited the summit, though no ascent seems to have been recorded. It is quite true that ascents of La Vierge or the Aiguille Vierge are frequently recorded in the visitors' book at the Rifugio Torino by ladies and even by

children, but the point meant is that marked 3,435 m., and bearing the name Petit Flambeau on Kurz's map. We followed the ridge, step-cutting being necessary in places, from this point to the true La Vierge. We found a beaten track to the top of 3,435 m., but there footsteps ended. The last bit of rock-climbing was decidedly interesting. A tuft of *Ranunculus glacialis* with twenty-four flowers was found not far from the top. The time from the Col du Géant to the top was 2 hrs. 15 min., leisurely walking, halts included.

G. Y.

MONT EMILIUS (3,559 m.=11,677 ft.).—On July 27 Messrs. A. G. Whitting and A. A. Booth, with Johann Aufdenblatten, of Zermatt, and Felix Abbet, of Zinal, made the ascent of this peak by the W. ridge. The climb begins at the col between Mont Emilius and the peak marked 3,068 m. on the Italian map, which can be reached in 2 hrs. from the Comboe huts. The time from the col to the summit was 2½ hrs. The rocks are loose, but not otherwise difficult. This climb is much more interesting than the usual circuitous route through the Arbole Glen.

SOUTHERN AIGUILLE D'ARVES (3,509 m.=11,513 ft.).—On August 8 Messrs. A. G. Whitting and A. A. Booth, with Johann Aufdenblatten, of Zermatt, and Felix Abbet, of Zinal, climbed this peak by its S.E. ridge. Having spent the night at the highest chalet in the Vallon des Aiguilles d'Arves, they mounted to the Col des Trois Pointes, and thence followed the ridge which leads straight up to the summit of the Aiguille, joining the usual route just below the *mauvais pas*. One or two gendarmes were turned on the Valloire side. The time to the summit from the Col de Jean Jean, where the schist of the Pointe Salvador suddenly changes to the conglomerate of the Aiguille, was 4 hrs. of excellent climbing.

COL DE LA VANOISE.—The Lyon section of the C.A.F. is rapidly pushing forward the work on the new chalet hotel, which is to take the place of the old hut on this pass. A fine situation has been chosen on the N. side of the pass, within a stone's throw of the summit. The house is expected to be ready for use next season.

A. A. B.

MEIJE.—A new hut is to be built at the foot of the Pyramide Duhamel, which will be useful for parties climbing the Meije from the La Bélarde side. On August 10 a fair amount of timber had been carried up, but no actual building had been done. A. A. B.

THE GRIVOLA BY THE SOUTH ARÊTE AND EAST FACE.—On August 28, 1901, with Johann Kalbermatten, of Ried, Lötschenthal, as guide, I ascended the Grivola by this route. We left Cogne at 3.15 A.M., and proceeded by the usual route to the Upper Pousset chalets. We then bore to the left, leaving the ordinary track to the Glacier del Trajo on our right. The weather then became thick, and snow began to fall, but we pushed on to the col marked 3,192 m. on the Italian military map (Col de Pian Tsalende), and then crossed to another small col on the ridge immediately opposite. We then traversed the Punta Nera and the Punta Bianca, and found ourselves on a narrow ridge, partly rock and partly ice,

leading up to the Grivola, which towered up before us through the mist.

We followed this ridge, though with great difficulty, on account of the blinding snow and the wind, which by this time had got up considerably. The arête proved difficult in places, owing to glazed rocks and to patches of extremely hard ice, which necessitated step-cutting, and made our progress somewhat slow. When about 150 or 200 ft. from the summit the wind had become so violent that we began to fear that we should be unable to complete the ascent. However after a consultation we decided to traverse along the east face and then try to make our way straight up the face to the top. This traverse we successfully accomplished for some distance, thanks to Kalbermatten's skilful leading, and after crossing a large rib of whitish grey rock, which runs nearly to the summit, and which proved our greatest difficulty, we climbed in a diagonal line from the rib to the top, which we gained at 8 P.M. After a short halt we descended by the usual route and reached Cogne at 8.45 P.M. Under more favourable conditions the ascent by this route could, I have no doubt, be made in a much shorter time.

S. R. HOBDAV.

[The first ascent of the Grivola by the S. arête was made by Signor G. Bobba on July 17, 1890, 'Boll. C.A.I.,' 1891, pp. 10-17.]

NEW HUT IN THE ORTLER GROUP.—By the enterprise of the Berlin Section of the D.Ö.A.V. an excellent hut has just been added to the ten already existing in this favourite district of the Eastern Alps. Situated on the summit of the Ortler Hochjoch, between the Ortler and Monte Zebro, at a height of over 11,500 ft., it will afford increased facilities for such climbs as the ascent of the Ortler by the Hochjoch Grat, that of the Thurwieserspitze from the Thurwieserjoch, and that of the Königspitze over Monte Zebro and the Suldengrat. The building was begun in 1898, the materials being conveyed by the easiest of the three approaches to the Hochjoch, that which ascends from the Capanna Milano, on the S.W. The hut contains comfortable sleeping accommodation for eight climbers, with their guides, an ample supply of fire wood, preserved foods, and other requisites, and the internal fittings generally are admirable both for completeness and for economy of space. The 'Einweihung' took place on August 28, in somewhat unfavourable weather. The erection of this building in a position so exposed and so difficult of access was, undoubtedly, a considerable undertaking, and reflects great credit on the resource and resolution of its builders.

THE SIMPLON TUNNEL.—We take the following from the 'Morning Post' of November 2, 1901:—'Our Rome correspondent states that the unfortunate rush of water in the Simplon Tunnel that has for the moment stopped progress on the Italian side still continues. At the end of September 10 164 mètres out of the 19,790 had been bored, 5,784 on the Swiss and 4,430 on the Italian side. More than 9½ kilomètres still remain to be bored. If the 10,164 mètres already completed have required 3 years (the operations were

begun in November 1898) it is clear that the contractors have none too much time for the completion of the whole tunnel, which must be ready by the end of May 1904—little more than $2\frac{1}{2}$ years hence. For every day required beyond the end of May 1904 the contractors, Messrs. Brandt, Brandau, & Co., will be liable to a heavy fine. The stoppage of the work on the Italian side by the water is, therefore, a serious affair. On the night of September 30 the water began to rush out at the rate of 600 litres a second, transforming the tunnel into a regular canal. The Simplon Tunnel, instead of consisting of a single boring large enough for two lines of railway, consists of two parallel tunnels large enough for one line each, the two tunnels being connected by oblique transversal cuttings every 200 mètres. Thus ventilation becomes easier, and the removal of the débris is facilitated. Besides it is easier to turn off outbursts of water into one of the borings while work is pushed forward in the other. Hitherto it has not been found possible to stop the present rush of water, nor even to find out whence it comes. At first it was supposed that a mountain lake situated at a considerable height above the tunnel was the source of the water, but it was found that the level of the lake had not been affected by the supposed drainage, as it would have been if it had really been the source of the trouble. It is, therefore, supposed that the water must come from a neighbouring torrent through some unknown channel, and, in order to test this hypothesis, quantities of colouring matter have been thrown into the torrent, so as to see if the colour of the water in the tunnel is affected. Should it be the torrent will be diverted from its bed. The contractors are not yet alarmed at the mishap, because the stone through which they have recently been cutting is soft free-stone, through which they can bore at the rate of 9 yards a day, whereas until lately they had met with nothing but gneiss on the Italian side and were only able to proceed slowly.'

ACCIDENT ON THE WETTERHORN.—We regret to hear that Fritz Boss was killed early in November, when chamois-hunting on the Wetterhorn.

REVIEWS AND NOTICES.

The Bolivian Andes: a Record of Climbing and Exploration in the Cordillera Real in the Years 1898 and 1900. By Sir Martin Conway. (Harper & Brothers. 1901.)

In the latter part of 1898 Sir Martin Conway first visited the very interesting part of the Bolivian Andes, which is described in his recently published volume. His journey had three objects—to ascend one or two of the highest peaks, to study the topography of the Eastern Cordillera, and to ascertain how far the country admitted of development. To readers of the 'Alpine Journal' the order of enumeration will be that of their interest, so of the last we shall say little. Accompanied by Antoine Maquignaz, who led