ALPINE NOTES AND NEW ROUTES.

W. Central Summit of Crête des Bœufs Rouges (3,405 m. =11,172 ft.). *July* 9.—Mr. Alfred Holmes, with J. B. and Hippolyte Rodier, made the first ascent of this peak. Starting from La Bérarde, they crossed the Col du Sélé and descended the Glacier du Sélé until nearly opposite the lowest depression in the W.S.W. ridge of the Crête des Bœufs Rouges. They crossed the bergschrund at 12.45 P.M., and gained the ridge close to, but on the wrong side of a rock pinnacle. To pass this they descended for a few feet on the S.S.E. side, traversed the face for about twenty feet, and then regained the ridge, along which they proceeded for some distance, and afterwards, just below, first on the N.N.W., and then the S.S.E. side. The crest then became so steep and broken that they were forced away from it, and on to the south face, which was crossed to a rock couloir between the west central summit and a lower point on the right. By means of this couloir a col was attained, from which the summit was gained in 10 mins. more, first by traversing the face to the left, and afterwards by a small rock gully to the right, 2.15 P.M. (1 hr. 30 mins. from the bergschrund). They left the summit at 3 P.M., and, wanting to find a quicker way back to the Glacier du Sélé, they descended first to the col, and then down the rock couloir to the snowfield on the S.S.E. side of the ridge, and walked along this close under the rocks, until opposite the rock pinnacle, then climbed up to the ridge, crossed it, and descended to the bergschrund in the tracks made in the ascent, 4.5 P.M. (1 hr. 5 mins. from the summit).

Petit Pic Sans Nom (3,588 m. = 11,772 ft.). *July* 12.—The same party made the first ascent of this peak. Starting from the Refuge Puiseux at 4 A.M., they followed the Pelvoux route as far as the foot of the great couloir, then inclining to the left, over the Pic Sans Nom Glacier, made for a depression in the ridge of rocks that separates the Glacier du Pic Sans Nom from the Glacier du Coup de Sabre. From the depression, which was level with the snow on the Glacier du Pic Sans Nom side, they descended a steep gully, the rocks of which were very rotten, to the Glacier Coup de Sabre. This was crossed, going towards the rocks of the Ailefroide, then ascended, and, when above the ice-fall, crossed back again to a buttress of rock, which comes down from the Petit Pic Sans Nom (7.30 A.M.). They commenced climbing the buttress at 7.30 A.M., going in a south-easterly direction until they came to a large patch of snow, which was nearly crossed, and then ascended to the foot of a rock gully, which is well seen from the Glacier du Sélé. The N.E. ridge was gained close to, but to the right of a peculiar rock pinnacle. They proceeded along the ridge until stopped by a gap. From there they descended the face which overlooks the Glacier Noir for about twenty feet, traversed this for about thirty feet, and then climbed straight up. Summit, 9.30 A.M., last twenty minutes difficult. Left at 9.45, and descended the arête to the gap, which was found to be easier

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than the way up; foot of buttress, 10.50 A.M., left at 11.30 A.M.; Glacier du Sélé, 12.13 P.M.; La Bérarde, by the Col du Sélé, 5.35 P.M.

GRANDE RUINE (3,754 m.=12,317 ft.) from the S.—This route, taken for the first time, in the course of last summer, by M. Renier, with Maximin Gaspard, was repeated by Mrs. Main, with the same guide and Roman Imboden on September 19. Her account states that they left the Chatelleret Hut at 5 A.M., and followed the way to the Col de la Casse Déserte, as far as the final plateau below the col; they then turned to the left and climbed an easy rock face till they were about 200 ft. below the summit, and to the S.S.W. of it. Here the chimney which they had followed for about 100 ft. merged into the face of the mountain, and they traversed to the right along a ledge (which looks hard, but offers sufficient hand and foot hold), leading to a short gully. After this came a traverse, first to the left, then to the right, and the ridge was struck at a depression to the left (as seen from the snow plateau below) of a conspicuous rock tower. From this point 10 mins. easy climbing on the S.E. face brought them to the summit at 11 A.M. Three-quarters of an hour were spent in halts. The descent was effected by the ordinary route without any difficulty.

ROCHE D'ALVAU, *W. summit* (3,415 m.=11,205 ft.). *July* 16.—Messrs. H. A. Beeching and P. A. L. Pryor, with Clemenz Zurbriggen, of Saas, made the first ascent of this peak. Starting from the inn at La Bérarde at 5.5 A.M., they followed the ordinary route to the Col des Ecrins until a short distance beyond the Bonnepierre Refuge, when they bore to the left up to the Glacier d'Alvau (2 hrs. 50 min.). They then ascended by a snow couloir and easy rocks to the col between the peak and the Tête de la Somme (S. summit), whence they traversed the S. face of the peak, until they struck the W. arête, and followed it to the summit at 10.15. Actual walking 4 hrs. 10 mins. The descent by the same route took 2¾ hours, including halts.

PIC DES PAVÉOUX (c. 3,250 m. or 10,660 ft.). *July* 24.—The same party, with the addition of H. Rodier as porter, made the second ascent of this peak, and the first from the W. They left the Cezanne Hut at 5.40 A.M., and reached the Tuckett Hut by means of the rocks on the l. bank of the glacier at 7.5, and after ¾ hr. halt followed the Col Jean Gauthier route for 40 mins., when they bore to the right up snow slopes to the foot of the peak, which they ascended by the rocks of the W. face, the summit being reached at 10.47. It is believed that this peak is the same as that climbed by M. Rochat in 1876; yet no trace of any previous ascent was found; 3¼ hrs. were spent on the top, and the hut was regained at 2.10.

This peak lies E.N.E. from the Tuckett Hut, and is conspicuous therefrom; but there seems to be still some obscurity as to this portion of the Agneaux Ridge. It is stated in the 'Climber's Guide' (p. 57), that the Pic des Pavéoux (c. 3,250 m.) was first climbed by M. E. Rochat in 1876 from the Col Jean Gauthier 'in a few minutes,' but the peak now climbed did not appear to be accessible at all from that side, and certainly not in a few minutes. The ridge known as

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Crête des Pavéoux culminates where it joins the Agneaux Ridge in the peak now climbed.

La Barre Noire (c. 3,800 m.=12,468 ft.). *July* 25.—The same party made the first ascent of this, the westernmost and highest summit of Les Barres. Leaving the Tuckett Hut at 2.50 A.M., they ascended the Glacier Blanc to the foot of the snow slopes leading to the Brèche des Ecrins in 2 hrs. 25 mins.; reached the Brèche at 7.5, and traversed the W. face of the peak to the N.W. arête, which was followed to the top (40 mins.). The Col des Ecrins was reached at 10.25, and La Bérarde at 2.30 (slow).

The Meije.—Herr Robert Hans Schmitt, with two other Viennese climbers, but apparently without guides, repeated in July last Mr. Gibson's passage from the Western to the Central peak of the Meije.* The party left La Bérarde at 2.15 P.M. on the 28th, bivouacked at the Pyramide Duhamel, started next morning at 3.45, reached the Pic Central at 8.30 P.M., bivouacked again (where?), and finally reached La Grave at 2 P.M. on the 30th. Mr. Gibson and his Grindelwald guides, it will be remembered, occupied about 15 hours from the Chatelleret hut to La Grave, which would seem to indicate that where time is an object guides may still have their advantages.

Ruitor from the French Side. *August* 7.—M. Henri Ferrand, with Pierre Roderon of St. Cristophe-en-Oisans, and Pierre Bal, a chamois hunter of Ste. Foy, left the chalets of La Sassière de Ste. Foy at 5.30, and ascending by the right bank of the Glacier de l'Avernet reached at 11.40 the plateau of the Ruitor at a point somewhat to the N. of the rocky prominence which indicates the articulation of the ridge called La Vedetta with that running N. of the Becca du Lac. The Italian hut was reached at 12 and the summit at 2. The descent was effected by a depression (3,045 m. Italian map) lying between the Point d'Avernet (the name given by M. Ferrand to the point lying over the right bank of the glacier) and the Pointe du Grand of the French map. This brought them to the N. branch of the Glacier d'Avernet, which M. Ferrand would prefer to regard as a separate glacier, and call Glacier de Loydon; and avoiding this by a gully filled with débris which runs down from a conspicuous notch in the ridge, they descended to a little glen called Plan de Grand, which brought them back to La Sassière. The route taken in the descent appears to be new. The ascent by the Glacier de l'Avernet was made by Messrs. W. Mathews and Jacomb in 1861† the only difference between their route and M. Ferrand's being that the parties took different sides of the glacier.

Aiguille d'Antenêva (3,077 m. = 10,095 ft.), Aiguille de Malatrà (3,147 m. = 10,325 ft.), Aiguille de Bonalè (3,198 m. = 10,492 ft.). *July* 16.—Mr. Alfred Topham, with Jean Maître, made the first ascent of these points. They left Courmayeur at 4.20, and followed the Col d'Arterèva route over the Col du Sapin. Half an hour from the top of the Col d'Arterèva (called on the I. map

* See p. 99 *sqq.*

† *Peaks, Passes, and Glaciers*, part 2, vol ii. p. 387.

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Col Malatrà*) they ascended over snow patches, and finally by the rocks to the depression between the Antenêva and the Malatrà. Thence the former was easily reached at 11. The east side of the chain is a slope of shale. A small cairn was found on the top, probably erected by hunters. Abundant traces of chamois were found, a well-defined path in the shale leading most of the way along the crest to the next aiguille. Returning to the depression, they followed the crest to the Aiguille de Malatrà in 55 mins. (12.40). No sign of any previous ascent was found, and a cairn was erected. The ridge here becomes sharper. The Aiguille de Bonalè was reached in 1¾ hrs. (2.30), and they erected a cairn. Continuing along the ridge, they descended half-way into the depression, between the Bonalè and the Grande Rossère. A chimney led from the ridge to the face. They crossed the Malatrà Glacier, and descended into the Val Ferret by the Malatrà glen, regaining Courmayeur at 7.20 P.M.

AIGUILLE DE TALÈFRE BY WEST RIDGE. *July* 29.—Messrs. J. H. Gibson, G. H. Morse, and J. H. Wicks, having been delayed at the Couvercle by rain, on the weather presently improving, changed their plans and tried this peak by its west arête, which they believe has not previously been attempted. Crossing the glacier de Talèfre they ascended the second principal rock rib to the east of the Pierre à Béranger and reached the arête in 4 hrs. from the Couvercle gîte. Thence they followed the arête to the summit in 3½ hrs., the first half hour over snow and the remainder over rock (which afforded good scrambling), with the exception of the lowest part of two gaps, where step-cutting in hard ice was necessary. They descended by the glacier de Pierre Joseph, keeping to the rib of rocks between the two couloirs referred to in 'Alpine Journal,' ix. 364; x. 27–31, for its whole length, and at its extremity continued straight to the schrund, thus avoiding the dangers described in the first ascent. Thence it is best to keep to the right (north) side of the glacier, and to get off as soon as possible, continuing in a northerly direction to reach the glacier de Leschaux. The above times are slow, the snow being in bad order; but this route is certainly the most direct from the Montanvers, as in recent years this aiguille has usually been climbed by the east arête by way of the Col de Talèfre, whence the summit is reached in about 3 hrs., keeping generally rather on the south side of the ridge.

RUINETTE BY THE N.E. ARÊTE (3,879 m.). *September* 15.—Mr. F. W. Oliver, with Pierre Maître as guide, and a porter, leaving the Arolla Hotel at 3.30 A.M., reached the summit of Montblanc de Seilon (*viâ* the Col de Seilon) at 9.15 A.M. The summit was left at 9.30 A.M., and the long ridge uniting this mountain with the Ruinette was followed. This ridge runs almost due S.W. all the way. At 10 A.M. the first rocky peak on the ridge was reached, and here half-an-hour's halt was made. The route now lay over rocks of varying quality, which, as the Ruinette was approached, gave place to hard snow and ice. The ridge

* [The name Arterèva is given to the pass in *Alpine Journal*, vol. ii. p. 419. But it is hardly conceivable that the maps can be correct in giving to the pass and the neighbouring peak names so similar, and yet not identical.]

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gradually became sharper, and a dangerous cornice caused some anxiety. At 1 P.M. the tower at the point of articulation of the ridge with the steep peak of the Ruinette was reached, and the difficult ascent commenced. The ridge was followed to the summit. The rocks, which at no time would be easy, were in great part covered with ice, rendering progress slow. Just below the summit several teeth of red rock were encountered. The last of these had to be climbed by a broad, smooth, and vertical chimney, situate on the N.W. face of the arête. It was only after several attempts that Pierre Maître, hoisted by the united efforts of the party, was able to get hold of something, and draw himself up. The floor of this chimney slopes outward at a very steep angle, and offers but insecure standing-ground to those assisting the leader. A cairn was constructed on the last rock-tooth, a minute from the actual summit, which was gained at 2 P.M. The passage from peak to peak occupied 4 hrs. actual going. Mauvoisin was reached at 6 P.M., *viâ* the Col du Mont Rouge. The whole expedition from Arolla to Mauvoisin occupied in all 14½ hrs. The route is strongly recommended.

S. Peak of the Grandes Dents Ridge by the S.W. Arête (3,628 m. = 11,905 ft.). *September* 1.—The same party, leaving the Arolla Hotel, followed the ordinary Col de Bertol route as far as the Plan de Bertol. The party then bore to the left, and, crossing the glacier stream, struck the long jagged ridge (which separates the Bertol and Doves Blanches Glaciers) at a point considerably to the S.W. of point 3,041 of the Siegfried map. The ridge was followed in a N.E. direction for five to six hours up to the actual peak (point 3,628). The ridge was found to abound in difficult passages, especially in the latter portion of the ascent. Several of the rock-towers and a peculiar crest, like an inverted ship's-bottom, with curved and polished sides, gave a great deal of trouble. On the final rock-tower, ten minutes below the actual summit 3,628, a solid cairn was erected. This tower is the little aiguille-like needle, just visible from the Arolla hotel, to the left of La Maja (the rest of the arête being concealed by this mountain). Striking W. along the main ridge from the summit, a little snow-saddle was traversed, and the rather easy, though friable, rocks on the left descended to the Glacier des Doves Blanches. From the glacier Arolla was quickly reached, the party crossing the little col at the point of articulation of La Maja with the ridge of broken rocks which runs up to the Pointe des Doves Blanches (point 3,662). The whole expedition occupied 14 hrs., including halts.

Punta di Fontanella (3,386 m. = 11,109 ft.).—Messrs. C. G. Monro, W. D. Monro, and O. G. Jones, with Antoine Bovier and Pierre Gaspoz, of Evolène, left Breuil on August 22, at 5.25 A.M., and following the path to Val Tournanche, in 25 mins. crossed a bridge, and by a path on the right bank of the stream reached the foot of the ravine which descends from the Vofrède Glacier. They then went straight up the ravine and reached the left lateral moraine of the glacier in 50 mins. more. Mounting the moraine, they crossed, just below the snout of the glacier, to its right bank, and by rocks and a series of small snow-basins reached the névé. This was easily

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crossed to the col between the Château des Dames and M. Rouss (1¾ hrs.). This pass might be called, for convenience' sake, Col de Vofrède.

Hence they descended to the head of the Cignana valley and mounted to the Col di Val Cournera in 1¼ hrs. Leaving the baggage at the col, they traversed snow and ice slopes on the E. side of the rock towers just to the N. of the pass, and by a short gully reached the foot of the S.E. arête of the Pta. di Fontanella. This led direct to the highest point of the mountain in 1¼ hrs. from the col. The rocks are good and afford an interesting scramble. On this point was found a cairn but no record. The party then, by easy snow-slopes, made the ascent of the point 3,369 m. in 6 mins. from the point 3,386 m.

Viewed from the Col de Vofrède, the Pta. di Fontanella is seen to be a double-headed peak separated from a point to the N. (3,394 m. I. map) by a deep and steeply cut gap.

Returning to the depression between the two points, the party descended a broad stony gully on the E. face for a short distance and then turned right and traversed the face diagonally downwards till the S.E. arête was reached in half an hour. They then followed the route of the ascent to the Col di Val Cournera, which they regained in 20 mins. more. By the ordinary route they descended to Prérayen in 2 hrs. more, reaching it at 5 P.M.

POINTS, 3,217 m. (=10,555 ft.) and 3,230 m. (=10,597 ft.), I. map (? M. REDESSAU).—The same party left Prérayen on August 23 at 6.15 A.M., and crossing the bridge below the inn, mounted to the Ciardonay Alp in 35 mins. From here they followed the track up Val Cournera, and in 40 mins. more crossed from the right to the left bank of the stream by a bridge of snow. Hence a path leads in ½ hr. along the slopes of Monzarvin to the left lateral moraine of the glacier at the very head of the valley. This descends from a broad snow pass, the Col de Chavancour ('Central Pennine Guide,' p. 137), which lies between the points 3,195 m. and 3,217 m. (I. map). They followed the moraine for 25 mins. and then took to the ice, which is very slightly crevassed, and going straight up, reached the col in 1 hr. The height of this pass is about 9,730 ft. The route then lay for 20 mins. N.W. along the southern side of the very jagged ridge running from the pass to the point 3,217 m., and then for some distance along the other side of the ridge by a broad and easy ledge. When this ledge ended the party went straight up steep rocks to the main ridge of the mountain, by which, turning left, they reached the point 3,217 m. in ¾ hr. from the pass. Here was found an apparently old cairn but no record.

It was now seen that the points 3,217 m. and 3,230 m. are terminal points of a long narrow ridge running N.W. from 3,217 m. and well separated from surrounding peaks. This mountain is of distinct topographical importance, being situated at the head of four valleys—those of Torgnon, St. Barthélemy, Livournèa, and Cournera. They then descended a steep chimney on the S.S.E. side of 3,217 m. and traversed easy ledges on the S.W. face of the mountain till below 3,230 m.,

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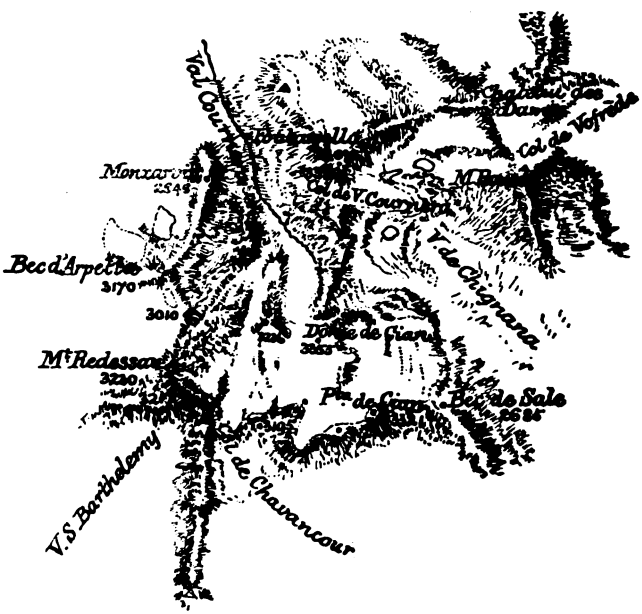
where they ascended steep rocks to the summit, which was reached in 35 mins.

Chamois were seen several times, and the mountain is evidently a favourite haunt of theirs. During the traverse an old bâton was found, which now adorns the newly made cairn on 3,230 m. In the descent practically the same route was followed, the main ridge being crossed a short distance N.W. of 3,217 m. From the broad ledge, mentioned in the account of the ascent, the party glissaded down snow-slopes to the glacier in half an hour from the higher summit, and Prérayen was easily reached in $1\frac{3}{4}$ hrs. at 4.12 P.M.

The various accounts of the nomenclature of the peaks surrounding Val Cournera are conflicting. On Adams-Reilly's map the name M. Redessau is apparently applied to the point 3,355 of the I. map. In the 'Central Pennine Guide' the name is also applied to this point, but in 'A. J.,' xv. p. 263, Mr. Conway corrects his previous statement. He says: 'The point 3,355 m. at the very head of the Cournera Valley is named Dôme de Cian—not M. Redessau. The situation of the latter remains a mystery to me.'

On the I. map, on the other hand, the name Redessau, or Redessan, as it is there (probably wrongly) spelt, is so printed as to apply to the point 3,217 m., which, with the point 3,230 m., is accurately laid down on Adams-Reilly's map, but is left unnamed.

The I. map is, on the whole, correct, but a comparison with the accompanying map, reduced $\frac{1}{4}$ from Reilly's scale (= 1·125000), will show that, in some details at any rate, it is quite wrong.



The above expeditions were planned with the object of solving, if

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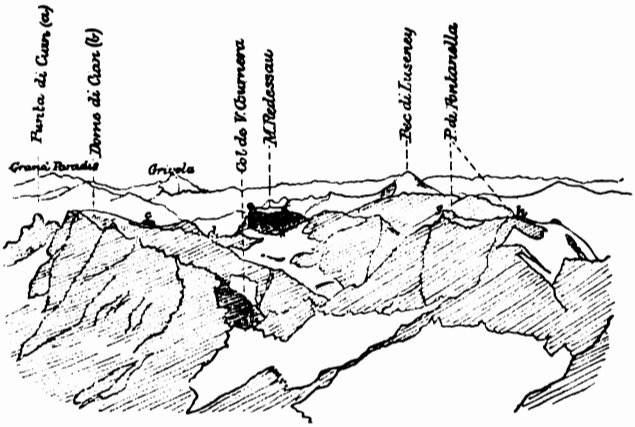
possible, the 'mystery,' and the views of the party are embodied in the sketch and map.

It may be well to mention that the peaks of this district are well seen in No. 194 of Mr. Donkin's photos, and in No. 417 of Signor Sella's. The accompanying outline sketch is based on the latter :—



a. Punta de Cian, 3,321 m. 'Central Penn. Guide,' p. 136. A bold rocky peak, well seen from Col de Vofrède and from below the Theodul Pass.

b. Dôme de Cian, 3,355 m. The M. Redessau of Adams-Reilly map and of 'C. Penn. G.,' p. 136. Called Dôme de Cian by Conway, 'A. J.' xv. 263.

c. 3,195 m. A fine, double-headed rock-tooth, forming the S.E. boundary of the Col de Chavancour. It is nameless, but might be called the Punta de Chavancour.

d. Col de Chavancour lies a little to the left of this. Height of col 2,970 m. (*circa*).—'C. P. G.,' p. 137.

e. 3,217 m. } It is proposed to call this peak M. Redessau for the following reasons :—
f. 3,230 m. }

i. The well-known name of M. Redessau has not, up to the present, been attached with certainty to any mountain.

ii. The Italian map marks this peak M. Redessan.

iii. The mountain is of considerable topographical importance, as the sketch-map shows.

g. 3,386 m. } Punta di Fontanella.
h. 3,369 m. }

j. (On the sketch-map) N.E. of Punta di Fontanella, 3,394 m. This peak is quite separated from the former; it has not been ascended and is nameless. It might be named the Punta del Dragone from the small lake below it.

L'Évêque (3,428 m.=11,274 ft.). *August* 7.—Miss Pasteur and Miss Mary Pasteur, with Messrs. Chas. H. Pasteur, Ellis Carr, and Claude Wilson, ascended the central of the three peaks which intervene between the Moine and the Aiguille Verte.* This peak is slightly higher than the Moine, and is evidently the point marked 3,428 on Mieulet's map. The above name was accepted as appropriate by a number of mountaineers staying at the Montanvers.† The ascent was effected on the Mer de Glace side, by means of the couloir which separates this peak from the Nonne, and above the col by the S.

* See *Alpine Journal*, vol. xv. p. 329.

† The northernmost of the three peaks is considerably higher, and might suitably be called 'Le Cardinal.' The name 'Aig. de l'Évêque' appears to be already appropriated by a small peak in the ridge of the Grandes Jorasses. Kurz, *Mont Blanc*, p. 66.

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face of the W. arête; an hour and a half of good rock. The party left the Montanvers at 4, and were on the top at 12.15. Leaving again at 12.45, and descending from the col by a short couloir to the glacier de Talèfre, they returned to the hotel at 6.30.

Dents de Bertol, S.W. Arête. *September* 13.—This is a spur which starts from a point in the main* ridge a little S. of the Crête de Plan† (the point 3,396 of the Siegfried map), runs S.W., and ultimately forks—one limb passing down to the Plan de Bertol, the other to the Upper Arolla Glacier. The same party, having ascended to the Plan de Bertol, *at once*‡ struck up a ridge to the right, which gradually narrowed into an easy rock arête. Within an hour of leaving the Plan de Bertol this ridge coalesces with the other, which rises from the Upper Arolla glacier. It is here that the climb begins in earnest. The arête running N.E. from the point of junction was followed for from four to five hours to its union with the main ridge, and the main ridge to the Crête de Plan immediately adjacent to the S. Col de Bertol. The climbing is continuously interesting and varied. There are two main summits on the arête (as distinguished from mere rock-towers); one reached, perhaps, 1½ hrs. from the point of junction, of subordinate importance, the other about 2 hrs. later on. The latter is a distinct and graceful peak. It was named by the party 'Pointe des Chamois,' in reference to a herd of these animals which were surprised in a couloir far below. It can be recognised as being the last summit on the S.W. arête before the main ridge is reached. It is separated from the latter by a deep col. The party occupied less than 1 hr. in traversing the arêtes from the 'Pointe des Chamois' to the Crête de Plan. From this point the S. Col de Bertol is reached in a few minutes. The most difficult portion of the S.W. arête lies between the point of subordinate importance referred to and the Pointe des Chamois. The arête is in some places sound, in others disintegrated. It offers almost every variety of rock-climbing. No trace was found of any previous ascent until the col just below the Crête de Plan was reached. Close by was a small cairn. To this col easy access is obtained from the Glacier de Bertol.

Dents des Bouquetins, descent by W. face. (3,848 m.). *September* 19.—The same party descended from the middle or highest peak of this group along the W. arête to the little snow col (with a rock tooth in it) which unites the middle and northern peaks. The W. face was then descended by ribs of rock, with couloirs on either hand. Towards the base a couloir was crossed and a line taken slightly to the left, in consequence of the rocks directly under the col becoming impracticable. The sloping Glacier des Bouquetins was rapidly crossed, and the upper Arolla Glacier reached. The route is not difficult, and is recommended as affording a more expeditious means of

* The main ridge connects points 3396 and 3556 of Siegfried map.

† *Alpine Journal*, vol. xv. p. 304.

‡ It is important to bear to the right from the top of the steep slope leading on to the Plan de Bertol, and not to continue to the foot of the glacier, as there is a second ridge leading up from the glacier to the Crête de Plan, which might be mistaken for the one described in the note.

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return to Arolla than the usual E. face route (often coated with hard ice) and long tramp over soft snow. The route taken is probably easier than the corresponding one taken by Mr. Topham* to S. of the middle peak.

FERPÈCLE TO ZERMATT.—*July* 9.—Mr. A. P. Harper, the Rev. G. Broke, and the Rev. C. H. Gould, without guides, made a variation on the Col d'Hérens route by combining in one day the Col du Grand Cornier and the Col de Zinal (Col de la Dent Blanche, Conway). Ferpècle was left at 1 A.M. and the first col at 6.45. After reaching the foot of the ice-fall at 8.30 they turned to the right and cleared the séracs between the Roc Noir and the Dent Blanche at 9.45, arriving at the foot of the second col at 10.5, and halting for twenty minutes. The N. face of this was ice, covered with an inch or two of wet snow, which deepened higher up, and the col was not reached till 12.15. The party left again at 1 and got down to Zermatt at 6.15. The S. side of the col is dangerous from falling stones, which come down in large numbers, especially from the Dent Blanche, and it would probably be better and shorter to substitute the Col Durand for it in any repetition of the expedition.

MITTEL-GABELHORN (3,692 m. = 12,113 ft.—Conway).—This point was ascended August 23 by Mr. Victor H. Gatty, with Luigi Zurbrücken and Elia Furrer. Leaving Zermatt at 3.12 A.M., the usual Unter-Gabelhorn route above the Zmutt valley was followed for 3 hrs. and continued westward for 1 hr.; the first ridge running S. from the peak was mounted from the E. side, a couloir crossed, and a second parallel ridge reached and followed for a short distance, a second parallel couloir entered and mounted by rock chimneys to the snow-field marked 3,458 m. on the Swiss map in 1 hr. 40 m. from foot of first ridge. Thence by rock chimneys on the S.E. side of the peak, the main E. ridge was reached in 30 min., and followed for 10 min. to the summit. The ascent was entirely by rocks, very loose all the way. No trace of a previous ascent was found, a small cairn was built, and a descent made by rocks and snow to the Gabelhorn Glacier (skirting to the left to avoid a bergschrund), the Trift Inn reached in 2 hrs. 12 min. from the summit.

NOLLENHORN (3,189 m. = 10,463 ft.).—No ascent of this peak seems to have been recorded, probably because from the W. it appears merely as a rounded hump with a trigonometrical cairn on the top; but on the E. it descends into the Furggthal in sharply cut-away cliffs which offer good climbing. On July 16 Mr. A. P. Harper, Mr. F. W. Newmarch, and the Rev. G. Broke, without guides, giving up an expedition on the Italian ridge on account of fog, ascended from near the head of the Furggthal, a steep grass gully which landed them in 1 hr. just below the steep E. face of the peak. Here the party separated. Messrs. Harper and Newmarch traversed the face for a short way to the S., and then struck up a steep couloir of not too firm rocks, which led to the ridge just S. of the top, which they reached in 75 min. Mr. Broke crossed the upper snow of the Nollen Glacier

* *Alpine Journal* vol. xiv. p. 49.

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for 40 min. to the col between the Nollenhorn and the Stellihorn, and then followed the simple S. arête for 25 min. to the top. The descent straight down the easy W. slopes to the Mattmark path, opposite the end of the Allalin Glacier, took 90 min.

THE JÄGIHÖRNER.—The long ridge which bears this name bounds the Gr. Trift Glacier on the N.W. Its N.E. extremity loses itself in the upper nevé of the right branch of the Gr. Trift Glacier, whilst the S.W. end of the ridge is a hump of rock (point 3,213 of the Siegfried map), conspicuous from Saas Fee and somewhat resembling the Egginerhorn. This S.W. summit has been occasionally ascended by its W. spur, but no evidence was discovered of any exploration of the main ridge.

On July 29 Mr. F. W. Oliver, with Albert and Benedict Supersaxo, left Saas Fee at 5 A.M. The Trift chalets were passed at 6.30 A.M., and a direct line taken for point 3,213. The peak was climbed by the steep, but good, rocks of its S. face, the summit being reached at 9.30 A.M. The main ridge of the Jägihörner was then followed. It was found to consist for the most part of sound rock, and to be sharp and jagged. The party, after crossing two distinct summits, both higher than point 3,213, reached a point more than two-thirds of the way along the ridge towards point 3,441. Here the rocks, which had been gradually increasing in difficulty as progress was made along the ridge, became impracticable. Point 3,441 was well in sight, but the descent to the lowest point on the ridge, immediately beneath that summit, was stopped by several obstacles of an unsurmountable character. Nor could these be turned on either face. The crest was abandoned, and the party climbed down the steep rocks on the W. face to a small glacier, immediately S. of the Inner Rathhorn. Thence the Saas Thal was reached by the Gruben chalets. Should the Jägihörner be again attacked, the reverse course to that described is advised. The arête should be taken from its Fletschhorn (Rossbodenhorn) extremity, and the exploring party should be provided with a spare length of rope.

BARRHORN FROM TURTMANN GLACIER.—*July* 27.—Messrs. E. F. M. Benecke, H. V. Reade, and H. A. Cohen, with Abraham Müller, of Kandersteg, starting from Grüben at 3 A.M., reached the top of the Turtmann Glacier ice-fall in about 4 hrs.; then, keeping to the left over stones, came to a ridge of very red shale overlooking the Pipi Glacier. Thence up shale and snow in rather more than 2½ hrs. to the point 3,627. From there, mostly over shale, to the point 3,587. Then followed the ridge to a few yards short of the point 3,437. No difficulty of any kind. A fast party would have no trouble in climbing the Barrhorn, following the ridge to the top of the Brunegghorn and returning to Grüben the same evening (See pp. 43–45; also 'Oesterr. Alpen-Zeitung,' vol. xiii. pp. 252, 281.)

FURGWANGHORN AND WEISSE EGG.—*July* 29.—The same party, without Müller, followed the Augstbord Pass road to within an hour of the pass; then turned to the right towards a snow col to the west of the Furgwanghorn. Leaving this fully to the right they struck up the face, over shale and snow, to the top in 4½ hrs. from Grüben (large

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stone man found on top). Then along the ridge, over another peak to the Weisse Egg (also with a stone man); then, following the ridge over another little peak, to the Augstbord Pass. Loose stones all the way; no difficulty.

ROTHHORN FROM THE HÜNGERLIALP.—*July* 30.—The same party followed the Augstbord Pass road for a time, then struck S. across the hillside to the Hüngerlialp, and went up to within about 1 hr. of the Jung Pass; then followed the glacier between the Rothhorn and the point 3,012 to the foot of a broad shale couloir. Up the left-hand rocks of this to the ridge, about 5 min. below the first peak. An attempt to follow the ridge was prevented by bad weather, but it seemed possible to follow it right up to the foot of the point 3,404. The points 3,255 and 3,288 are mere notches in the ridge.

BIETSCHHORN FROM BALTSCHIEDERJOCH.*—*August* 6.—The same party, with Theodor and Gabriel Kalbermatten, of Ried, starting at 3.45 A.M. from a bivouac in the Birchthal, just above the tree line, reached a point just south of point 3,156 in 2 hrs. Then, after a halt for the mist to clear, up sound rocks for about half an hour on to the snow ridge seen on the left sky-line from the Hôtel Nesthorn at Ried. Followed this (step-cutting) for about 2½ hrs. to where it joins the usual route by the northern ridge. From here had the steps of another party, and reached the top at 10.25. As far as climbing is concerned, this is probably the easiest way up the Bietschhorn, but it cannot, on the whole, be greatly recommended. The rocks leading to the Baltschiederjoch are very rotten and unpleasant to cross in the dusk, and the ridge itself is far less interesting than the splendid western arête, and might, with bad snow, be dangerous.

WEISSE FRAU FROM THE SOUTH.—*August* 13.—The same party, with Abraham Müller and Johannes Ogi-Müller, of Kandersteg, slept at the Heimritz Châlet in the Gasterenthal, about 2½ hrs. from Kandersteg. Started at 2 A.M. and, following the Tschingel Pass route, reached the foot of Blümlisalphorn in 4 hrs. Then crossed avalanche débris and traversed rock (awkward in places), always keeping to the right, to the eastern end of the small glacier, which there is on the south-eastern face of the Blümlisalp. Striking it here, and bearing to the left, crossed snow for a while (1½ hrs. in all from the foot). Then straight upwards; after a time on a rock rib (very good going) between two smooth parts of the face, and over a rock tower. Then a slight traverse to the left, to a point straight under the col between the Horn and the Weisse Frau. Then straight up, rocks still easy, patches of snow in places, till a short steep snow-slope below the col, which was corniced. Followed a snow ridge, then traversed to the right upwards and, cutting through the cornice, reached the col at 12.0 noon. From there to Weisse Frau took 1 hr.'s step-cutting (snow very good); to the Horn would have taken rather more than twice as long. Except for the danger from séracs during the first hour, a splendid route,

* See *Alpine Journal*, vol. ii. p. 364.

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which thoroughly deserves to become a regular one, as the rocks are everywhere sound and pleasant, and the views are very striking.

GSPALTENHORN FROM THE N.E.—*August* 15, 1891.—Sir H. Seymour King, with Ambrose Supersax and a porter from Lauterbrunnen, made the ascent of this peak by the north-east face.

Leaving Mürren at 2 o'clock on Friday, August 14, they followed the route to the Sefinenfurgge to a point where a path diverges leading round the slopes of the Buttlassen. Following this, and passing a little lake, they gradually ascended the shale slopes, at the base of the Buttlassen, and struck into a giddy and extremely narrow hunter's path, leading round the precipices of this peak until they reached a gîte used by chamois hunters, where they passed the night. Next day they continued on the same path until they struck the hanging glacier coming down from the col between the Buttlassen and the Gspaltenhorn.

They ascended this glacier for some distance and then traversed it to where a rib of rock descends from the big rock-tower situated just below the ropes on the Gspaltenhorn. From here the rocks were very steep, smooth, and difficult, and progress was very slow. The ridge was, however, at last struck just by the tower, and the ordinary way then followed.

This route is not recommended; but if persons desiring to ascend the Gspaltenhorn in future, instead of traversing the hanging glacier, would ascend it to the col between the Buttlassen and Gspaltenhorn, and then follow the usual route to the summit, a way up this mountain would be adopted very much better and more interesting than that hitherto made use of, and no serious difficulty would be encountered. The path round the Buttlassen, without presenting any difficulty, is very interesting, and the gîte is as good as the one in the Kienthal.

MONTE LEONE FROM THE ITALIAN SIDE.—On August 16 Signor Carlo Cressini, of Milan, made what is believed to be the first ascent of Monte Leone entirely on Italian territory. Starting from Veglia he climbed the N.E. face of the mountain, striking the ridge to the N. of the summit. The *Rivista* promises further details.

URI ALPS. *August* 28.—Herr C. Seelig left the station of Göschenen at 2 A.M., and reached the Oberalp Châlet at 4¾ hrs. He breakfasted there, and left at 6.30, reaching the Fellilücke (2,490 m. = 8,168 ft.) 7.45, and got on the top of the Schnee hührerstock (2,783 m. = 9,130 ft.), which seemed to be hitherto unascended, 9.10; back to the Fellilücke and up to the equally virgin Piz Tiarms (2,923 m. = 9,590 ft.), which offered fair climbing, and a splendid view. After a sojourn of three quarters of an hour, he reached the col north of the summit of Tiarms, and descended into the valley called 'Val,' 2.30 P.M.; then again to the col north of Crispalt, 4 P.M., and up to the top of this peak (3,080 m. = 10,105 ft.) 5 P.M. He states that Crispalt offers a splendid view, as far as Chur, and he calls it a mountain worth the attention of climbers. Herr Seelig found two cards only, one of Herr Lavater-Wegmann, 1885; the other of Herr E. V. Schumacher, 1888. He then got into the highest part of Val Giuf, over a 'bergschrund,' and

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up again to a col which took him to the Wichelthal, down a very steep snowfield of 500 m. in height; this descent was very tiresome, because, as usual with him, he was alone, and his ice-axe touched the hard ice beneath 2 to 3 inches of new snow. But by 7.30 P.M. he reached the valley, and at 10 the huts of Obermatt (1,040 m.) in the Fellithal, where he found hot milk and a sleeping-place on the roof of one of the huts. In the morning he went up to the Rienlücke (2,696 m. = 8,845 ft.), and to the Schienstock (2,893 m. = 9,492 ft.), where he found a bottle with an illegible rotten card in it. At 1.45 P.M. he left the col, and descended the Rienthal, just opposite the Göschenen station. Herr Seelig carried no alcoholic drink with him, but relieved his thirst with milk and one kilo of fruit, besides water.

PIZ ROSEG, FROM THE FUORCLA TSCHIERVA-SCERSCEN, OR GÜSSFELDT-SATTEL.—On August 15, Messrs. Garwood and Branch, with the Pontresina guides, Schocher and Zippert, left the Capanna Marinelli on the Scerscen Glacier at 2 A.M., to attempt the ascent of Piz Roseg by the col commonly known as the Güssfeldt Saddle, and the ridge running up thence in a westerly direction over the east peak, or 'Little Piz Roseg.' They took 2 hrs. to cross the glacier, and 1 hr. 25 mins. more to reach the Saddle. From here a very steep wall rises on the west side, which narrows into the ridge three or four hundred feet above. It is extremely important to reach this wall early, as stones and ice begin to fall as soon as the sun touches it—about 5.15 in the middle of August. The wall consists of a series of very steep cliffs, separated from one another by horizontal ledges, which were then all plastered with ice, and would probably always be so, except after a long spell of fine weather. It was found necessary to use a great length of rope; and in many places the ascent had to be made in an unpleasantly straight line, one above the other, where the rocks were not at all firm. On the actual ridge above the snow-crest is very narrow, and sufficiently steep to require step-cutting nearly the whole way to the East peak, but the most serious obstacle is offered by a tower about twenty-five feet high, with no hold on the lower ten feet, very little on the remainder.

The East peak was attained at 11.30 A.M., three quarters of an hour having been occupied in halts. This point had been reached once before by Dr. Ludwig from the highest peak.

The descent to the col between the two peaks is very steep, and for the most part over ice, but the distance is short, and the central—*i.e.* the highest—point was reached in a little over an hour. The descent was made to the Roseg Restaurant by the usual route. Except for the ice on the rocks, the mountain was in good condition.

The route is exceedingly interesting throughout, and need not be dangerous, provided the ridge is gained early in the day.

It is believed that Piz Roseg had not been ascended before from the Italian side.

STARS SEEN 'AT NOON-DAY.'—In one of Coxe's letters, published in 1789, whilst describing the view seen from the Couvercle and the 'peculiarly deep shade of blue colour' of the sky, the writer says:—'We were informed by a person accustomed to Alpine scenes that on

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considerable elevation he had frequently observed stars at noon-day.' Until this summer I considered this to be merely a proof of the gullibility of an early traveller. I am not so sure about it now.

On August 14 this year Messrs. A. F. Mummery, Ellis Carr, and I were descending the Chamonix face of the Aiguille du Plan, and when we were some 900 ft. or 1,000 ft. below the summit, one of us happened to look upward and pointed out to the other two a bright star shining between the horns of a crescent of rock close to the top of the mountain. It was a few minutes after 8 A.M.; we had already had nearly five hours of daylight; the day was perfect, and hardly a cloud was visible. Of course our side of the mountain was in deep shade, and would remain so for some hours to come. The nearly perpendicular cliffs of the Aiguille de Blaitière, the steep mountain wall of the Aiguille du Plan, which is the most persistently steep mountain-side that any one of us had ever been on, and a huge buttress on the west, formed the half of a gigantic funnel up which we were looking. After descending a little we gained a high snowfield and a rather gentler slope which took us, so to speak, away from the side of the funnel. Then we lost sight of the star, but had we remained on the rocks above I see no reason why that star, or another, should not have been visible considerably later, remotely, possibly, even 'at noon-day,' and, if so, some ancient crystal hunter may have told the truth to Mr. Coxe. A little corroboration from the experiences of other mountaineers would be interesting. W. C. S.

[An account of a very similar experience will be found in a recent number of the *Alpine Post*.—ED. *A. J.*]

THE PETRONELLA BELL AT GRINDELWALD.—I regret much to learn that the bell bearing the inscription 'O.S. Petrela [*i.e.* S. Petronella] ora pro nobis,' which was lent by the parishioners of Grindelwald to the English Church there in 1886, was reduced to a shapeless mass of metal by the Grindelwald fire last August, only the clapper retaining its pristine shape.* F. T. WETHERED.

A RELIGIOUS CEREMONY ON MONTE VISO.—On July 27 a party of seventy persons left Crissolo, under the guidance of the parish priest and a guide, Claudio Perotti, and proceeded to the Rifugio Sella. On the following morning no less than forty went on to the summit of Monte Viso, where mass was celebrated by the priest of Crissolo as well as by another cleric who was of the party. The same ceremony has, we believe, been more than once performed on the summit of Monte Viso; but probably never in presence of so large a congregation.

A PRINCE'S CLIMBS.—The House of Savoy has a kind of hereditary connection with the Alps, but we doubt if in actual climbing any member of it has come up to the performances of H.R.H. the Duke of the Abruzzi. This young prince, son to the late Amadeo, ex-King of Spain, and a lieutenant in the Italian navy, has started on his Alpine career with the ascents (among others) of the Levanna, the Grand

* Vide *Alpine Journal*, vol. xiii. p. 130; *Jahrbuch der S.A.C.* 1879–1880, pp. 511–514.

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Paradis, Mont Blanc (Courmayeur to Chamonix), the Col and Aiguille du Géant, the Col de Talèfre, and the Matterhorn.

A CORRECTION.—Mr. Whymper draws attention to the fact that on page 179 in the notice of his Travels in the Andes, a mistake has been imputed to him of which he is not guilty. His reviewer, he points out has himself fallen into a confusion between an *error* and the *correction of an error*. Of course when the correction is + the error itself is −, so that Mr. Whymper's statement of the mean errors of his aneroids is strictly consistent with the terms of the Kew certificate.

THE ALPINE GUIDE.—Considerable progress has been made in the preparation of the new edition, and it is hoped that vol. i. may soon be sufficiently in shape to be put into the hands of the printer.

INDEX TO THE ALPINE JOURNAL AND REPORT ON EQUIPMENT.—Copies of these can be obtained from the Assistant Secretary at the Club Rooms; the price of the former being 2*s.* 6*d.*, by post 2*s.* 7½*d.*, and of the latter 6*d.*, by post 7*d.*

ZERMATT IN WINTER.—Hitherto winter visitors to the Alps have confined their wanderings within rather narrow limits, and have exhibited the tendency so frequently deplored to 'centralisation.' The idea seems still to prevail in many quarters that the inhabitants of the Alps, having had their day, cease to be when the tourist crowd withdraws after its annual summer invasion. When the first fall of autumn snow bleaches the hill sides, the natives apparently are supposed to hybernate, retiring into their nests gorged with the profits they have extracted from their visitors, and emerging thin, shaggy, and greedy on the advent of spring. Some, however, are always now to be found at odd times wandering in the old familiar haunts, from which they are crowded out in the 'season,' and the number increases every year. Signs are not wanting that winter travelling is on the increase. The bagmen are not the only visitors. In various quarters the hotel keepers announce that their establishments are open all the year round, and that they are prepared to supply facilities for the stock amusements of winter—skating, tobogganing, and such like. Chamounix, it is rumoured, is about to enter into competition with the Engadine, and it is proposed this year to follow suit at Zermatt. In many respects the place is very suitable. Those who visit this centre in summer are of course mainly attracted by the high mountains. It may suffice to point out to these enthusiasts that scarcely any of the high peaks about Zermatt have as yet been ascended in winter. But the unique magnificence of the glacier world about Zermatt should not blind us to the beauties of the valley scenery, and this latter can be, perhaps, best appreciated in winter. The slopes of the Riffelberg and of the Hörnli are bathed in sunlight and warmth for many hours daily. There are many who speak ill of the railway up the St. Niklaus valley. They may gain the head of the valley by the old methods, walking to St. Niklaus and driving thence. But for those who, while they deplore the fact, avail themselves (being practical folk) of the facilities, it may be of interest to know that there is some chance of occasional winter trains to St. Niklaus. Zermatt may not offer all the social advantages of the Engadine. Journalistic enterprise will hardly extend at present

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to the publication of a winter issue of the local paper. The only concerts are those furnished from time to time by the village brass band; the only dramatic representation, a kind of miracle play performed by the school children. On the other hand, the place does not resemble a hospital, and overcrowding is unlikely.

It is an ill Föhnwind that blows nobody good, and possibly the temporary curtailment of the winter accommodation at Grindelwald may lead some, when searching for new quarters, in the direction of Zermatt. They will be well repaid. Winter mountaineering is now a recognised branch of the craft. Winter mountain-wandering may be the next fashion. It may, at least, be safely asserted that the winter quarters at Zermatt will be found as capuan as at any other resort, and that the district, magnificent in summer, seems enchanted in the winter months. C. T. D.

THE KARAKORUM EXPEDITION.—Our readers will, no doubt, have seen the extract from Mr. Conway's letter in the *Times* of October 27, describing his successful ascent of a peak believed to be the highest point on the earth's surface yet reached. Fuller particulars will be found in the 'Proceedings of the Royal Geographical Society' for November.

THE LIBRARY.—The following additions have been made since July 15, 1892:—

Dent (C. T.). Mountaineering. With contributions by W. M. Conway, D. W. Freshfield, C. E. Mathews, C. Pilkington, Sir F. Pollock, H. G. Willink, and an introduction by Mr. Justice Wills. Illustrated by H. G. Willink and others. Crown 8vo. Longmans, 1892. (Presented.)

Von Lendenfeld (K.) Australische Reise. Illustrated. Medium 8vo. Innsbrück, 1892. (Presented.)

Bædeker's Südbaiern, Tirol und Salzburg, Ober- u. Nieder-Österreich, Steiermark, Kärnten und Krain. Twenty-fifth edition. Small 8vo. Maps, plans, and panoramas. Leipzig, 1892. (Presented.)

Bædeker's Le Midi de la France depuis l'Auvergne et y compris les Alpes. Fourth edition. Small 8vo. Maps, plans, and panorama. Leipzig and Paris, 1892. (Presented.)

Joanne's Corse. Itinéraire général de la France, par Paul Joanne. Small 8vo. Maps and plans. Paris, 1892. (Presented.)

Meurer's Ostalpen-Führer. Illustrirter Führer durch die Ostalpen, Westlicher Theil, umfassend: das Gebiet von Bregenz und der Stilfserjochstrasse bis zum Krimmler—Tauern und Sextenthal und vom Starnbergersee bis zum Gardasee. Tirol, Vorarlberg, Bayr, Hochland. Small 8vo. Illustrations, maps, plans, &c. Wien, Pest, Leipzig, 1892. (Presented.)

Oberosler (J.) Illustrirter Führer durch die Schweiz, mit den angrenzenden Gebieten von Savoyen und Oberitalien. Small 8vo. Illustrations, maps, plans, &c. Wien, Pest, Leipzig, 1892. (Presented.)

Jahrbuch des Ungarischen Karpathen-Vereines. XIX. Jahrgang, 1892. Igló, 1892.

Jahrbuch des Schweizer Alpenclub. Siebenundzwanzigster Jahrgang, 1891 bis 1892. Bern, 1892.

Steinbrück (J. H. T.) Recueil d'Études sur Nice et ses environs. 8vo. Leipzig, 1891. (Presented.)

Thompson (C. J. S.) 'The Best Thing to do.' First Aid in Simple Ailments and Accidents. For travellers and tourists at home and abroad. Small 8vo. Record Press, London. n.d. (Presented.)

Pargolesi (C.) Canti popolari Trentini, per Canto e Pianoforte. Trento, 1892. (Presented.)

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Ross (Malcolm). Aorangi; or, the Heart of the Southern Alps, New Zealand. Maps and illustrations. 8vo. Wellington, 1892. (Presented.)

Carrick (R.) New Zealand's Lone Lands: being brief notes of a visit to the outlying parts of the Colony. 8vo. Illustrated. Wellington, 1892. (Presented.)

Club Alpino Italiano. Indice Generale delle due annate (1874–1875) dell'Alpinista, e dei primi dieci volumi (1882–1891) della Rivista Mensile. Compilato da L. Vaccarone. 8vo. Torino, 1892. (Presented.)

Alpine Club. Index to the 'Alpine Journal, Vols. I. to XV., including 'Peaks, Passes, and Glaciers.' Edited by F. A. Wallroth, Vice-President of the Alpine Club. 8vo. Longmans, 1892.

Delmard (S. D.) Village Life in Switzerland. 8vo. Longmans, 1865.

Ferguson (R.) Swiss Men and Swiss Mountains. 8vo. Longmans, 1853.

Packe (Charles). The Spirit of Travel. 8vo. Chapman, 1857.

Speer (S. T.) On the Physiological Phenomena of the Mountain Sickness, as experienced in the ascent of the higher Alps. 8vo. London, 1853.

Guide du Voyageur à la Vallée de Chamouni et à la Grande-Chartreuse. Chambéry, 1836.

Glover (Samuel). A Description of the Valley of Chamouni in Savoy. London, 1819.

Die Erschliessung der Ostalpen. Edited by Dr. E. Richter. Published by the Deutsch. u. Oesterr. Alpenverein. Vienna, Berlin, 1891–1892. Parts 1 to 6.

Climbers' Guides. Edited by W. A. B. Coolidge and W. M. Conway, comprising: Dauphiny Central Alps, by W. A. B. Coolidge, H. Duhamel, and F. Perrin; Chain of Mont Blanc, by L. Kurz; Lepontine Alps, by the Editors. Fisher Unwin, 1892. (Presented.)

Maps of the Dauphiny Alps, by H. Duhamel. (Presented.)

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