

rolling a little way together. The guide was only slightly bruised, but Herr Jellinghaus, a man of sixty years of age, was killed. He was a good walker, according to the report of his guides, and must have been seized with a sudden fit of illness, as he was not observed to slip, and the spot where the accident occurred is perfectly easy. On August 21 Herr Heinrich Willmann (son of Professor Willmann, of Prague), having made with a friend the ascent of the Rofan Spitze (7,405 feet) above the Achernsee, near Jenbach, was descending by the Hoch-Iss, and had nearly completed the expedition, when he was seized with faintness, and fell down dead. The cause is said to have been excessive fatigue. On September 1 Herr Raillard, of Basel, who had done much good work among the Swiss mountains, died suddenly while taking a walk near Amden, not far from Wesen (St. Gallen); and on September 3 Mr. J. F. Bottomley Firth, M.P. for Dundee, and deputy-chairman of the London County Council, died suddenly of heart disease a short distance beyond the little inn on the Flégère, near Chamonix.

NEW EXPEDITIONS IN 1889.

[The expeditions recorded in the following pages are believed to have been made for the first time by English mountaineers. In cases where foreign climbers have preceded English travellers, references to the original accounts have, as far as possible, been given. The most remarkable first ascents made by foreign climbers during the past summer are also included.]

Dauphiné District.

SOMMET DE L'AILEFROIDE FROM THE WEST (3,925 mètres=12,678 feet).
BRÈCHE DES FRÈRES CHAMOIS (about 3,456 mètres=11,319 feet).
August 3.—MM. Félix Perrin and A. Reynier, with Pierre Gaspard, père, Christophe Clot, and J. Turc, discovered a new route up this peak, though they did not quite attain the summit. Starting from the Carrelet club hut, they followed the usual route of the Col du Sélé for 1½ hrs. to the lower part of the Pilatte Glacier, beyond the Combe Rouge of M. Duhamel's map, and as far as the base of the rocks supporting a small round glacier on the W. flank of the peak which was named the 'Glacier Gris' (from the colour produced by the stones lying on it). Climbing up these rocky slopes by sheep tracks they gained the glacier, and crossed it towards the north to the rocky ridge dividing the Glacier Gris from a small elongated glacier, which is an affluent of the Glacier de la Coste Rouge (2½ hrs.). Ascending the S. side of this ridge diagonally by means of small rocky terraces and snow-bands, they attained (2½ hrs.) the Brèche des Frères Chamois, a deep cleft at the foot of a lofty rocky needle, just where the Ailefroide ridge joins that coming up from the Sommet du Sélé (3,320 mètres). Instead of effecting the perfectly easy descent from the pass down the extreme W. branch of the Glacier de l'Ailefroide, the party crossed the head of this branch glacier at a level, climbed over a rocky spur separating it from the final rocks of the Ailefroide, and by a number of

small rocky ridges and snow-gullies worked their way up to the crest of the western arête of the peak ($2\frac{1}{2}$ hrs.). The lateness of the hour and the bad condition of the snow forced the party to return to the Carrelet by the same route just after they had rejoined the usual route up the Ailefroide from the south, and were only separated from the highest summit by a long snow-ridge.

On the occasion of the attempts on the peak from the W. made, on August 6, 1885, by MM. Leser and P. Engébach, and Herr L. Purtscheller, and, on July 23, 1888, by M. J. Maitre, the small elongated glacier, mentioned above, which is well seen from the Vallon de la Pilatte, was nearly or quite attained.

CENTRAL PEAK OF THE SOMMET DE L'AILEFROIDE (c. 3,880 mètres = 12,730 feet). August 8.—Monsieur A. Reynier, with Pierre Gaspard, père, Christophe Clot, and J. Turc, made the first ascent of this peak. Having started from the Refuge Puiseux, and gained the left bank of the Glacier de l'Ailefroide ($2\frac{3}{4}$ hrs.) by the usual route up the Ailefroide, the party mounted due north over the glacier to the foot of the rocky spur descending from the central peak to the south ($1\frac{3}{4}$ hrs.). Following a corniche up the rocks around a rock tower in a N.W. direction, and then the rocks themselves, and a snow-gully, the crest of the final ridge was attained just W. of the peak, which was reached along the ridge ($2\frac{1}{4}$ hrs.).

BRÈCHE LORY (about 3,950 mètres = 12,960 feet). July 9 —Monsieur Maurice Durouchoux, with Pierre Gaspard, père, and J. Turc, made the first passage of this col, which is the conspicuous notch between the Dôme de Neige des Ecrins (3,980 mètres) and the Pic Lory (4,083 mètres). Having gained the Col des Avalanches from the Carrelet club hut with the intention of ascending the Ecrins, they changed their plans, and, crossing the rocky S.W. buttress of the Pic Lory, gained the upper basin of the N. branch of the Glacier du Vallon de la Pilatte. Mounting this glacier to its very end, they climbed up by a gully to a great snow-band which crosses the rocks below the brèche (1 hr. from the glacier), followed this snow-band to a second couloir, climbing directly up which they reached the brèche. On the other side the route soon joins that from the Ecrins. The brèche was first gained from the N. side by Messrs. W. Mathews and Bonney on August 26, 1862,* on the occasion of their attempt on the Ecrins, but the S. side had not been climbed before 1889.

AIGUILLE DU PLAT BY THE EASTERN ARÊTE (3,602 mètres = 11,818 feet). September 9.—Messrs. A. L. Mumm and C. A. James, with Clemenz Zurbriggen, of Saas, and C. Roderon, of St. Christophe, ascended this peak by the crest of the E. arête, Monsieur H. Duhamel, on July 10, 1881, having climbed it along the S. face of that arête.† Having reached, in 3 hours from Les Etages, the foot of the small glacier descending from the Col de Burlan between the Aiguille du Plat and the W. peak of the Aiguille du Soreiller, they turned to the

* *Alpine Journal*, vol. i. p. 73; Mr. Bonney's *Sketches in the High Alps of Dauphiné*, pp. 19, 20.

† *Alpine Journal*, vol. x. p. 346.

left and ascended some snow-slopes for 35 minutes to the S. face of the E. arête, below the lowest point on that part of the ridge. Traversing this face nearly at a level for 30 minutes, the party gained the crest of the E. arête, but were soon forced back on the face in order to turn on its S. flank a very sharp and conspicuous rock-pinnacle, regaining the arête just beyond it at a point where it bends sharply to the left and rises steeply in a short slope of hard snow. Mounting this and the ridge beyond, and then turning a great mass of rock by a ledge on the N. face, they gained the summit of the peak in about 2 hours from the time the arête was first struck, to the E. of the rock-pinnacle. The rocks were easy, though pretty steep.

Graian Alps.

POINTE DE L'ECHELLE (3,432 mètres = 11,260 feet). *July 30.*—The Rev. W. A. B. Coolidge and Mr. Frederick Gardiner, with young Christian Almer and his brother Rudolf, made the second ascent of this peak. Starting from the Polset chalets, they followed the path to the Col de Chavière for 1 hr. 20 min., then bore N.E. past the lake and over stones to the edge of the glacier on the south-west side of the peak, and across it to the base of the south arête (2 hrs. 35 min.). Very soft and deep snow lying on rocks led them in 1 hr. 15 min. to the crest of the south arête, which was followed in 55 minutes (there being no difficulty save the vast amount of soft fresh snow) to the cairn on the summit. The view was very interesting. The party returned by the same route, reaching Modane in 4½ hours from the summit, 1 hr. 5 min. of which were consumed in regaining the glacier.

The first and apparently only previous ascent of this peak was made on July 14, 1884, by MM. Puiseux, without guides, the same route having been taken on both occasions.*

GRANDE MOTTE FROM THE SOUTH (3,663 mètres = 12,018 feet). *August 3.*—The same party, starting from the chalets of Entre deux Eaux, followed the track to the Col de la Leisse for some time, then struck up to the north and halted for breakfast on a green mound not far from the figures 2,865 on the French map (1 hr. 45 min.). Thence they climbed straight up the steep but easy south buttress of the peak, over loose rocks and patches of snow, no real difficulties being encountered, though the slope was rather steep, and, after several halts, amounting to about 35 min., gained the great cairn on the summit of the buttress at the figures 3,560 on the map (2 hrs. 50 min.), whence a pleasant and easy ascent over snow slopes brought them to the highest snow crest (20 min.). The return to the breakfast place by the same route took 1 hr. 45 min., and Tignes was reached by the Col de la Leisse the same evening.

The peak has hitherto been always climbed by the great glacier and snow slopes on its east side; but the new route is strongly to be recommended when it is probable that the snow on the E. slope is in bad condition, and it is certainly far more direct than the old way.

* *Annuaire du Club Alpin Français*, 1884, pp. 3-15.

AIGUILLE ROUSSE BY THE NORTH ARÊTE (3,482 mètres = 11,424 feet, French map; 3,481 mètres = 11,421 feet, New Italian Survey). COL D'OIN (about 3,230 mètres = 10,618 feet). *August 6.*—The same party, starting from the hamlet of La Val d'Isère, crossed by a new pass to the mineral springs of Ceresole, making a new route up the Aiguille Rousse on the way.

From La Val they followed the Col de la Galise track to beyond the gorge (2 hrs.), and then continuing up the main Isère valley mounted, by the moraine on the right bank of the great tongue of the Glacier de la Vache which descends into the valley, to the upper edge of that extensive snow field (1 hr. 40 min.). Crossing the glacier to the S.E. in order to visit the Col de la Vache (35 min.), they then crossed back, to the west, to the north foot of the rock and snow north arête of the Aiguille Rousse (35 min.),* which was climbed without difficulty to the summit of the peak (1 hr.), whence the view is most superb.

Returning to the north foot of that arête (35 min.) they crossed the glacier once more, towards the east, so as to gain (20 min.) the well-marked depression which is immediately at the south foot of the Cima della Vacca (3,277 mètres) of the Italian map. This point, a low ridge of débris separating two glaciers, had been reached by Mr. Coolidge from the French side on August 31, 1887. It was now to be turned into a pass, and was christened Col d'Oin. The descent down the glacier on the Italian side was at first quite easy, but the party were gradually forced by crevasses to the rocks of the north extremity of the Cima d'Oin (3,184 mètres) of the Italian map, by which the lower plateau of the glacier was gained, the ice being quitted on the right bank in 40 min. from the col. A wearisome descent down moraine led the party in 25 min. to the path coming from the Alpe Rocce, which was followed down the glen below the Carro Glacier, a short cut over the hill-side by the Alpe Trumajet bringing them to the hamlet of Chiapili (55 min.), and in 1 hr. 55 min. more to Ceresole.

The topography of the range between the Galise and the Carro passes has been thoroughly cleared up by M. Henri Ferrand in an admirable article which appeared in the 'Annuaire du Club Alpin Français' for 1888, pp. 58–113. He shows conclusively that the true Cima d'Oin is neither the peak to which the French map assigns the impossible height of 3,514 mètres, nor that marked 3,184 on the Italian map, but the black, shaly summit called Cima della Vacca (3,277 mètres on the Italian map, and first ascended by Mr. Coolidge on August 31, 1887 † The true Cime de la Vache is the point marked 3,189 on the French map. Just north of it is the true Col de la Vache, separated from the Col de la Galise by the low humps called Pointe du Grand Cocor on the French map.

PUNTA DEL BROGLIO (3,455 mètres = 11,336 feet). *August 8.*—The same party made the first ascent of the highest pinnacle of this peak. Having gained from Ceresole the western Col du Grand Etre (5 hrs. 5 min. walking), they walked thence past the eastern col of that name (on which were found in perfect condition the cards of Mr. Fresh-

* See *Alpine Journal*, vol. xiii. p. 407.

† *Ibid.* vol. xiii. p. 407.

field's party which made the first passage on July 20, 1867) to the south foot of the Punta del Broglio (30 min.). They mounted by the easy débris and snow slopes on the west side of that peak to the base of the four great rock pinnacles which form its highest crest. The two northernmost of these are lower than the two to the south. The most southerly of all was attacked from the gap between it and its rival to the north. It rose nearly precipitously in a bold aiguille of about 60 feet in height, and its ascent was excessively difficult, but was accomplished successfully owing to the determination of Christian Almer. Fortunately the rock is perfectly firm. This pinnacle proved to be about 10 or 12 feet higher than its neighbour to the north, on which, but a stone's throw away, rose the small cairn built by Signor Felice Montaldo, who ascended it on June 21, 1877, with Antonio Castagneri of Balme, apparently from the same gap.*

The descent of the highest pinnacle was worse than its ascent, and 40 minutes were required before the whole party was reassembled in the gap, whence the south foot of the peak was regained in 55 minutes, and the Rifugio Vittorio Emanuele II. by a long traverse in 1 hr. 55 min. more.

PUNTA BIANCA (3,801 mètres=12,471 feet, New Italian Survey: 3,793 mètres=12,445 feet, Paganini †). August 12.—The same party made what is believed to be the first ascent of this peak, which lies immediately to the south of the Grivola. Starting from Cogne, they followed the usual Grivola route to the edge of the Trajo Glacier (4 hours), and thence followed last year's route ‡ over snow slopes to the Punta Nera (8,692 mètres—1½ hours). They then made their way along the ridge between this peak and the Punta Bianca. This presents no real difficulties, but on August 12 a very high wind made it nearly impossible to keep on the crest, the southern side of which was mainly followed. Progress was consequently slow, and 55 minutes (½ hour would suffice under ordinary circumstances) were required to reach the snowy dome of the Punta Bianca, whence there was a startling view of the Val Savaranche, far below. Descending by the N. ridge to the depression between the peak and the Grivola, which is often called Col de la Grivola, the party descended by the slippery and steep slate slopes (bearing always rather to the left) to the Trajo Glacier, regained in 1 hr. 40 min. from the peak, the rocks being very wet owing to a violent storm. In 35 minutes the glacier was quitted at the usual place, and Cogne reached in 2 hrs 10 min. more.

As the Punta Bianca is a snow peak with no rocks near by, no cairn could be built. No traces of any previous ascent were found, and the peak does not appear in Signor Vaccarone's very complete 'Statistica delle Prime Ascensioni' even in its latest form at the commencement of vol. ii. of his 'Guida delle Alpi Occidentali.' No

* See the brief but sole published notice in Signori Vaccarone and Nigra's *Guida Itinerario per le Valli dell' Orco, di Soana, e di Chiussella*, p. 84, and textually reproduced in the second edition of Signori Vaccarone and Martelli's great *Guida delle Alpi Occidentali*, vol. ii. p. 203-4.

† *La Fototopografia in Italia*, Rome, 1889.

‡ *Alpine Journal*, vol. xiv. p. 146.

references to the peak seem to occur in Alpine literature, so that the 1889 party feel justified in claiming, at least provisionally, to have made the first ascent.

A very easy excursion from Cogne, and one commanding most wonderful views, would be to make the round of the ridge enclosing the Trajo Glacier to the south, starting from the point where the glacier is usually reached (Col du Pousset), passing over the Punta Rossa (11,457 feet, climbed by Messrs. Sedley Taylor and Montgomery in 1865 *), Punta Nera (12,113 feet), and Punta Bianca, and then returning to Cogne, or descending to Val Savaranche by the Col de la Grivola.

PUNTA LAVINA FROM THE WEST (3,308 mètres = 10,854 feet). *August 14.*—The same party, starting from Cogne, made a new and direct route up this peak, which, from its position, far to the east of the main Paradis group, commands an unusually extensive and interesting view. They followed the ordinary path of the Col de Bardonney, past the chalets of that name (2 hrs. 40 min.), and for 35 minutes more. Then striking up to the east they mounted by very stony and wearisome slopes to the edge of the Lavina Glacier, reached (50 minutes) at the point where the Italian map places the figures 2,757. Crossing the glacier to the base of the great snow couloir which divides the two summits of the Lavina (40 minutes), they succeeded in crossing the enormous bergschrund at the base of the N. peak, then traversed the couloir to the foot of the S. and higher peak, up the easy and broken rocks of whose W. face they climbed direct to the cairn on the top (1 hour 5 minutes from the bergschrund). They descended across the E. face, bearing gradually to the left, gained (1 hr. 15 min. from the summit) the Col des Eaux Rousses, and followed the King's hunting path from the Bocchetta Scaletta to the point where it joins the track from the Bardonney chalets (1½ hours from the col), just below the waterfall between the huts and the bridge at Bosc. 1½ hours sufficed for the return thence to Cogne. By this expedition a fine new one-day excursion was added to the many already existing round Cogne, for hitherto it has been necessary to make a great détour in order to attain this peak, the most easterly outlier of the Paradis group.

ROSSA VIVA, OR ROCCIA VIVA, FROM THE EAST (3,650 mètres = 11,976 feet, Paganini). *August 17.*—The same party discovered a new, direct, and perfectly easy route up this grand peak, which is so conspicuous from just below the village of Cogne.

Starting from the new club hut known as the Rifugio del Piantonetto, above the Muanda di Teleccio, they mounted in a westerly direction over many stones, big and small, to the left bank of the small Rossa Viva Glacier (1 hour). Ascending this glacier to very nearly its N. extremity (35 minutes), they turned sharply to the west and ascended a great snow couloir which seams the east flank of the Rossa Viva. The snow was in good condition, and no difficulties were encountered, so that the N.E. ridge of the peak was gained in 1 hour from the base of the couloir. Thence an easy ascent of 20 minutes up a snow slope (which might at

* *Alpine Journal*, vol. i. p. 444.

other times be ice) led the party to the curious crater-like summit, which encloses a frozen lake of considerable size. Thus not quite 3 hours' walking had sufficed to reach the peak, though a long and tough struggle had been anticipated. The day being absolutely cloudless, the view was of the most perfect character, including everything between the Finsteraarhorn and the Viso. The peak is certainly and undoubtedly higher than the Becca di Gay (as already pointed out by Mr. G. P. Baker, who ascended both peaks on two successive days), though the new Italian map assigns only 3,630 mètres to the Rossa Viva and 3,670 mètres to the Becca di Gay, but Signor Paganini, in the map annexed to his already cited work, more accurately assigns 3,650 mètres to the Rossa Viva, and 3,623 mètres to the Becca di Gay. After 2½ hours' enjoyment of the marvellous panorama spread before their eyes the party began the descent, which was effected by precisely the same route as the ascent. The Rifugio was reached in 1 hr. 45 min. walking, the details being as follows: to point where N.E. arête is left, 5 minutes; base of couloir, 35 minutes; off ice, 25 minutes; to hut, 40 minutes.

This peak has been attained but twice previously. On July 4, 1874, Signor Martelli, with J. J. Maquignaz and S. Meynet, made the first ascent, ascending direct from Cogne by the precipitous N. face to the W. arête (about 100 mètres above the Colle Baretti, between the Rossa Viva and the Becca di Gay), by which he gained the summit in 13 hours from Cogne, descending by the same route.* The second ascent was made on August 10, 1881, by Mr. G. P. Baker (whose card alone was in the cairn in 1889), with Ulrich Almer and Johann Jossi—his party taking 5½ hours from the chalets of La Motta, ascending the peak by the S. face, and complaining of falling stones.†

There has been a certain amount of confusion as to the Rossa Viva. Mr. Bonney (in his panorama from Mont Emilius in Ball's 'Western Alps,' p. 163; and also in another privately printed one taken from the Grivola, both dating from 1862) called the Becca di Gay by the name of Western Rossa Viva, and named the true Rossa Viva the Eastern Rossa Viva. The Gay is called Rossa Viva in Mr. Reilly's panorama from the Coccagna.‡ After the Becca di Gay received its present name it was proposed that the peak 3,630 should be called the Western Rossa Viva, and that of 3,552 the Eastern Rossa Viva (so by Dr. Baretti in his article, pp. 331, 336, and map in Nos. 10 and 11 of the 'Bollettino del C.A.I.' 1867), and this nomenclature is also adopted in the 'Guida Itinerario per le Valli dell' Orco, di Soana, e di Chiusella' (1878), pp. 93 and 98. The latter peak is, however, cut off from the former by a very deep cut in the ridge between them, and it has, therefore, been suggested § that it should retain the name of Testa di Money (given to it on August 10, 1885, by Messrs. Coolidge and Yeld on occasion of the second ascent,|| the first ascent having been made by Signor Martelli on July 2, 1874),

* *Bollettino del C.A.I.*, 1886, pp. 93-6.

† *Alpine Journal*, vol. x. p. 357; vol. xi. p. 23, and card found in cairn.

‡ *Ibid.* vol. vi. p. 110.

§ *Bollettino del C.A.I.* 1886, p. 92.

|| *Ibid.* vol. xii. pp. 416, 512.

and that the name of Eastern *Rossa Viva* should be given to a snowy projection on the E. ridge of the true *Rossa Viva*. But Signori Vaccarone and Martelli, in the new edition of their '*Guida delle Alpi Occidentali*,' vol. ii. pp. 192-3, have adopted a scheme which is far the best as yet proposed and which it is to be hoped may be generally adopted. According to their plan the name *Rossa Viva* or *Roccia Viva* is to be henceforth applied to but one peak—that marked 3,680 mètres on the Government map—and thus takes in the entire ridge or mass between the Colle Baretti and the deep cut at the head of the *Rossa Viva* Glacier. The peak 3,670 retains the name of Becca di Gay, and that of 3,552 its designation of Testa di Money. In this way the confusing distinction between an Eastern and a Western *Rossa Viva* is entirely done away with.

GRAN SERTZ BY THE N. ARÊTE (3,510 mètres = 11,516 feet, New Italian map; 3,553 mètres = 11,657 feet, Paganini). *August 19.*—The same party, starting from *Cogne*, followed the King's path towards the Col de Lauzon as far as the royal hunting lodge (2½ hrs.). Thence they mounted, over grass and moraine, to the N. end of the Glacier du Lauzon (55 min.), which they mounted in a S.W. direction (seeing a herd of seventy chamois close at hand) to the ridge between the points marked 3,510 and 3,147 mètres (45 min.). They then ascended over snow slopes towards the west, and, by some rocks which were more troublesome than they looked, gained (50 min.) the N. and lower end of the highest crest of the Gran Sertz. An interesting scramble along the jagged ridge brought them in half an hour to the southernmost and higher end of the crest, a curious rock half suspended in the air. The descent was made by the E. ridge and the snow slopes of the Lauzon Glacier, the King's hunting lodge being regained in 55 minutes from the summit, and *Cogne* in 1 hr. 40 min. more. No cairn was found on the summit, and but one previous ascent seems to have been recorded—that of Mr. Yeld, with Alphonse Payot, on August 9, 1879. This party went up by the S. ridge from the Col de l'Herbetet, and down by the E. ridge and Lauzon Glacier.* The peak bears no name on the Italian map; that of Gran Sertz is taken from Mr. Yeld's map.†

PUNTA CREVASSE (3,303 mètres = 10,837 feet, New Italian map; 3,307 mètres = 10,850 feet, Paganini). *August 21.*—The same party made the first ascent of this peak, on their way from *Cogne* to Aosta by the Col de Trajo (2,872 mètres) and Vièyes. Starting from *Cogne*, they gained (3 hrs. 40 min.) a point 150 or 200 feet higher than and to the south of the Col de Trajo. They then followed the ridge to the south, in the direction of the peak, but in about 25 minutes were forced by the numberless rock teeth on the arête to skirt round their base on the W. flank of the mountain. Some troublesome bits of rock-work had to be accomplished before the party were able, by means of a very steep gully filled with loose rocks, to regain the N. arête of the peak, whence a few minutes along it brought them to its highest

* *Bollettino del C.A.I.* vol. ix. p. 363; vol. x. p. 354, note; vol. xi. p. 16.

† Published in vol. xii. of the *Alpine Journal*, p. 493. For the various usages of the name Grande Serre see *ibid.* vol. xi. pp. 480-1.

point ($1\frac{1}{2}$ hrs. from the point where the ridge was first left). Throughout the ascent the rocks were detestably rotten and treacherous. The view was very quaint, as the peak rises between two unnamed glaciers, and almost at the foot of the great snowy N. arête of the Grivola. A much easier way was discovered on the descent, though it is far from being the most obvious one from below. Descending along the perfectly easy S. ridge for a very short distance, the party struck obliquely from right to left down the lower part of the great rocky W. face of the peak, far below the teeth which had given so much trouble in the morning. In this way, without any difficulty at all, a point slightly below the level of the Col de Trajo was reached in 55 minutes from the top of the peak. The track of the col was soon rejoined by means of débris, and the beautifully situated huts of Gran Nomenon in 35 minutes more. A very rapid descent down a very picturesque glen led to the hamlet of Vièyes (1 hr. 25 min.), on the usual track from Cogne to Aynavilles, and Aosta was reached the same night.

GRAND ROC NOIR (3,537 mètres = 11,605 feet); POINTE DE VALLONET (3,566 mètres = 11,700 feet). August 27.—Mr. Coolidge, with young Christian Almer, starting from Lanslebourg, followed the usual road to Bessans as far as the hamlet of Champs (20 min.), whence, mounting due N. in a nearly direct line, they gained the ridge, separating two lateral valleys, of which the highest point is marked 3,133 mètres on the French map, and then proceeded along it and the S.E. arête of the Grand Roc Noir to the very base of the final pyramid. Climbing directly up the rocky S.E. face to the base of the last red rocks, they bore round to the E. foot of the peak (5 hrs. 20 min. from Champs), the summit of which was attained in 15 minutes more by rather steep though not difficult rocks, then iced and very cold. Returning to the E. foot of the peak in 15 minutes, a traverse along a snowy crest to the E., followed by a short descent to the N., brought them to the S. foot of the Pointe de Vallonet, which was easily climbed by a snow slope and broken rocks in 25 minutes. Returning by the same route to the E. foot of the Roc Noir (15 min.), they descended by a snowy gully to the little glacier lying to the S.E. of the peak, quitted it on the left bank (in 25 min. from the E. foot of the Roc Noir), descended a great quantity of moraine, and bore round to the E. by a sheep track above steep rock precipices which led them to the upper pastures, the Chalets de la Fesse being reached in 1 hour from the glacier. Passing along these pastures, and close to the chapel of St. Antony, they descended by a rough path to the hamlet of La Magdeleine (1 hr.), at the summit of the low pass between Lanslebourg and Bessans, whence Bessans was reached in 1 hour more, the entire journey from Lanslebourg to Bessans having taken $12\frac{1}{2}$ hours, including halts.

On August 9, 1880, M. Edouard Rochat took the two peaks on his way from one village to another, but, having followed a more circuitous route (rather farther to the E.) than the party of 1889, he employed no less than 18 hours (including halts) in effecting the expedition * He found a large cairn on the Roc Noir, built by the

* *Annuaire du Club Alpin Français*, 1880, pp. 109-12.

French engineers (probably in 1864, when the district was resurveyed), in which there was, in 1889, besides his card, an undated one of M. Edmond Eselin, sub-lieutenant in the 13th Chasseurs. No traces of any ascent since M. RoCHAT's were found on the Vallonet; a small cairn alone indicated that it had been previously visited. The party of 1889 were of opinion that the Roc Noir was slightly the higher of the two peaks, and that there was some mistake in the figures attributed to each on the map. In any case the peaks are the highest in the extensive district between the Col de la Leisse, the Levanna, and the Tranteleina (Ste. Hélène).

PELAOU BLANC (3,136 mètres = 10,289 feet); POINTE DES LESSIÈRES (3,087 mètres = 10,128 feet). *August 28.*—The last-named party, starting from Bessans, followed the Iseran path past Bonneval as far as the new bridge a little way beyond the old Pont de la Neige (3 hrs. 25 min.), then struck up to the S.W. over grass and débris, reached ($\frac{1}{2}$ hr.) the glacier between the Pelaou Blanc and the Ouille de la Jave (2,885 mètres), traversed it in a S.W. direction as far as a rock spur (overlooking another small glacier at the lower end of which there is a fine glacier lake), and then mounted direct over débris and rocks to the Col des Fours (2,987 mètres; 1 hr. 5 min.). Thence in $\frac{1}{2}$ hr. the summit of the Pelaou, the highest summit in the spur extending N. from the Méanmartin peaks to the upper valley of the Isère, was climbed by the broken rocks of its S. arête. A cairn of unknown origin was found on the peak, the view from which was of great beauty and of the utmost topographical interest. The white rocks of which the peak is composed, and to which it owes its name, are in striking contrast with the darker ones which make up the neighbouring ridges. Descending by the N. ridge of the peak to the Col de l'Arselle (3,053 mètres, 10 min.), the party remounted along the rocky ridge to the N. to a peak not marked on the map, but certainly exceeding in height that of 3,087 mètres further to the N. (15 min.). Descending in 20 min. by its N. ridge to an easy but hitherto unnoticed pass (which leads from the Calabourdane glen to the Iseran path, like the Cols des Fours and de l'Arselle, and has on its W. side a fine crevassed glacier not shown on the map, and on the E. side a small glacier which is therein indicated) they once more remounted a rocky ridge to the peak marked 3,087 mètres (20 min.), the position of which is accurately given on the map, at least with regard to the large Lac de l'Oughetta. Descending a few steps down the W. ridge of this peak, a glissade down the snow field named Glacier des Lessières on the map took them to the pastures (15 min.), whence bearing nearly due N. they struck a path which led them past two chalets and through a gorge between the Calabourdane and Iseran glens, by which the old Iseran track was rejoined near the hamlet of Laisenant, a short distance above La Val, in the upper Isère valley, the latter village being reached in 1 hr. 20 min. from the glacier.

This 'Gratwanderung' from the Col des Fours to the peak 3,087 mètres, though lying over summits of but moderate height, commanded a series of the most superb views on every side; but the ridge is very imperfectly represented on the French map, and

even on the excellent map of the Southern Graians, published by Mr. R. C. Nichols in vol. iii. of the 'Alpine Journal,' for an important peak and glacier are in both simply passed over without notice. The old Sardinian map is even more defective, save in the delineation of the lower gorge. The French and Sardinian maps and Mr. Nichols give the name of *Pointe des Lessières* to a point marked 2,880 mètres, close to the Iseran, but it seems to belong more properly to the peak 3,087, which might, however (in case such a transference of names be considered inconvenient), be called '*Pointe de l'Ouglietta*,' from the lake not far from its N.W. foot. It may be added that the Col des Fours here mentioned is the Col des Fons of Mr. Nichols' map; and that the peak of 3,100 mètres, marked on the French map to the north of that of 3,087, is distinctly lower than this last.

POINTE DE BAZEL (3,443 mètres = 11,296 feet, French map), or PUNTA CALABRE (3,446 mètres = 11,306 feet, New Italian Survey); CIME DE QUART DESSUS (3,474 mètres = 11,398 feet, both maps); COL DE LA TSANTKLEINA (3,167 mètres = 10,391 feet, New Italian Survey). August 29.—The last-named party, starting from La Val, in the upper Isère valley, reached (3½ hrs.), by the usual route, the true Col de Rhêmes (3,062 mètres, French map; 3,101 mètres, Italian map), and attacked the rocky E. face and ridge of the peak lying immediately to the W. of the col. The face, though steep, was broken and easy, so that they gained the highest rocks without any difficulty, and thence walked a short distance along the snowy N. ridge to the summit (gained in 1 hr. 15 min. from the col), a huge rounded snow-dome, descending in gentle snow-slopes on the N.W. side, and with a lower rocky point to the S., on which the cairn was built. This is believed to be the first ascent of the peak; for though in Signor Vaccarone's list of first ascents* the peak is stated to have been scaled (while the New Italian Survey was being made) on August 7, 1881, by Signor E. Troya, with two corporals of the 19th battalion of Alpine troops,† the absence of any cairn on the summit—despite numerous stones—shows that this peak was not climbed by the Italian party. There appears to be no other allusion in Alpine literature to any ascent of the point, and hence the 1889 party feel justified in claiming to have been the first on it. They propose to call the summit '*Pointe de Bazel*,' in accordance with

* *Bollettino del Club Alpino Italiano*, 1886, 'Alpi Graie,' No. 193.

† In a letter addressed to Signor Vaccarone, Signor Troya states that he ascended the *Pointe de Calabre* from the Col de Rhêmes, '*sempre per cresta dal lato est*,' taking 1½ hrs. from the col to the peak, and building thereon a cairn 50 centimètres (or 20 inches) in height. These details are so vague as to the precise peak climbed that, in the total absence of a cairn in 1889, it may remain doubtful whether Signor Troya climbed this peak or that to the E. of the col. That he really went up the latter is rendered probable by the facts (1) that after his return to the col by the same route he crossed the glacier to the N. to the foot of the Granta Parei, whereas from the summit of the *Pointe de Bazel* unbroken easy snow-slopes stretch down to the glacier, so that the return to the col would have been unnecessary; (2) that until the publication of the new Italian map (surveyed in 1881) the name *Pointe de Calabre* was always given to the peak rising to the E. of the Col de Rhêmes (see below, pp. 491-2).

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the local usage at La Val, though the name is misapplied on the French map to the Tsanteleina (see M. Henri Ferrand's article in the '*Annuaire du Club Alpin Français*,' 1888, pp. 92-3). Descending in 5 minutes by easy snow-slopes from the Pointe de Bazel to a depression to the N. (marked 3,355 mètres on the Italian map), they remounted, by the rocky S. rim of its E. arête, the beautiful snow peak marked 3,474 mètres, which is, apparently, included by the French map in the general name 'La Grande Parei,' which belongs properly to a well-known peak in Italy, just N. of the Tsanteleina or Ste. Hélène. The ascent, which was perfectly easy, took 25 minutes from the depression, and the party, exercising the privilege of the first party on the top, christened it 'Cime de Quart Dessus,' from the local name of the small glacier on its W. flank. Beyond this peak there is a slight depression (3,436 mètres of the Italian map), and then comes a bold rocky ridge (rather higher than 3,474), which is really but a part of the arête running up to the Tsanteleina, and is not specially marked on any of the maps. It is from the Cime de Quart Dessus that the great spur dividing the Quart Dessus Glacier from the Bazel Glacier to the S. takes its origin, and this peak may, therefore, claim an independent existence.

Returning to 3,355 in 15 minutes by way of the beautiful snowy E. ridge of the Cime de Quart Dessus, the party then struck to the N. across the nearly level snows of the uppermost part of the great Rhêmes Glacier (called 'Ghiacciaio dei Socce' by the New Italian Survey), and in 30 minutes gained the broad snowy opening (3,167 mètres of the Italian map) between the Tsanteleina (3,606 mètres) to the S. and the Granta Parei (3,473 mètres; inaccurately written Grand Apparei) to the N. It was named the 'Col de la Tsanteleina,' for this is believed to be the first occasion on which it has been crossed as a col. (It was first reached, minus the last few steps, from the French side, on August 5, 1878, by Mr. Coolidge and the Almers, on the occasion of the first ascent of the Tsanteleina from the N., and has since been attained, by one or the other side, by several Italian and French climbers, both sides not having, apparently, been traversed by the same party till August 29, 1889.) Descending by a broad and easy glacier towards the main glacier coming down from the Col de la Gioletta (or Gailletta), the party bore round to the W., quitted (20 min.) the main glacier on its left bank (the usual route from the Col de la Gioletta leaves the ice on the right bank), and then traversing moraine (in part below a hanging glacier), rocks, and grass, remounted (1 hr.) to the beautiful, though well-hidden, Lac du Santet, whence in 25 minutes more they gained the Col de la Bailletta (2,855 mètres), from which a rough track led them down in 1 hr. 5 min. to Fornet, and to La Val ($\frac{1}{2}$ hr.). Thus the party had made the complete circuit of the still little known peak of the Tsanteleina, though they were absent from La Val only 13 hrs. 10 min., from which 3 hrs. 35 min. must be deducted for halts, leaving 9 hrs. 35 min. actual walking. The views throughout the day were most superb, the weather being perfect. Both peaks can be admirably seen by a few minutes' walk from La Val, whether to the S. or E. It is to be noted that the New Italian Survey is far more accurate in these parts than the French map.

COL DE BASSAGNE (3,160 mètres = 10,371 feet, Puiseux; about 3,130 mètres = 10,270 feet, Coolidge); POINTE DE CALABRE (3,363 mètres = 11,034 feet, French map), OR ROC DEL FONTE (3,276 mètres = 10,749 feet, New Italian Survey); COL DE CALABRE (3,081 mètres = 10,109 feet, New Italian Survey; 3,115 mètres = 10,220 feet, Puiseux). August 31.—The last-named party, starting from La Val, followed the usual route of the Col de la Galise (Galese) as far as the entrance of the little glen named 'Le Niclet' on the French map (1 hr. 55 min.). Mounting along the path on the right bank of the stream flowing through this glen to the moraine at the foot of the Bassagne and Galise Glaciers (35 min.), they ascended by that of the Bassagne Glacier to the base of that glacier (25 min.). Climbing up its right bank and round a conspicuous yellow knob of rock, they took to the glacier itself ($\frac{1}{2}$ hr.) just above the ice-fall, whence $\frac{1}{2}$ hr. more over the easy glacier and snow slopes led to a mound of débris rising between the double snowy depression of the Col de Bassagne. The ascent to the col was perfectly easy, though there was no snow on the lower portion of the glacier, and might also be made by the rocks on the left bank, or straight up the glacier by means of a moderate amount of step-cutting. The descent on the Rhêmes side was made direct from the mound above mentioned, down a glacier with a number of crevasses, so that bearing gradually to the left the party gained in 35 min. from the col the moraine (at the N. base of the Rocca Basagne) separating that glacier from the glacier coming down from the Col de Calabre more to the west. This is the first complete passage of the Col de Bassagne, for though MM. Puiseux and Boutan on August 17, 1877,* reached it from the Rhêmes side, they found it impossible to force their way down on the French side, and had to gain the Isère valley by traversing round to the Col de Calabre, the first passage of which MM. Puiseux and Maingot had made on August 21, 1876.†

Mr. Coolidge and his guide then traversed round the N. base of the Rocca Basagne (3,224 mètres, Italian map, or 3,232 mètres, French map), but having gained the slopes just below the Col de Calabre ($\frac{1}{2}$ hr.), found that from that direction it was impossible to climb the peak between that col and the Col de Rhêmes, so descending to the lowest point of the glacier coming from the Col de Calabre (10 min.) they traversed it below (to the N. of) the wished-for peak, and ascending a steep slope of stones gained the right bank of the great glacier (Ghiacciaio di Centelina of the Italian map) which extends along a great shelf under the precipices of the Granta Parei, and above the main Glaciers de Rhêmes (25 min.). Thence by this glacier they gained the Col de Rhêmes (20 min.), whence crossing a bergschrund (5 min.) they climbed up the easy broken rocks of the N.W. ridge, the great snow slope on the W. face, and the rocks of the S. arête, of the peak, reaching its summit in 35 minutes from the bergschrund. A cairn was found there with a card stating that the first ascent of the peak had been made (also from the Col de Rhêmes) on

* *Annuaire du Club Alpin Français*, 1878, pp. 215-21.

† *Ibid.* 1876, pp. 198-200.

August 13, 1888, by M. Dulong de Rosnay with Victor Mangard, of La Val, who had been obliged to cut no fewer than 200 steps on the snow slope.* The peak climbed on August 31, 1889, is called Pointe de Calabre (3,363 mètres = 11,034 feet) by the French map, and Roc del Fonte (3,276 mètres = 10,749 feet) by the Italian map. The former name is that by which it is most generally known, but the Italian height is probably the most correct, as the point is far lower than the Pointe de la Galise (3,342 mètres, French map; 3,345 mètres, Italian map), and is not so very much higher than the Rocca Basagne (3,224 mètres, Italian map, or 3,332 mètres, French map), though, on his card, M. Dulong de Rosnay attributes to it the exaggerated height of 3,385 mètres. From the summit (as from the Col de Rhêmes) the church of Notre Dame de Rhêmes is a conspicuous object. Returning to the W. foot of the peak in 13 minutes, the party then retraced their steps towards the Col de Calabre, the summit of which was attained in just over 1 hour from the W. foot of the peak, or 20 minutes from their morning's track across the glacier on its N. side. It seemed to them that either the Italian height of the col was much too low, or that of the Rocca Basagne (ascended on August 21, 1876, by MM. Puiseux's party in a few minutes from the Col de Calabre, and on September 8, 1889, by Signor Bobba by the N.E. face from the Col de Bassagne†) much too high, for the difference is not more than 200 feet. The height assigned to the col by MM. Puiseux seems far nearer the truth. Descending the easy glacier on the French side, the ice was quitted at the end of the glacier in 15 minutes from the col, and the track of the Col de Rhêmes rejoined (10 min.) at the base of the common moraine of the two glaciers, whence 1 hr. 40 min. sufficed to regain La Val by the ordinary route of the latter col. The party were absent from La Val 13 hrs., of which 9½ hrs. were actual walking.

Thus in the course of their explorations on August 29 and 31 Mr. Coolidge and Almer crossed four of the passes leading from the Isère valley to the Rhêmes valley, viz. Cols de Rhêmes and de Calabre (old), Cols de Bassagne and de la Tsanteleina (new), having in 1878 and 1886 crossed the fifth, Col de la Goletta. In 1889 they also ascended three out of the four peaks on the ridge between these cols (Pointe de Basel, Cime de Quart Dessus, Pointe de Calabre, but not the Rocca Basagne), having in 1878 ascended ‡ the Sassièrre and Petit Mont Bassac, which form the W. extremity, and in 1886 § crossed over the Pointe de la Galise at the E. end of the chain dividing the Rhêmes valley from France, so that this ridge is now thoroughly explored and accurately known.

It may be of use to state that the great glaciers known collectively as 'glaciers de Rhêmes' really form three well-marked groups—

* *Annuaire du Club Alpin Français*, 1888, pp. 114–19. As pointed out above (p. 489, *note*), this may have been the peak ascended by Signor Troya on August 7, 1881. In 1888, M. Dulong de Rosnay took 1½ hrs. from the col to the top (not 2½ hrs., as printed in error in the *Annuaire*).

† *Rivista Mensile del C.A.I.* September 1889, p. 318.

‡ *Alpine Journal*, vol. ix. pp. 101–2.

§ *Ibid.* vol. xiii. pp. 119–20.

1. *The upper shelf under the Tsanteleina and Granta Parei.* This is called on the Italian map by the double name of 'Ghiacciaio di Centelina' and 'G. dei Socce,' and over it lies the way from the Cols de Rhêmes, de la Tsanteleina, and de la Granta Parei.*

2. *The Glacier extending along the N. side of the Pointe and Col de Calabre,* down which comes the Col de Calabre route.

3. *The Glacier extending thence to the E. towards the Pointe de la Galise,* over which is the route from the Col de Bassagne and Pointe de la Galise.

2 and 3 are separated only by a moraine at the N. foot of the Rocca Basagne, and are grouped together by the Italian map under the common name of 'Ghiacciaio del Fonte.'

POINTE DU FOND BY THE SOUTH RIDGE (3,673 mètres = 12,051 feet, New Italian Survey; 3,653 mètres = 11,985 feet, French map); POINT DES PATTES DES CHAMOIS, OR PUNTA DEI CAMOSCI (3,609 mètres = 11,841 feet, New Italian Survey; 3,632 mètres = 11,917 feet, French map); BECCA DI SUESSA (3,421 mètres = 11,214 feet, New Italian Survey), OR AIGUILLE DU GLACIER (3,412 mètres = 11,195 feet, French map). *September 2.*—The last-named party, starting from Tignes, followed the usual route up the Aiguille de la Sassièr (by way of the Réviette chalets and the ridge between 'La Davie Signal' [3,162] and the point 3,278 mètres) to the base of the final snow-cone of that summit ($4\frac{1}{2}$ hrs.), and then bore to the N.E. over the glacier to the well-marked depression between the Sassièr and the peak 3,673 or 3,653 (20 min.), whence by the snowy S. arête and some easy shaly rocks the summit of the latter was gained (20 min.),† the view from it being exceedingly fine. Descending by the snowy N. arête to the Col du Fond (3,341 mètres, New Italian Survey) in 20 minutes, they followed the rocky ridge to the N. as far as a deep notch at the base of the peak 3,609 or 3,632 (20 min.), whence, skirting by their W. flank several rocky teeth, they regained the crest of the S. arête, and attained the summit of the peak (25 min. from base). The view obtained was again exceedingly fine. They then traversed a long and easy snow-ridge and snow-slopes, and mounting by its rocky S. arête, gained the top of the Becca di Suessa (50 min. from 3,609). Some glissades down the easy N. face of the peak and over the Suessa Glacier brought them to a glacier lake, and then to the N. edge of the glacier (20 min.), whence, traversing round the E. base of the point 3,116–3,122 mètres, and over stone slopes to avoid some high rocky precipices, they descended in 10 minutes till quite close to and on a level with the Col Vaudet (called Colle di Suessa or di Sarron on the Italian, and Passage du Rocher Blanc on the French map). From this point a rough scramble down stones and débris led them in 15 minutes more to the valley descending from the col on the Italian side. Following the track from the col, they reached (1 hr. 55 min.)

* *Alpine Journal*, vol. ix. pp. 100, 481.

† A great cairn was found on this peak, as well as a long wooden funnel or case, on which were cut the names of three Val Grisanche men and the date '20/7/1880.' Both objects are most probably relics of the new survey of the Italian Alps, made in 1880–1.

the hamlet of Fornet, at the head of the Val Grisanche, after a long but enjoyable traverse along a lofty ridge commanding superb views.

On July 22, 1876, the late M. Henri Cordier made the first passage of the Col du Fond (leading from the Vaudet chalets to Tignes), whence he made the first ascent of the peak 3,673 or 3,653 by its N. arête.* He called this peak *Pointe de la Sassièrè*, a name which, to avoid confusion with the loftier peak to the S., might well be changed to *Pointe du Fond*, from the magnificent glacier descending from both peaks on the W. flank. On August 17, 1889, Signor Giovanni Bobba, with Casimir Thérissod, of Notre Dame de Rhêmes, starting from the chalets of Soches, gained the summit of the *Sassièrè* by the E. arête from the Col de Bassac Déré, descended from it along its N. arête, traversed the *Pointe du Fond*, and made the first ascent of the peak 3,609–3,632, which he christened, descending thence to the Vaudet chalets by the *Glacier des Pattes des Chamois* on the N.E. side of the peak.† Signor Bobba's expedition was unknown to the party of September 2, until his cards were found on the *Pointe du Fond* and the *Pointe des Pattes des Chamois*. There was no trace of any previous ascent on the *Becca di Suessa*, so that the party of September 2 built a cairn there (on stones on the French side, just below the snowy summit) and consider themselves justified in claiming to have made the first ascent of this fine summit.

GRANDE BECCA DU MONT OU DE L'ANO (Sardinian map), OR GRANDE BECCA DU MONT (3,193 mètres = 10,476 feet, New Italian Survey), OR BEC DE L'ANE (3,218 mètres = 10,558 feet, French map). *September 3*.—The last-named party, on their way from Fornet, in Val Grisanche, to Sainte Foy by the Col de la Sachère or de la *Sassièrè* or du Lac (2½ hours up, 3 hours down), ascended from the col in 55 minutes by the N. face (easy broken rocks and snow) this fine isolated peak, the culminating point of the frontier ridge between that col and the Col du Mont. A half-ruined cairn and the walls of a stone hut (both probably built by the surveyors for the New Italian Survey in 1880 or 1881) were found on the lower or E. peak overhanging the lake and oratory of San Grato, but there were no traces of any previous ascent on the slightly higher W. peak (a few minutes distant along an easy ridge) which dominates the Lac Noir on the French side. The view must be very fine when free from clouds, for the Rutor is close at hand, backed by the Mont Blanc range, with the broad pasture basin of La *Sassièrè* de Sainte Foy as a foreground, while to the S. and W. the Grivola and Grand Paradis, the *Sassièrè*, the Tsanteleina, and the Invergnan come out very grandly.

PIC DU RIBON (3,543 mètres = 11,625 feet). *September 7*.—The last-named party, having ascended the Roche Melon (11,605 feet) by the ordinary route from Bessans (5 hrs. 35 min. walking), returned to the foot of the final snow cone, and then traversed in a N.E. direction the great snow plateau on its N. side known as the Roche Melon, or Ribon

* *Annuaire du Club Alpin Français*, 1876, pp. 160–2; *Bulletin du C.A.F.* 1876, p. 210; *Alpine Journal*, viii. 100–1.

† *Rivista Mensile del C.A.I.* September 1889, p. 318, and private information.

Glacier. They thus gained the ridge overlooking the Glacier de Derrière le Clapier to the E., and following the easy broken rocks reached (1 hr. 20 min. from the summit of the Roche Melon) by its S. arête the peak marked 3,543 mètres on the French map. (It was first ascended on July 21, 1889, by Monsieur Henri Ferrand, who christened it 'Pic du Ribon,' and was again reached on August 8, 1889, by Count Luigi Cibrario and Signor Luigi Vaccarone, both parties having followed the S. ridge*). The view from the summit was very fine, and enabled one to understand thoroughly the intricate ranges lying between the summit and the Albaron.

The party then descended the Glacier de Derrière le Clapier by a new and easy route (the only one previously known being the very difficult Passo Castagneri, lying some distance S. of the peak †). Following the N. ridge of the Pic du Ribon till a little way above the hollow between it and a lower snow dome to the N. (marked 3,510 mètres on the French map), they then traversed the snow slopes on the E. of the ridge, crossed the great snow couloir descending immediately from the aforesaid hollow, gained the rocks on its left bank, and went straight down a narrower gully, then well filled with snow, to the glacier, which was reached in 35 minutes after quitting the summit of the Pic du Ribon. (To the N. of the snow dome is a broad depression—marked 3,361 mètres on the French map—which looks quite easy, and forms the natural communication between the Ribon and the Derrière le Clapier Glaciers.) Keeping rather to the left, the glacier was descended throughout its whole length, and quitted at its lowest end in 50 minutes more, the Col de l'Autaret path being joined immediately after on the right bank of the stream. By this path, which passes through the wild Vallon de la Lombarde and by the hamlet of Avérole (the highest in the Alps), Bessans was regained in 3 hrs. 10 min. from the glacier, after a long but most interesting expedition.

COL DE SAINT GRAT (circa 3,350 mètres=10,981 feet). *September 4, 1886.*—Mr. Coolidge and young Christian Almer ascended from the Val Grisanche to the great Ruitor glacier by a route which at the time was not believed to present any novelty (being obvious, direct, and easy), but of which no record seems yet to have appeared in print, so that it is now noticed in the hope of eliciting further information.

Starting from Fornet, at the head of the Val Grisanche, they followed the Col du Mont track for some time, and then the path, which bears to the N. round the hill-side on the left and later on the right bank of the tributary stream, to the glacier lake and oratory of San Grato (1 hr. 50 min.). Steering to the left round the lake, they ascended due N. through a rocky glen and up two rock steps or terraces at its head (35 minutes). Traversing to the left over a small glacier in 15 minutes, they mounted by stones to the left-hand extremity of a long snow band (35 minutes), whence in 50 minutes, by rocks and snow, they gained the S. edge of the great Ruitor Glacier, the crest of which, between the Ruitor and the Becca du Lac (not far from

* *Rivista Mensile del C.A.I.* August 1889, p. 254.

† See *Bollettino del C.A.I.* 1883, pp. 264-75.

the E. foot of the latter point), was gained in 2 hrs. 15 min. (slow walking) from the lake.* The glacier was then crossed to the N.E., and the usual route joined at the N. foot of the highest point of the Ruitor, the summit being gained in 45 minutes from the pass, which may be fitly named 'Col de Saint Grat.' The descent was made (in 4 hrs. 40 min. walking) to La Thuile, on the Little St. Bernard road, by the chalets of Ste. Marguerite, and the Lac du Ruitor, now sadly shrunken and desolate looking.

BESSANESE BY THE NORTHERN ARÊTE (3,632 mètres=11,917 feet, Italian map), OR LES GRANDES PAREIS (3,617 mètres=10,867 feet, French map). *September 2.*—Signor Guido Rey, with Antonio Castagneri, of Balme, starting from the Crot del Ciaussiné club hut (Rifugio Gastaldi), reached, in 1½ hours, the Colle della Bessanese, just north of the peak. Then, climbing over the W. wall to a notch in the N. arête, about 50 mètres higher than the col, they followed the N. arête straight up to the N. point (apparently not before climbed) in 4½ hours' walking from the col, and in 15 minutes more gained the highest summit. The descent was made to the Col d'Arnas.†

Mont Blanc District.

DÔME DE ROCHEFORT FROM THE ITALIAN SIDE (3,997 mètres=13,114 feet). *September 14.*—Mr. William Muir, with Emile Rey and David Proment, starting from the Grandes Jorasses Club hut at 6.20 A.M., followed the usual Grandes Jorasses route for about 15 minutes, and then crossed the glacier above the ice-fall. Passing the bergschrund at 7.30 A.M. at a point considerably south of the extremity of the conspicuous snow-couloir seen from the hut on the eastern face of the peak, they climbed up the rocks of the S. arête. Following this arête till it joined the main mass of the mountain by a short saddleback of snow, they then crossed, at its narrowest point, a snow-couloir which cuts off this arête from the upper part of the mountain, and got on to another arête—virtually a continuation of the former one—and followed it till it too was cut by the great snow-couloir on the E. face. Traversing to the west, and climbing up a rather difficult chimney, the party gained at a point just north of a small gendarme the final arête of tolerably firm rock, by which (in 50 min.) the summit of the peak was gained at 11.35 A.M. Leaving the top at 12, the party descended the chimney by the aid of a second rope, recrossed the bergschrund at 4.45, and reached the hut at 5.25. Halts, 35 min. up, 55 min. down—in all 1½ hrs. The rocks on the peak are loose and rotten, so that its ascent is only to be recommended after a long spell of fine weather. The mountain was first climbed by Mr. J. Eccles, on August 12, 1881, from the French side by way of the Leschaux Glacier.‡

* It was the lofty cliff of snow in which the Ruitor Glacier ends on the S. side that deterred Mr. Mathews' party in 1861 from descending, by the route described above, to the Lac de S. Grat and the Col du Mont track. (See *Peaks, Passes, and Glaciers*, 2nd series, ii. 388.)

† *Rivista Mensile del C.A.I.* September 1889, p. 317.

‡ *Alpine Journal*, vol. x. p. 405.

AIGUILLE DE L'ALLÉE BLANCHE (3,474 mètres = 11,398 feet, Viollet le Duc; 3,709 mètres = 12,169 feet, Mieulet) OR AIGUILLE DE LA SCIE (3,694 mètres = 12,120 feet, New Italian Survey). COL DE L'ALLÉE BLANCHE. July 25.—MM. Attinger and L. Kurz, with J. Croz and Jos. Simon, starting at 6.10 A.M. from a bivouac on the right bank of the Trélatête Glacier, about $2\frac{1}{2}$ hours beyond the Pavillon, mounted that glacier to the foot of the Aiguille de l'Allée Blanche (7.30 A.M.), and thence climbed up by a steep but not difficult slope to the col which lies immediately to the N. of the peak, and was gained at 11.30 A.M. Leaving the pass at noon, the party ascended the Aiguille de l'Allée Blanche in $2\frac{1}{2}$ hours, along a very narrow snow-ridge on which steps had to be cut continuously. The return to the pass took 45 minutes, and the party easily descended to the Glacier de l'Allée Blanche, but having been entangled in the séracs on its left side, were forced to pass the night on the slopes of the Mont Suc.

The Col de l'Allée Blanche is rather higher than Messrs. C. E. and G. S. Mathews's Col de Trélatête,* of which it is a variation, pointed out by Mr. George.† The col and the pass can be well seen on the diagram given in the 'Alpine Journal,' vol. ii. p. 290.

GRANDE LUIS (about 3,500 mètres = 11,484 feet). June 3.—MM. Attinger, Colomb, and Kurz, with J. Bessart, F. Biselx, and a porter, starting from the Cabane d'Orny at 1.30 A.M., crossed the Fenêtre de Saleinaz and the upper part of the Glacier de Saleinaz to within a short distance of the foot of the Col de la Neuva. Turning to the left, the party proceeded in the direction of the N.W. arête of the Grande Luis, which was gained about one-third of the way up, just where is a little snowy saddle. The summit was attained at 8.10 A.M. by following the arête. The party descended to the La Neuva Glacier by loose rocks and a snow slope, and then turning to the left, joined the route of the Col de la Grande Luis at the foot of the couloir, following which they reached the La Neuva chalets in the Val Ferrex at 12.30. The peak rises N.E. of the Tour Noir, and on the ridge between the Saleinaz and La Neuva glaciers, and is indicated by name, but without height, on the Siegfried map.

COL DE LA GRANDE LUIS (3,440 mètres = 11,286 feet). August 20, 1888.—MM. Barbey and Kurz, with J. Bessart and Jos. Simon, starting from the Pavillon de l'Ognan, traversed the Col du Chardonnet ($4\frac{1}{2}$ hours), and crossing a secondary glacier to the S. of the Saleinaz Glacier gained (3.10) this col, which is the depression between the Grande Luis to the W. and the Darrei (3,537 mètres, on the Siegfried map) to the E. Descending by the rocks on the right bank of the snow couloir (exposed to stones from the Darrei), which falls from this col towards the Glacier de la Neuva, they gained this glacier, and without any difficulty by the left bank of the glacier and gazon reached the La Neuva chalets in the Val Ferrex in $3\frac{1}{2}$ hours from the pass.

This col is parallel to the Col de la Neuva (3,420 mètres), which lies between the Grande Luis and the Aiguille de la Neuva (3,750

* *Alpine Journal*, vol. ii. 285, 288-292.

† *Ibid.* vol. ii. p. 400.

mètres), and which was first crossed on September 21, 1876, by Monsieur A. Guyard, with Henri Dévoussoud and Auguste Cupelin.*

Arolla District.

AIGUILLE DE LA ZA FROM THE WEST (3,662 mètres=12,015 feet). *July 26.*—Miss Richardson, with Emile Rey and J. B. Bich, ascended the buttress directly facing Arolla, keeping mainly to the right as far as the base of the final pinnacle. Turning to the left, they reached the W. face by a crack of a deep orange tinge across a smooth wall of rock. After ascending about 70 feet they were obliged to turn to the right and proceed close under the W. arête by ledges and cracks across smooth rocks until within a few feet of the summit, when the crest of the W. arête was gained. Attempts, rendered ineffectual by loose rocks, were made to keep entirely on the arête. The party descended by the usual route.

PIGNE D'AROLLA FROM THE N.E. (3,801 mètres=12,471 feet). *August 2.*—The same party followed the usual route for a short distance on the Glacier de Pièce; then, passing below the icefall descending from the face of the mountain, reached a prominent rocky buttress. The rocks, generally smooth and covered with débris and fresh snow, were climbed for 1 hr. 15 min., and then left for very steep snow-slopes, which led, in 1 hr. 5 min., to a point on the E. arête, 30 min. from the summit. Times exclusive of halts.

PIGNE D'AROLLA BY THE NORTHERN FACE (3,801 mètres=12,471 feet). *August 5.*—Mr. Alfred G. Topham, with Jean Maître, left Arolla at 2 A.M., and reached the bottom of a large snow couloir on the west side of the Pièce Glacier. Ascending this partly by the shaly rocks on its sides, the top of the long rock arête dividing the Cijorénove Glacier from the Pièce was reached at 4.50 A.M. Hence the route lay up a sharp snow and rock arête, which suddenly turns to the right in a long curve extending to the foot of the actual face (6.40 A.M.). The height from this point to the top was found by aneroid to be 1,300 feet, and is exceedingly steep, the lower portion (after the schrund is passed) being the worst, and composed of blue ice with a very thin coating of snow. The patches of rock to the left were useless, owing to excessive rottenness. The ascent of the face was made 'à quatre pattes,' the steepness allowing of no upright standing. The top was reached at 10.15 A.M. In descending the E. arête was followed, and the hôtel regained at 3 P.M. (A few days later Miss C. M. Gardner descended from the Pigne by this new route.)

DENTS DES BOUQUETINS BY WEST FACE AND SOUTH ARÊTE (3,848 mètres=12,625 feet). *August 10.*—Mr. Topham's party, with Pierre Maître, left Arolla at 2 A.M. From the upper Arolla Glacier they made for a large couloir which lies between the highest peak and the southern peak (3,690 mètres), and therefore a good bit to the north of the spur marked 3,097 mètres on the Siegfried map. After crossing a nasty

* See *Annuaire du Club Alpin Français*, 1876, 230-5. For the general topography consult *Alpine Journal*, vol. xiv. 405-6, the sketch map in the *Echo des Alpes*, 1888, p. 263, and the outline sketch, *ibid.* 1889, p. 189.

bergschrund (5.45 A.M.) the ascent of the couloir was found to be impossible, owing to ice, so the rocks to the north had to be taken to, and a way found up them. The whole of this face of the Bouquetins is composed of perpendicular rocks and plaques, covered, wherever anything will lie, with débris of large and small stones and dust. In two or three places it was possible to see clean through the buttresses. Twice the party were reluctantly compelled to strike far on to the dangerous face by reason of the perpendicular walls near the couloir. The ridge of the arête above the couloir (on a level with the southern peak) was reached at 8.45 A.M. From here, looking along the south arête, any attempt on the southern peak from this side seemed impossible, the arête being composed of knife-edged needles, mostly overhanging to the east, but the route might be done in the reverse direction. The point reached was cut off from the needles by the perpendicular wall of the couloir. The route from here lay up the south arête, which is composed of gendarme upon gendarme, the last one being the most awkward; but the rocks were found quite different from those on the face. The summit was reached at 11.30 A.M. The descent had to be made entirely down the north arête as far as the col, owing to the east face being impassable from ice-covered rocks. The hôtel was regained at 7 P.M. Anyone again attempting the west face of the Bouquetins must make an earlier start, as it is swept with stone avalanches, even in the early morning.

Monte Rosa District.

DENT BLANCHE BY THE S.E. FACE AND N.E. ARÊTE (4,364 mètres = 14,318 feet). *September 2.*—Mr. O. Eckenstein, with Matthias Zurbüchen, accomplished the ascent of this peak by a route which is believed to be the worst yet taken. Starting from Zermatt at 12.30 P.M. on September 1, they returned at 4 A.M. on September 3, not having slept out, but having gone straight through.

From the plateau of the Schönbühl glacier they climbed up rocks to the small hanging glacier on the S.E. face of the peak (6 hrs. 15 min.), and mounted it to the upper rocks (2 hrs. 5 min.). Climbing by these rocks nearly straight up to a short distance from the crest of the N.E. arête, they struck to the left across some snow couloirs, and then gained the crest of that ridge (3 hours). The N.E. arête was followed to the summit (4 hrs. 10 min.). The snow and ice were in very bad condition.

It will be observed that this route does not touch at any point the line of ascent from the Schönbühl glacier taken on August 21, 1874, by Mr. Whitwell, his route lying up the rocks of the S.E. face to the W. of the hanging glacier.* It joins on the N.E. arête the route followed on August 11, 1882, by Messrs. J. Stafford Anderson and G. P. Baker.†

DENT D'HÉRENS BY THE S.E. AND E. ARÊTES (4,180 mètres = 13,715 feet, Siegfried map; 4,175 mètres = 13,698 feet, New Italian Survey).

* *Alpine Journal*, vol. vii. pp. 107, 427-431.

† *Ibid.* vol. xi. pp. 119, 158-172.

July 19 and August 31.—Mr. H. W. Topham succeeded in making this new route up the Dent d'Hérens. Starting on July 19 from Breil, with Aloys Supersax and Clemenz Furrer, he mounted to the foot of the Glacier du Mont Tabor (Ghiacciaio del M. Tabel of the Italian map, Glacier d'Erin of Reilly's), and, immediately under the ice wall, which is continually sending down fragments, took to the rocks of the ridge bounding the glacier to the E., or the S.E. ridge of the peak. In 20 minutes, by a comparatively easy slope, the party gained the crest of that arête, when they roped and began a climb, which, up to the snowfields above, was steep and difficult. After surmounting or turning several 'gendarmes,' they traversed to the right for several hundred feet, parts of this traverse being particularly awkward. Then, by a rock gully, they regained the crest of the arête, $4\frac{1}{2}$ hours from their starting point 1,500 feet below. Crossing some snow, they again took to the rocks, leading up to the cup-like snowfields which lie at the very base of the peak itself, but from this point the party were forced by bad weather to return to Breil by the upper rocks of the S.E. arête and the M. Tabel glacier.

On August 31, Mr. Topham and Supersax, with Pollinger in lieu of Furrer, completed the ascent by this new route. Having gained the cup-like snowfields from the Stockje, they descended them to the point at which the party had been driven back on July 19. Reascending the arête back to these snowfields, they crossed them and climbed up to the summit by the E. arête, which descends towards the Matterhorn, gaining the top in about 3 hours from the highest point attained on July 19.

GROSS HOHWÄNGHORN (3,678 mètres = 12,068 feet). *August 30.*—Messrs. Ellis Carr and F. O. Schuster, with Josef Moser and Peter Baumann as guides, ascended this peak, which is well seen from the lower part of the Zmutt glacier on its left bank and from the Arben glacier, and which rises between the Hohwä nghorn and Mont Durand, the sight of which it completely hides from the above-named points of view. Starting from Zermatt at 4.10 A.M., they ascended to the higher plateau of the Arben glacier, and finding the rocks on the E. face of the mountain apparently impracticable, went up to the snow col between it and the Hohwä nghorn, connecting the Arben with the Hohwä ng glaciers. Ascending the latter for a few minutes in a N. direction and then facing E. and crossing a bergschrund, they climbed up to the S. ridge of the mountain by steep and very loose rocks, and by an easy snow arête gained the summit at 12.30.

The view from here, especially of the Dent Blanche, Matterhorn, and Gabelhorn, is interesting and most magnificent. The party descended by the Hohwä ng glacier and the Ebilücke, between the Hohwä nghorn and Ebihorn.

On the summit it was discovered that the mountain had been ascended five years before by Dr. Emil Burckhardt, of Basel, who has kindly informed Mr. Schuster that his ascent was effected by the route which the latter's party followed in descending. Dr. Burckhardt has so far not published an account of his ascent, and he suggests the name 'Gross Hohwä nghorn' for the peak. The expedition can be recommended as a short and thoroughly enjoyable one.

ALPHUBEL BY THE WESTERN ARÊTE (4,207 mètres=13,803 feet).—Mr. George Broke, with Adolf and Xavier Andenmatten, starting from the new little inn at the Täsch Alp, followed the Mischabeljoch route for half an hour; then, bearing to the right, over steep grass slopes and boulders, reached the S. end of the moraine of the Weingarten Glacier (1 hr.). Mounting by snow-beds between the W. arête of the peak and the glacier, they gained this arête ($\frac{3}{4}$ hr.) some distance below the shoulder which marks the junction of the two ridges enclosing the hollow called 'Thäli' on the Siegfried map. The shoulder was gained by fairly easy rocks (1 hr.), and then a broad snow-arête led the party to the base of the final peak (45 min.). To turn certain broad slabs of rock overlapping the wrong way they made use of a gully on the right, and then continued along the arête, gaining the S. arête just before the summit of the peak (1 hr. 55 min.), the difficulties gradually decreasing. Mr. Powell's route of 1879 * lies rather farther to the north, up the face of the W. arête.

KEHRENRÜCK BY THE WEST AND NORTHERN ARÊTES (3,345 mètres=10,960 feet, Siegfried map; 3,352 mètres=10,998 feet, Italian map). **PEAK MARKED 3,373 MÈTRES** (=11,067 feet) on the Siegfried map. **BÖRTERRÜCK** (about 3,425 mètres=11,247 feet). **AUGSTKUMMEN HORN** (3,454 mètres=11,333 feet, Siegfried map; 3,441 mètres=11,290 feet, Italian map). *August 26.*—Miss Capel and Messrs. F. Baker-Gabb and W. H. Cozens-Hardy, with a porter, starting from Saas Fee at 2.15 A.M., mounted the Furggthal for an hour beyond the highest huts. Then crossing the slopes under the Börter Glacier, they struck the arête called Kehrenrück halfway up, and, following it, gained its highest point (3,345 mètres) at 9.5 A.M. No traces of any previous ascent were found, so a cairn was built. Leaving at 11 A.M., they followed the frontier ridge between Switzerland and Italy to the point marked 3,373 mètres, which was gained at 12.40 P.M. Between the points marked 3,345 and 3,373 the rocks were very interesting. A steep knife-edge of smooth rock led down to the notch (reached at 1.25 P.M.) south of the highest point of the Börterrück, over which summit some rotten rocks and an easy snow arête led to the foot of the Augstkummen Horn, the summit of which was gained at 3 P.M. Again no traces of any former party were found, and a cairn was built. Leaving the top at 3.15, easy snow-slopes led down to the Augstkummen Glacier, by way of which the return was effected to Saas Fee at 7 P.M.

PEAK MARKED 3,219 MÈTRES (=10,561 feet) on the Siegfried map. *August 30.*—Signor F. de Filippi and Mr. W. H. Cozens-Hardy, with a porter, left Saas Fee at 1.10, reached the Antrona Pass at 6.40, and the summit of the Latelhorn (Punta di Saas of the Italian map) at 8.10 A.M. Starting at 8.55, they followed the ridge to the N., and gained, at 10.15, the top of the couloir S. of the peak 3,219, which the party of August 26 had gained on August 23, being driven back thence by bad weather. After unsuccessfully attempting to ascend the peak by its S. arête, they were forced to descend into the couloir on

* *Alpine Journal*, vol. ix. p. 367.

the Saas side for a short distance in order to turn the smooth overhanging rocks of the arête, and thus reached the summit at 1 P.M. Having built a cairn, they descended by snow and stone slopes to the Furggthal, and reached Saas Fee at 6.15 P.M.

PIZZO DEL SAAS (3,246 mètres = 10,650 feet; Siegfried map) OR PEAK MARKED 3,223 mètres (= 10,575 feet) on the Italian map. KEHRENRÜCK BY THE S. ARÊTE (3,345-3,352 mètres, as above). *September 2.*—Mr. W. H. Cozens-Hardy with a porter left Saas Fee at 2.10 A.M., and followed the Furggthal nearly to the terminal moraine of the Furggen Glacier. They then ascended the steep slopes to the E., and reached a notch N. of the peak 3,219 (Siegfried map), at 7.40 A.M. Following the arête to the N. they gained the highest tooth of the Pizzo del Saas at 8.45 A.M. Leaving this point at 9.10 A.M. they continued northwards along the arête, crossing over the jagged rock teeth—affording little foot or hand hold—of which it is composed, and attained a small notch N. of the Pizzo at 10.5 A.M., the point marked 3,212 mètres (= 10,539 feet) on the Siegfried map at 10.35 A.M., and by means of a wide perpendicular crack between two walls of rock on its S. face the summit of the Kehrenrück at 11.15 A.M. Leaving at 12.45 P.M., and descending by steep slopes of snow and loose stones into the Furggthal, they returned to Saas Fee at 3.55 P.M.

FROM THE LATELHORN TO THE SONNIGHORN. *September 14.*

Mr. W. H. Cozens-Hardy with Aloys and Albert Supersaxo, who had wished to accompany him as porters, started at 3.15 A.M. from a chalet at the entrance of the Furggthal, and mounted to the Antrona Pass. Thence following the routes described in the three previously mentioned expeditions, they reached the Latelhorn at 6.25; left at 7.5, reached at 7.25 the couloir at the S. foot of peak marked 3,219, and the peak itself at 7.50, the Pizzo del Saas at 8.15, and the Kehrenrück at 9.55. Starting thence at 11.40 they gained the Augstkummen Horn at 1.25 P.M. After a halt of 40 minutes the party attained the base of the S. foot of the Sonnighorn at 2.15, and the summit of the peak at 2.30. Thence they descended to the Mittel Pass (reached at 3.15), crossed the Rothblatt Glacier to the Almageller Alp, and returned to Saas Fee at 6.30 P.M.

This arête, and the peaks rising on it, afford some very interesting and varied climbing. The rocks are generally good, and in some places by no means easy. The arête is in parts no more than a knife-edge of rock, while the views of the mountains on both sides and of the Italian lakes are most magnificent.

SPÄHNHORN (3,194 mètres = 10,480 feet, Siegfried map) OR PIZZO D'ANTIGINE (3,190 mètres = 10,466 feet, Italian map). *August 28.*—Mr. W. H. Cozens Hardy, with Theodor Andermatten, crossed from the Monte Moro, over the Thälliboden Glacier, passed the Mondelli Pass, and continued to the N. up snow and stone slopes to the summit of the peak, gained in 1 hour quick walking from the Monte Moro. The descent was made down the steep slopes to the Distel Alp.

This is believed to be the first time that the peak has been ascended by a traveller. The point marked 3,059 and 3,054 mètres on the maps just S. of the Ofenthal Pass or Passo d'Antigine, is sometimes called

Pizzo d'Antigine (*e.g.* by Tschudi in the 'Turist in der Schweiz,' thirtieth edition, p. 302), and is named the E. point of the Pizzo by Signori Bazetta and Brusoni, in their 'Guide de l'Ossola' (second edition, p. 132).

SONNIGHORN, OR PIZZO BOTTARELLO, BY THE N.W. ARÊTE (3,492 mètres = 11,457 feet, Siegfried map; 3,489 mètres = 11,449 feet, Italian map). *July 26.*—The Rev. J. D. James, with Ambrose Supersax and Emanuel Imseng, starting from the Almagel chalet at 2.30 A.M., crossed the valley, and by débris and stones mounted to the ridge between the Almagelhorn and the Sonnhorn, just where it touches the former peak. Descending on the Antrona Pass side for a short time, the party took to the rocks of the arête at 6.30. The arête consists of successive knife-edges of rocks (which have to be passed astraddle) with sudden descents between. The passage of the ridge took about three hours, the summit of the peak being reached a little before ten. The descent was made by the Furggthal to Almagel and Saas.

Lepontine Alps.

BORTELHORN, OR PUNTA DEL REBBIO, FROM THE NORTH (3,195 mètres = 10,383 feet, Dufour and Italian maps; 3,204 mètres = 10,512 feet, Siegfried map). *July 17.*—Mr. Coolidge with young Christian Almer ascended this fine peak from Binn and by the N. side, a route which does not seem to have been yet taken. Starting from the comfortable little Hôtel Ofenhorn at Binn, they reached the summit of the pass to Bérissal over the Steinen Glacier by the usual route through the Mättthal and by the Râmi Glacier (4 hrs. from Binn). Steering nearly due S. across the glacier, they climbed in 1 hr. 8 min. by the N. face and a small stone gully up to the crest of the ridge between the Bortelhorn and the Hüllehorn (Punta Mottescia), not far from the point named Bocca Mottescia by the new Italian map. Thence, in a gale of wind, they ascended along the N.E. ridge of the Bortelhorn to the summit of the peak (50 min.). The weather having improved, the magnificent view came out very well. The peak stands at the junction of three ridges, so that thence Bérissal, the Veglia Alp, and very nearly Binn itself are seen at the same moment. The return to Binn by the same route took 2 hrs. 50 min.

The ascent is most commonly made from Bérissal by way of the Bortel Alp and the W. side (several cards of parties coming that way were found in the cairn), and by the new route it may be conveniently taken on the way from Binn to Bérissal. It was first ascended from the Italian side, on July 17, 1889, by Signor Edoardo Perondi with Vittorio Roggia, Mr. Coolidge's party, coming from Binn, reaching the top, and finding the card of their Italian predecessors just as the latter regained the inn at the Veglia Alp. The ascent from this inn took just 4 hours, and was effected from the Rebbio Glacier by way of the great rocky spur between that glacier and the Mottescia Glacier, which joins the N.E. arête of the peak not very far from the summit.*

* *Rivista Mensile del C.A.I.* August 1889, p. 261.

Bernese Oberland.

SCHRECK JOCH (about 12,100 feet). *August 17.*—Messrs. E. Petherick and A. F. Mummery, without guides, left the Schwarzegg hut at 1.20 A.M., and climbed the great couloir west of the Schreckhorn to the upper Kastenstein Glacier. Traversing this, they ascended at first by steep snow-slopes, and subsequently, to avoid the labour of step-cutting, by the rocks to their right, to the lowest gap in the ridge connecting the Nässihorn and the Schreckhorn. The descent was begun at 8.30 A.M. A steep, but short, slope of ice and snow, terminating in a somewhat formidable bergschrund, led down to the highest plateau of the Lauteraar Glacier. The slopes below proved to be intersected by large crevasses, and the level glacier was not reached till nearly mid-day.

This appears to be the first occasion on which the Lauteraar Glacier has been reached from the Lower Grindelwald Glacier.

SOUTH-WEST PEAK OF THE HÜHNERSTOCK (about 3,340 mètres=10,959 feet). *July 10.*—Herren A. Körber and A. Baumgartner, Pfarrer Baumgartner of Brienz, and Pfarrer Studer of Ringgenberg, with Johann Tännler, Andreas Anderegg, and Johann Moor, made the first ascent of this peak, starting from the Pavillon Dollfus. 'The ascent was difficult, and was characterized by the guides as one of the worst in the Bernese Alps' ('eine der bösesten in den Berner Alpen').*

The first ascent of the highest point of the Hühnerstock (3,348 mètres=10,985 feet) was made on September 15, 1886, also from the Pavillon Dollfus, by Messrs. Coolidge and Gardiner, with Christian and Rudolf Almer, the climb being found exceedingly difficult.†

GWÄCHTENHORN FROM THE THIERBERGLIMMI (3,428 mètres=11,247 feet). *July 3.*—Mr. Coolidge with young Christian Almer crossed this peak from the Thierberglimmi to the Sustenlimmi on the way from Stein to the Göschenen Alp. The ascent by the N.W. arête took an hour and was perfectly easy. There does not seem any record of this route having been previously taken, though it avoids in a very pleasant way the weary trudge through the soft snow of the basin between the Gwächtenhorn and the Sustenhorn. The Gwächtenhorn is the peak ascended in August 1861 from the Sustenlimmi by Messrs. R. W. E. Forster and Hardy Dufour, which was later known as the Steinberg, and is totally distinct from the Thierberg. The topographical evidence is sufficient to prove the identity of the point, as is also the appearance of the peak when close to the summit, for it is precisely the aspect figured in the engraving given with the narrative of the 1861 ascent.‡

SUSTENHORN FROM THE EAST (3,512 mètres=11,523 feet). *August 4.*—Herr August Naef, with Joseph Z'graggen of Göschenen, made

* *Schweizer Alpen-Zeitung*, 1889, p. 158. It is probable that this peak is identical with that marked 3,110 mètres on the Siegfried map, for the 1886 party saw no point near the peak climbed by them which seemed to be as high as a point of 3,340 mètres.

† *Alpine Journal*, vol. xiii. pp. 121-2, 309-13.

‡ *Peaks, Passes, and Glaciers*, 2nd series, vol. ii. p. 90. See *Alpine Journal*, vol. ii. p. 413.

the first ascent of this peak from the East, starting from the Hornfeli Alp in the Voralpthal, and not meeting with any special difficulties.*

Bernina District.

PIZ ROSEG (3,943 mètres = 12,937 feet) BY THE N.W. ARÊTE. *September 10.*—Mr. J. H. Wainewright and Dr. R. S. Wainewright, with Martin Schocher and Christian C. Grass, made this new route up Piz Roseg, which is almost at right angles to that followed by Mr. T. Middlemore and M. Cordier on August 18, 1876.† Starting from the Roseg Restaurant, they mounted the Tschierva branch of the Roseg glacier. Crossing the lower slopes of Agagliouls, and ascending a much crevassed slope of névé, they reached the N.W. arête by a steep snow slope. The last named slope, which was much the hardest part of the ascent, took 2½ hours, and, if ice or soft snow, would be very troublesome. Ascending along the N.E. side of the N.W. arête by steep snow and iced rocks, the party joined the usual route at the top of the snow couloir just below the first peak, going on to the highest peak by the ordinary ridge. The ascent to the summit of the highest peak took 9 hours actual walking from the Roseg Restaurant. This route can hardly be recommended as either easier, or shorter in point of time, than the usual route, though it is much more direct.

Eastern Alps.

ORTLER SPITZE BY THE MARLTGRAT (3,902 mètres = 12,802 feet). *August 22.*—Herren Otto Fischer, Ludwig Friedmann, Robert Schmitt, Edward Matasek, and Albrecht Von Krafft, without guides, achieved the climb up this ridge to the upper plateau of the Ortler, which was thus reached from the N.E. Starting at 1.30 A.M. from Sulden, they mounted, by way of the Kuhberg and the Ende der Weltferner, to the foot of the ridge, attained at 6 A.M. They climbed up to its crest, which was followed throughout, though once forced down on its S. face. Up to 11.10 no special difficulties were encountered, but, after that, clouds and a storm, besides the increasing difficulties, rendered progress slower. After forcing many gendarmes, and being exposed to a driving snow storm from 2 P.M. onwards, the upper plateau of the Ortler was gained at 7 P.M.; but the lateness of the hour and the bad weather compelled the party to desist from going on to the summit of the peak, and to descend to the Payerhütte, which was reached at 9 P.M.

A few days before Herren Fischer and Schmitt succeeded in descending from the Ortler to the Hochjoch, the first time that this difficult route has been taken down.‡

MONTE CRISTALLO BY THE N.N.E. RIDGE (3,199 mètres = 10,496 feet). *August 19.*—Herr Emil Artmann, with Josef Innerkofler, of

* *Schweizer Alpen-Zeitung*, 1889, p. 168.

† *Alpine Journal*, vol. viii. pp. 109, 201, 464-5.

‡ *Mittheilungen des Deutschen und Oesterreichischen Alpenvereins*, 1889, p. 209.

Sexten, succeeded in climbing this peak by the ridge to the right of the great ice couloir, thus avoiding both the dangerous traverse of this gully and the main glacier altogether. The party thus gained the snow arête, which joins the N.E. peak to the highest point, and forms the end of the great ice couloir. Starting from Landro at 2.15 A.M., the highest point was gained at 10.15 A.M. Herr Artmann reports that the climb up to the ridge and the middle bit of this ridge are among the hardest bits of climbing in the Dolomites. His party took 4 hours from the foot of the rocks to the top of the peak.*

DACHSTEIN PLATEAU BY THE SOUTH WALL. *July 14.*—Herren Robert Schmitt and Fritz Drasch, without guides, succeeded in scaling the great southern precipices of the Dachstein plateau, which had been frequently assailed before, but in vain. Attacking the rocks at 10.30 A.M., the party encountered and overcame excessive difficulties, and were forced to bivouac at 9.15 P.M. Next morning they gained the Untere Windlücke, a notch between the Thorstein (2,946 mètres) and the Mitterspitze (2,920 mètres), over easy ground in 30 minutes, thus gaining the great plateau on the S. edge of which, and separated from the Untere Windlücke by the Mitterspitze and Obere Windlücke, rises the rock-tower, which is the highest point of the group (2,996 mètres). This peak itself was not reached by the party of July 15, 1889, which forced the S. wall of the Dachstein plateau, but in no wise ascended the Dachstein peak from the S. The climb is described as exceedingly difficult, and the way taken was marked by slips of red paper left behind.†

NORWAY.

Justedals bræ.

FJÆRLAND TO STARDAL BY BEFRINGS SKAR (about 5,800 feet). *August 10.*—Messrs. Wm. Cecil Slingsby, Geoffrey Hastings, J. W. Sutton, and F. Grove, made the first known passage of the above. They left Mundal at the sea level at 5 A.M., and crossed the Bøiums bræ above the lower icefall, then they skirted the eastern bank of this glacier, and gained the great snow-field above the top ice fall. After some difficult steering in mist, where there were no landmarks, they tried to descend to Stardal by Fonsdals bræ, but were fortunately soon beaten back by crevasses a quarter of a mile long. Then they turned due West, and after vainly trying to descend to a lake of turquoise blue in the western fork of Befringsdal, they turned at 7.30 P.M. over a rocky ridge to the eastern branch, where, after passing a beautiful little Marjelen See they found an easy way down Befrings skar to a sæter 9.45, and arrived at Aamot (= Waters' Meeting) in Stardal at 1.10 next morning.

AAMOT TO HVEITESTRAND (about 6,000 feet). *August 12.*—The same

* *Mittheilungen des Deutschen und Oesterreichischen Alpenvereins*, 1889, p. 197.

† *Ibid.* p. 171, where an outline sketch is given to show precisely the route taken, and *Oesterreichische Touristen-Zeitung*, 1889, p. 198.

party wished to make a pass parallel to, but N. of, that first made in 1884 by Mr. Russell Starr. The glacier which he descended was wholly impracticable last August. They left Aamot at 3.30 A.M., and 10 minutes later they began to climb the eastern wall of the valley, accompanied by a strong lad, who guided them by a rugged and steep path used by bear hunters, and by the bears themselves, to a high basin called Björnebotn, or Bears' cirque. At 9.15 they reached the snow-field, and as Mr. Grove had no spectacles he was painted round about the eyes with lamp black to prevent snow blindness, which answered satisfactorily. After crossing over a snowy dome and snow valley they reached at 10.25 a rocky island, which Messrs. Slingsby and Ercroft with two Norsk guides had climbed from Olden in 1884, and had then called Onsdags Næbbe, and on which they had erected a large cairn. On the first visit there was not a single crevasse anywhere near the rock; now it was nearly surrounded by séracs. At 11.35 they reached a height of about 6,000 feet, and then began to descend very gradually. After several futile attempts they managed to find a lane through a maze of crevasses, and at 1.10 P.M. they reached a somewhat narrow rock ridge between Langedal and the Austerdals Bræ, which latter glacier, under ordinary circumstances, they would have descended. The ice scenery was grander than what any member of the party had ever seen before. There were dozens of blue glaciers in sight, all of which were most wildly broken up. The party then followed the same dividing ridge, and reached Ny Sæter at 7.30, and comfortable quarters at Nordre Næs at 10.20. This route is longer and more difficult to find than that of Mr. Starr's, with a rock descent in place of that by the glacier, but it proved the feasibility of making a pass between Hveitestrand and Olden by way of Onsdags Næbbe.

LODALS KAUPÉ (6,700 feet) FROM THE N.E., AND PASS OVER THE JUSTEDALS BRÆ. August 30 and 31.—Messrs. Slingsby and Hastings with a young Englishman made the first ascent of Lodals Kaupe from Justedal. They left Faaberg at 5.30, and followed the usual route over the long flat Kaupe bræ which travellers take when going over to Stryn until 1.30, when they turned up a steep little glacier arm N.E. of the Kaupe, which descends from the foot of the peak itself. After a good fight with the crevasses, they were beaten back, and then took to a steep but broad mountain spur which was coped with ice. Here for 3½ hours they had good rock climbing and most interesting ice work, but much time was wasted, as the third man became hysterical and remained in that condition for the next 16 hours. At 6 P.M. they reached the top of the glacier from the lower part of which they had been beaten back. Then they tried to get round the Kaupe to the glacier beyond, but could only get over the bergschrund directly under the highest point of the peak which rises 600 or 700 feet out of the glacier. At eight o'clock the party halted and stopped 8¼ hours on a ledge where there was only good room for one person. Three inches of snow fell during the night. Fortunately, though only 100 feet below the summit of the mountain, they were on the lee side and only heard the gale of wind which was blowing. At 4.15 A.M. they started to climb again, and at 5.10 reached the top in a

furious gale and a snowstorm. At 9.15 they unroped, and reached Bødal Sæter at 11.15 and Loen Vand at 4.40 p.m. This expedition was first rate, but the adventure under similar conditions is one which will not bear repetition. One of the party planned the ascent from the N.E. in 1874, and made the second ascent of the peak from the West in 1884.

Jotun Fjelde.

JOMFRUE (about 6,500 feet). *July*.—Herr Sulheim, in company with a Frenchman, made the first ascent of this difficult rock peak, one of the Maradals-Tinder, from Midt Maradal, and met with extremely good climbing.

SAGEN (about 6,000 feet). *July*.—The last named party made the first ascent of this mountain, the Northern Melkedals-pigger, from Skogadals bræ, and found it to be easier than what was expected.

AUSTABOT-TINDER (7,020 feet and 6,712 feet). *August 17*.—Messrs. Slingsby, Hastings, E. T. Hartley and Herr Sulheim made the second ascent of the highest peak and first ascent of the northern one. They started from an unfinished hut in Berdal, and, after crossing Berdals bræ, followed the northern arête over the north peak to a col under the highest, which they climbed by an interesting narrow and steep arête. This peak is most beautiful, and was first climbed by Herr Carl Christian Hall, a member of the Alpine Club. Wishing to combine a new pass with this ascent, they descended by most difficult rocks from the above-named col to a tongue of the Berdal Glacier which sloped steeply down to a wide double bergschrund, 250 feet below. This tongue unexpectedly proved to be hard ice, and the party were 4½ hrs. in cutting their way down this most difficult slope to the bergschrund, which they crossed in the dark. To add to the general uncanniness of the scene, a raven croaked most dismally just above the party all the time of the descent. Ultimately the party had to spend nearly four hours in darkness and drizzle at the top of a col between Berdals bræ and Gravdal.

This expedition was most enjoyable, though on account of bad weather the pass was given up.

SMUKE JENTE-TIND (6,120 feet) AND SOUTHERN MELKEDALS-PIG (6,820 feet). *August 21*.—Two Norsk girls—Ronnaug Garmo and Anne Aukrust—with Messrs. Slingsby and Hastings, made the first ascents of the above-named peaks by way of the Skogadals bræ. It is only fair to add that the higher peak was, fortunately, climbed in mistake for Uranaastind in a fog. Some very interesting rock-climbing was met with, and the scenery was magnificent.

MARADALS B.R.E. *August 23 and 24*.—Messrs. Slingsby, Hastings, and Herr Sulheim made a thorough exploration of this noble glacier, but failed in an attempt to make a fine new pass, as well as of a grand peak, though the climbing they encountered was exceedingly difficult.

URANAASTIND (6,836 feet). *August 25*.—Miss Dickinson and Miss Wickham, with Messrs. Slingsby, Hastings, Hartley, and Herr Sulheim ascended this peak from the cosy hut at Skogadals bœn, by way of the Skogadals bræ, this being the first time the peak has been gained

by English ladies. They met with a herd of reindeer on the glacier, and a most sensational bergschrund charmed the ladies very much. On the summit, three mariners' compasses pointed three different ways, owing to the presence of iron.

EAST STYGGEDALS-TIND (about 7,600 feet). *August 26.*—The last-named party, with the addition of Mrs. Hartley, made the first ascent of this fine peak by ladies. Though not difficult, the ascent was most enjoyable, and combined all kinds of mountaineering. The views are very grand, and the summit consists of a most beautiful and narrow snow arête, which ends abruptly W., above an overhanging precipice of 1,400 feet. The party took $6\frac{1}{4}$ hrs. up and $4\frac{1}{4}$ down, from and to, Skogadals böen.

Söndmöre.

BREKKE-TIND (about 5,800 feet). *September 3.*—Messrs. Slingsby and Hastings made the first ascent of this fine peak. They left Fibelstadhaugen at 7, crossed the pass of Skylstad, and, after climbing most difficult rocks, they reached the summit of a nameless peak or spur of the Brekke-tind at 1.40. After spending 50 min. in taking angles, they crossed a glacier not shown on the Amts kart, and gained the N. arête of the peak. This arête is extremely narrow and jagged, and is, here and there, perforated with big holes. It is hardly necessary to add that some rare good climbing was met with. At 4 o'clock they reached the top, and spent an hour there taking angles, and longing for more time to climb in this region. They found an easier line of descent.

KVITELVEDALS SKAR. *September 4.*—Messrs. Slingsby and Hastings made the first recorded passage of the above-named col between Fibelstadhaugen and Bjerke. This pretty pass leads through some of the wildest scenery in Söndmöre, and will, some time, be a great favourite with active walkers. It only takes about 5 hrs. The descent from the Tysæ Vand to Bjerke is most interesting to geologists, as the track goes through a series of very narrow gorges evidently originally water-worn, but which have been polished by ice in more recent times.

"The weather in Norway during the months of June, July, and the beginning of August last, was the finest that living Norstkmen have ever known. During much of this time there was actual sunshine upon the mountains of nearly 20 hours during the day. All who climbed in Norway in August or September found the glaciers exceptionally difficult to traverse, in fact many were impassable, as ice-falls and séracs were frequently met with that were unknown before. In place of slopes of steep névé, hard blue ice was the rule. Unusual caution was necessary on the glaciers owing to the presence of innumerable thin lips which projected far over the crevasses on the sunny side, and which seldom showed any depression on the surface. Plenty of adventures were met with as a matter of course, and it was quite a common occurrence to be benighted high up on the mountains. Another most noticeable fact was that, instead of meeting, as usual, with a few square yards of pink snow, many acres were frequently seen at a time."

W. C. S.