

the eastern ridge of the Allalinhorn. Where the rocks end and before the point marked 3150 on the Federal map is reached, an easy snow-slope to the left leads to the Hohlaub glacier. Traverse the glacier towards its N.W. corner, where there is an obvious col, reached by a very short ascent. Follow the top of the ridge for a short distance from the col towards the east, and then descend on to the Fee glacier. A zigzag course over the glacier is now necessary to avoid crevasses. Eventually bear to the right horizontally for a few minutes, and then glissade down on to the high-level route from Mattmark to Fee, just under the Egginerhorn.

Time occupied by a party taking things very easily, $4\frac{1}{4}$ hrs. from the Adler pass to the hôtel at Saas Fee. J. A. LUTTMAN-JOHNSON.

DEATH OF MR. MOORE.—At the moment of going to press we learn that Mr. A. W. Moore died at Monte Carlo on Feb. 2. He had been a member of the Alpine Club since 1861, and had served it most faithfully as Secretary and as a member of the Committee. His Alpine record is one of the most brilliant known. The Sesia Joch, the Gross Viescherhorn, the Jungfrau Joch, the Ecrins, Col de la Pilatte, Mont Blanc from the Brenva glacier, the Ober Gabelhorn, Moming Pass, Piz Roseg—such are some of the expeditions he made *for the first time*. His ascent of Mont Blanc by the Aiguille du Goûter *alone* with Christian Almer, and his opening the way for winter mountaineering by his passage of the Strahlegg and Brèche de la Meije, show his unwearied activity and fearless enterprise. Nor should it be forgotten that he was a member of the first two expeditions to the Caucasus in 1868 and 1874. Several articles by him will be found in earlier volumes of the 'Journal,' but he steadily refused to publish any large work on the Alps he knew and loved so well, though in 1867 he printed, for private circulation, his journal of 1864, in our opinion one of the most vivid and fascinating books of Alpine travel which have ever been written. We believe we are correct in saying that it was only his modesty which more than once led him to refuse the presidency of the Alpine Club. A warm-hearted and devoted personal friend and a most brilliant Alpine climber, his loss will be deplored and deeply felt by all who knew him, whether in private life or among the mountains.

REVIEWS AND NOTICES.

High Life and Towers of Silence. By Mrs. Main, formerly Mrs. Fred. Burnaby. (Sampson Low, 1886. 10s. 6d.)

MRS. MAIN's second book on mountaineering and matters pertaining thereto has been composed and published in less frenzied haste than her former volume. It was therefore probable that it would be much better; we may go farther, and say at once that it *is* a vast deal better. She discourses very pleasantly on climbs and rambles in many parts of the Alps, mainly Chamonix, Zermatt, and the Engadine, and the book

is gracefully dedicated to Edouard Cupelin of Chamonix, the faithful guide and companion of the authoress in many of her wanderings. The Matterhorn (crossed), Weisshorn, Aiguille du Géant, and the first ascent of the Bieshorn are the most serious undertakings described; while a mere list of smaller ascents would be of considerable length.

A special feature of the book is that the authoress seems to indulge in her favourite pursuit of climbing all the year round. Whether it is summer, late in autumn, winter, or spring, with indefatigable pluck and courage she is always going up something, and apparently never quite happy unless just back from one expedition or planning another. Perhaps the most remarkable of all her narratives are three in which the authoress appears in the character of the sole guide or leader of the party. Let our readers turn to the chapter on the Diavolezza Pass in winter, and the very exciting descent through the séracs of the Morteratsch glacier, when her two companions, an English and a Swiss gentleman, showed themselves far inferior, in point of strength and skill, to their plucky 'guide chef,' who had actually to support one of them to enable him to get down, and thus save the whole party from a night on the glacier. Take again the descent of the Ried Pass to S. Niklaus, when Mrs. Main not merely prevented her incapable guide from glissading down a very steep snow couloir, but induced him to take the right way by threatening to jump over a great crevasse instead of crossing a snow bridge. So, too, the ascent up to the Col du Tour in May with a single companion, when the summit of the pass was only won (owing to deep snow) at 3.15 P.M.; of the descent the authoress writes: 'When I was firmly placed, I drew in the end of the rope, while my companion descended!' But, perhaps, the gem of the book is the attempt to cross the Stelvio from Bormio to Trafoi late in autumn, with the mishaps of the two German gentlemen, the breakdown of the English maid, the description of the night in the road-mender's house, and the final refusal of the Italian Custom-house officers to allow the party to cross the pass, on the ground that such a course was forbidden, 'once the snow is down!'

Many good stories are scattered up and down the pages of this volume. Imagine one's horror at being told that a certain woman in the village always has by her a basket of eyes (p. 37); while the answer made by the Chamonix porter, when asked, at his examination for the status of guide, what he would do to a traveller who wanted to go to sleep on a glacier (p. 150), is quite sufficient to explain the decline of Chamonix as a mountaineering centre—for this candidate obtained his certificate triumphantly, his proposed method of dealing with his 'monsieur' thus receiving official approval. A very vivid description of the manners and customs of small Alpine villages is given by the authoress, based very largely on her experience at Wiesen in the Graubünden during the winter of 1885-6; but some of them are not so very rare and uncommon as Mrs. Main seems to think. Several of the illustrations in the book are, we gather, from photographs taken by the accomplished authoress, and are fairly well reproduced. One of them (the W. peak of the Two Sisters near Pontresina from the E. peak) is amusingly like Mr. Donkin's well-known photograph of the summit

of the Géant, though we trust Mrs. Main's picture will not have the same lamentable effect as Mr. Donkin's, for when this was seen by an invalid friend of the writer's he 'had such a severe nervous attack in consequence of the impression it gave him of the horrors of the peak that a doctor had to be called up during the night to administer remedies' (p. 140).

Mrs. Main makes some very caustic remarks on the conduct of the Engadine innkeepers during the summer, while she rates the scenery of that district far lower than the neighbourhood of the Riffel Alp or the Belalp.

The proofs have been very carelessly corrected, for a number of bad mistakes occur in foreign words. Thus we have 'la deluge,' 'Chateau d'Ceux,' 'Montaignes,' 'Cantonieré,' 'Mont Malet'; while accents are scattered broadcast—witness 'concièrge' and 'Vièrge.' There is a pleasing uncertainty as to the spelling of 'gully,' which on p. 137 appears in two consecutive lines once with and once without a penultimate 'e.' Mr. Seymour King's ascent of the Aiguille Blanche de Peuteret is dated July 24, 1885, a week before it actually took place.

But these are only small blemishes in a pleasantly-written volume which will agreeably while away an hour or two on a winter's afternoon, though it does not contain the tale of any hairbreadth escapes, and is not likely to rank among the Alpine classics. The authoress tells us that she has much enjoyed 'the labour of writing it,' and we may say that we have enjoyed the labour of reading it.

Jahrbuch des Schweizer Alpenclub. Vol. xxi. 1885-6. (J. Dalp, Bern.)

With this volume appears the map of the Special District in two sheets (80606), with contour lines at intervals of 30 metres and with shading by Professor Heim. It extends from Rosenlauri Bad to Mörel, in the Rhone valley, N. and S., and from the Wengern Alp to the Rhone glacier, E. and W., comprising the eastern portion of the Bernese Alps and the Blindenhorn group south of the Rhone.

In so well-known a district new ascents only can be made of secondary peaks. Herren Lammer and Lorria ascended (without guides), on July 27, 1885, the Hinter Viescherhorn (4,020 metres), on August 13 the Klein Grünhorn (3,927 metres), both from the Bergli hut; and on August 17 the Kamm (3,870 metres), from the Concordia hut.* But their most exciting excursion was on the Schreckhorn. After failing on July 31 to ascend this mountain by the N.W. ridge, on account of bad weather, they made on August 11 the ascent by the usual route (losing much time by a détour) and the first descent by the N.W. ridge, a very difficult and dangerous expedition, quite to be classed with their rash ascent of the Dent Blanche in a snowstorm.† Herren Simon and Merian, with Tischhauser, on July 31, 1885, made the first ascent of the Finsteraar-Rothhorn (3,549

* *Alpine Journal*, xii. 421. [Herr Lorria has written for the *Alpine Journal* a very interesting description of these ascents, which we hope soon to publish.—EDITOR.]

† *Ibid.* xii. 526-7.

mètres), and Dr. E. Burckhardt, with Jössi and Schlegel, on August 2, 1885, that of the Nässihorn (3,749 mètres), N.W. of the Schreckhorn.

Of ascents by new routes the most interesting is that of the Jungfrau from the Roththal, as being apparently the final solution of a problem sought since 1828. On the Excursions-Karte from a point near a field of névé called the Hochfirn three ridges run S., S.W., and W. to the N. border of the Roththal. The second and third of these are called respectively Innerer and Ausserer Grat. By the Ausserer Grat Herr Dübi made his new route to the Jungfrau in 1881.* Herr F. von Almen with five companions started from the hut in the Roththal at 4.45 A.M. on September 21, 1885, and bearing to the left got at once on to the Innerer Grat. This they ascended without difficulty to the junction of the three ridges, where a steep rock, about 3 mètres in height, which they could not circumvent, gave some trouble. Shortly after the ridge passed into ice, requiring step-cutting and caution. By 11 A.M. they were on the Hochfirn. After half an hour's rest they ascended steadily and struck the final ridge about ten minutes from the top, which was reached at 12.30 P.M. The descent was made to the Eggischhorn Hôtel, which was reached by the foremost of the party at 7.30 P.M. The guides consider that when the only difficult place has been improved and the Roththal hut repaired, this route, being at once easy and safe, will become popular, not requiring more than ten to eleven hours from Lauterbrunnen.†

Herr C. Anders, with Kederbacher and Gentinetta, made the fourth ascent of the Bietschhorn by the W. ridge on September 22, 1885. The only recorded descent by this ridge was effected by Miss Brevoort and Mr. Coolidge on September 20, 1871.‡ On reaching the 'Rothe Thurm' of Herr von Fellenberg they were hindered from ascending the couloir between the W. ridge and a spur of the S. ridge (by which all previous parties had passed) on account of the state of the snow. Hereupon Kederbacher, a noted cragsman, climbed the steep rocks and the party reached the N. peak in fifty minutes, as compared with Herr von Fellenberg's 1½ hour, thus opening a new, easier, and safer route to the summit, which was reached in five hours from the Bietschjoch. The descent was made by the usual route—N. ridge—which, owing to the lateness of the season, was much more difficult.

* *Alpine Journal*, xii. 421-2.

† Herr Körber, who made the ascent by this route, says that the 'Felskopf' was very difficult and took several hours (!) to pass. Other parties also describe this route as difficult and dangerous (*Mitth.* 1886, p. 228). This is rather singular, since F. von Almen says his only expeditions previous to this were the Schilthorn, Tschingel glacier, and Petersgrat, which present no difficulty. Probably until the bad place is improved a very capable climber is wanted in front.

[This new way up the Jungfrau was made several times during the past summer by Swiss climbers, one party reaching the summit soon after 10 A.M. It is reported to be quite free from danger, and the chief difficulty will vanish when a rocky point has been blasted away, though the bad weather throughout last season had caused this operation to be delayed. The route apparently joins that from the Silberlücke on the snow-field—Hochfirn—which is reached after climbing the arête from the 'Lücke.' It is pretty certain that the Club hut in the Roththal will have to be very largely, if not wholly, rebuilt.—EDITOR.]

‡ *Alpine Journal*, vi. 114.

Dr. E. Burckhardt contributes a series of ascents in the Special District, extending from 1867 to 1885, including the Grosshorn, Nesthorn, attempt on Finsteraarhorn from Finsteraarjoch, Trugberg, Gwächten, Nässihorn, Gross Lauteraarhorn, and Lauterbrunnen Breithorn. The ascent of the last was rendered particularly difficult by an error of judgment on the part of Herr Burckhardt and his guide, who led the party. After following the W. ridge for some time they abandoned it for the S. face, which proved exceptionally difficult. In spite of remonstrances they refused to regain the W. ridge, and reached with much trouble the point where the great S. ridge abuts on the mountain. Following the same route on the descent, to use the steps already cut, they found the S. face impracticable, and were forced to descend by the great couloir to the Innerthal glacier, which cost them nearly 5 hours' step-cutting, the time from and to the Wetterlücke being 11 hours, and the whole expedition, including halts, nearly 20 hours. Herr Burckhardt is conscious that these ascents in no degree satisfy the requirements of the English climber or the mountaineer of the new German school, but he considers that they are more consonant to the spirit in which the Swiss Alpine Club was established by its founders.

Superficial amateurism and the art of climbing pushed to the extreme of mechanical skill are equally dangerous, he considers, to the true mountaineer, who is created by love for the mountains and not by technical skill, however admirable.*

Herr Simon, in a series of excursions for the purpose of photography, chiefly from the Concordia Hut, in 48 days ascended 30 peaks and crossed 15 passes. The greatest difficulties were experienced on the Weisshorn (3,558 mètres), S.E. of the Schienhorn,† on the Ober Aletsch Glacier, where Herr Simon and the instrument were on one side of the peak, and the guide on the other held the instrument by a string with one hand and Herr Simon by the collar with the other, the rope having been left below.

Herr Simon praises greatly his ice-axe, a very handy, effective, and cheap article made by F. Jörg of Zweillütschinen for 16 frs. This might be worth noticing by English climbers, who seldom can get them for less than 30 frs.

* This may be all very well, but in speaking of the error on the Breithorn it is hardly fair to say that the self-conceit (*Eigensinn*) which made them persevere in it is 'a national peculiarity of our friends across the Channel' (p. 19).

† [Herr Simon declares that on the summit he found a bottle with my card therein. The only time I have ever been any where near this ridge was in making the second ascent of the Schienhorn on August 11, 1882 (*Alpine Journal*, xi. 121). We climbed up the W. face to a snowy point on the S.E. ridge, whence the highest point of the Schienhorn was gained in ten minutes. Did Herr Simon, then, really ascend the Schienhorn and not the Weisshorn, as his description of the very curious highest pinnacle would seem to prove, or has my name crept into his account by some slip? Possibly it was Mr. T. P. H. Jose's card which he found (and mixed up in some way with mine), for, on August 6, 1883, that gentleman ascended from the E. to the highest point in the ridge between the Schienhorn and the Weisshorn (3,558).—W. A. B. COOLIDGE.]

Dr. Dübi, with his wife and the guides Christian and Hans Hari, effected a new descent from the Doldenhorn to a glacier (Faulen) between the Fisistock and Klein Doldenhorn, a route deemed impossible by Herr von Fellenberg in 1862; and a new pass between the Doldenhorn and Fründenhorn, which he calls Fründenjoch. This name is usually given to the pass between the Fründenhorn and Eschinenhorn.

Out of the Special District the only new ascents not already mentioned in the 'Alpine Journal' are those of the S.E. peak of the Dent Perroc (3,679 mètres), on July 22, 1885, by Herren Tschumi and Kündig, with Joseph Quinodoz; the S.E. peak of the Cima del Largo (3,170 mètres), on August 22, 1885, by Dr. Curtius with Ch. Klucker; the Col de Planereuse, on August 1, and the Darrei (3,537 mètres), on August 7, at the head of the Glacier of Saleinaz, by Herr L. Kurz with F. Biselx.

The most interesting contribution is that of Dr. Schulz on the Aiguilles d'Arves, prefaced by a fairly correct account of the topography of this group and the history of their ascents. Along with Herren Purtscheller and Kellerbauer he left the chalets of the Alp Commandraut at 2.50 A.M. on July 20, 1885. The Col des Trois Aiguilles (Col des Aiguilles d'Arves) was reached at 7.10, and the N. Aiguille by the usual route at 9. The descent was made towards the Col des Sarasins. After three-quarters of the descent had been effected with ease the route became difficult. They had to descend a short, steep wall of rock by means of the rope, which was left hanging in case they should be obliged to retreat. Soon after they came to a similar place, and after some hesitation the rope was removed from above, thus cutting off their retreat. Fortune, however, favoured them, and the Col des Sarasins was reached at 12.10, the last part of the descent being as difficult as the first was easy. They now traversed the E. base of the peak to regain the Col des Aiguilles d'Arves, and at 1.40 were at the bergschrund at the N. foot of the Central Aiguille. They ascended by the left hand of the three couloirs to the E. ridge, and chiefly by the S.E. face gained the summit at 5 P.M. In the descent they kept on the S.E. face. After following the edge of the great couloir for some time they were able to make a traverse to a snowbed, by which they reached the glacier at 7 P.M. and the moraine about dark, but they did not find the chalets till 11 P.M. On July 21 they started at 5.10 A.M., and going very easily they reached at 12.10 P.M. a col (Col de Jean Jean) on the S.E. ridge of the S. Aiguille, N. of Col des Trois Pointes or de Jean Jean (crossed by Mr. Coolidge in 1876). Descending rapidly by another couloir, at 1 they were on the moraine of the Glacier Lombard. After searching in vain for the Refuge Lombard they studied carefully the S. face of the aiguille, and at length made out the two couloirs mentioned by Mr. Coolidge. They bivouacked in a hole in the moraine, at an elevation of about 3,100 mètres. On July 22, starting at 4.10, they followed the usual route up the aiguille, choosing the left-hand one of the two small couloirs (Mr. Coolidge ascended by the right-hand one) and following its right edge till forced to descend into it. Its upper part was

so steep and narrow that Purtscheller, who led, ascended by pressing himself against both sides, and helped up the others with the rope. The ridge was reached at 5.50. The summit here seemed to overhang. Purtscheller and Kellerbauer took off their shoes, and moving cautiously to the left reached the cleft by which Mr. Coolidge and the Almers gained the summit. The rope left there by them was not to be found. Into this cleft the young Almer, supported on his father's shoulders, had climbed with great courage and agility; but, as neither Herr Schulz nor Herr Kellerbauer could present a pair of shoulders like Almer's for Herr Purtscheller's support, and the position was such that the least unsteadiness must occasion a fatal accident, they sorrowfully but wisely determined to abandon the attempt.* Regaining the Glacier Lombard, they ascended the Aiguille de Goléon, the summit of which they reached at 1 P.M. On their return to La Grave they learned that the rope had been removed from the cleft by the Gaspards, after an ascent on July 23, 1884, out of jealousy of the La Grave guides.† In conclusion Herr Schulz pays a well-deserved compliment to Mr. Coolidge, the fortunate conqueror of the Aiguilles d'Arve. The article is illustrated by engravings from sketches (not over accurate) by Herr Schulz himself.

Herr E. Burckhardt, in describing an ascent of the Lyskamm on August 19, 1881, when the last thousand feet took five hours, points out how this mountain is neglected by the modern school of mountaineers as tedious and uninteresting, and asks how the 'mountaineers without guides' would like such expeditions as the 'Eigerjoch' or 'Güssfeldtpforte,' where many hours' step-cutting is required and whose steepness forbids the use of 'Steigeisen.'

Herr Borel contributes an article on the Adamello and Brenta groups. A new hut has been built half an hour above the Malga dei Fiori, in the Val Nardis, which will much facilitate the ascent of the Presanella. Dr. Curtius describes another visit to the Bacone group, near the Maloja Pass. Herr Wäber gives an account of the western passes of the Rhætian Alps, with special reference to the military

* Herr Schulz takes credit to himself for this act of self-denial in view of the sad event of August 6, and complains of the harsh judgment passed upon him and his friends in the *Alpine Journal* and by members of the Alpine Club. But there is no doubt that at any rate the elder members of the Alpine Club would disapprove of so rash an expedition, whether made by members of their own or of any other club.

† [I should like to explain that on July 22, 1878, we left a bit of rope only about 3 feet long, and this as a noose or 'cravate' round a knot of rock at the summit of the cleft—it is impossible to see it until the cleft has been overcome. Our long rope was doubled through this noose, and we let ourselves down by it, drawing it through after all the party were down. Dr. Schulz is in error in saying that our bit of rope (used again on my second ascent on July 6, 1880) has been removed; it was found on July 29, 1885 (a few days after Dr. Schulz's attempt), by M. Dulong de Rosnay's party (*Annuaire du C. A. F.*, 1885, p. 547); the party whose traces Dr. Schulz found in the ice couloir on the south flank was M. Brulle's, which made the ascent on July 17, 1885 (*Annuaire de la S. T. D.*, 1885, p. 74; *Annuaire du C. A. F.*, 1885, p. 577).—W. A. B. COOLIDGE.]

movements in 1799. Herr Trautweiler takes us far away to the Peloponnese, and describes the ascent of Malevo (1,774 mètres), the highest summit between the ancient provinces of Arcadia and Argolis.

Herr Dübi's article on Roman roads (No. III. 'Roman Roads in the Rhætian Alps') has been already noticed in these pages by Mr. D. W. Freshfield.*

Professor Heim in an interesting article contributes a number of facts as to the effects of lightning on mountain summits. Vitrified surfaces, sometimes covered with glass drops of various colours, have been found, in some cases reaching the size of six inches square. Generally these are found close to the summits, and were not to be observed a few mètres below it. Sometimes, though less frequently, they were to be found in depressions of the ridge, and even on slopes. Herr Simon in the tour above referred to found such vitrefactions on every summit he ascended. They are found much more frequently on crystalline rocks than on limestone, though on the former they are sometimes altogether wanting. On grass slopes the thunderbolt is observed to form a central hole a yard or more in depth, from which furrows run in all directions.

A singular experience bearing on this subject is related by Herr J. Studer. Whilst ascending from the Meglis Alp to the inn on the Säntis a violent storm surprised him when on the snowfield. Flickering lights appeared on the ridge between the Säntis and Altmann; small fireballs moved to and fro, and on coming in contact with each other burst like rockets, with red and blue lights. These were succeeded by a ball, of the apparent size of the moon, which moved along the ridge in parabolic curves. A fearful thunderclap was followed by a new phenomenon. The telephone wire was brilliantly lighted up, sheets of the electric fluid hanging down between the posts like clothes hung out to dry (*Blitzwäsche*). In a very short space of time the wire fell to the ground, melted, and the fiery brightness disappeared, leaving the party blinded, unable to recover their power of sight for several minutes.

Professor Forel, continuing his notices on the periodic variations of glaciers, states the results obtained by Dr. Lang, of Munich, with which he in the main agrees; he would, however, state more generally that periods of heat, rain, and glacier change are intimately connected and follow each other in order, though at considerable intervals.† Nearly all the glaciers observed are now advancing.

The Rhone Glacier, though gaining in some parts, still continues on the whole to lose ground, 5,675 square mètres having been left bare of ice in 1884-85. At the general meeting held September 12, 1885, at Villars-sur-Ollon it was agreed to publish the results of the examination of the Rhone Glacier during the last six years; but the

* *Alpine Journal*, xiii. 30-5.

† The Rev. T. A. Preston, Fell. Met. Soc., during observations at Marlborough College, 1865-85, established conclusively that periods of cold and heat are followed by a retardation or acceleration in the flowering of wild plants after an interval of about six weeks.

proposal to continue the work met with serious opposition. A compromise was at last agreed upon that the money contributions of the Swiss Alpine Club should be continued for three years longer and then be definitely withdrawn.

The number of guides ensured has risen to 110, exceeding the minimum stipulated by the Zürich office; but more than three-quarters of these (eighty-eight) are in Bern and Wallis, and the other sections are urged to interest the guides of their districts in this matter.

The address on September 13 was delivered by Professor Eugène Rambert, whose death on November 21, 1886, removes a veteran member of the Swiss Alpine Club and one of its most ardent supporters.

The number of members at the close of August 1885 was 2,607, and the expenditure exceeded the receipts by 196 francs.

The case attached to this volume contains, besides the maps, a panorama from the S. peak of the Trugberg by Herr Simon, a view in the Morea, and others. J. S.

Kritisches Verzeichniss der Gesammtliteratur über die Berner Alpen, speciell über den centralen Theil des Finsteraarhorn-Massivs. Von Edmund von Fellenberg. (Bern: 1886. 1 franc 50 cents.)

Repertorium und Ortsregister für die Jahrbücher i. bis xx. des Schweizerischen Alpenclubs, zusammengestellt von Otto von Bülow. (Bern: 1886.)

Herr von Fellenberg has published another part of his historical monograph on the peaks and passes of the Bernese Oberland. This time it is the bibliography of his subject, specially as regards the central part of the chain. Starting with Tschudi's work of 1538 he brings his text down to the number of the 'Intelligenzblatt der Stadt Bern' of September 28, 1885, which contains the description of the new way up the Jungfrau. This pamphlet of little more than 50 pages is most admirably done, one specially useful feature being that every paper on the district in question which has appeared in any periodical publication is separately noted, so that many sources are now laid open without the trouble of searching countless files. For instance, the references to our own columns fill no less than six entire pages. We look forward with eagerness to the publication of the second main part of the monograph containing the history of the peaks and passes east of the Lötschenlücke. Herr von Fellenberg's knowledge is so extensive and minute, and his zeal so untiring, that his book when complete will rank among the most prized treasures of our Alpine libraries.

Herr von Bülow, too, by his labour of love has deserved well of all readers of Alpine literature. His index to the Swiss Jahrbuch has been executed with the greatest care and pains, and is an invaluable key to an invaluable store of information. It is divided into four main divisions. The first or 'scientific' deals with the articles on natural sciences, anthropology, orography, cartography, history, legend, art, forestry, and etymology. The second is the principal, for it contains an index to all the ascents described in the Jahrbuch classified under the various mountain groups, to the full

understanding of which a key map greatly contributes. This division covers nearly 100 pages of the 188 of the whole work. Part 3 has to do with club matters, photography, accidents, guides, huts, reviews, and periodicals; while Part 4 (perhaps the most generally useful) is an alphabetically arranged index of places, peaks, and passes, each accompanied by its references, the whole forming a most thorough and masterly piece of work. The trouble of finding out whether a supposed new route has already been made is now reduced to a minimum. The book is published as an *Extrabeilage* to this year's *Jahrbuch* (No. XXI.), but may doubtless be obtained separately. It is indispensable to every Alpine library, whether it does or does not contain a set of the *Jahrbuch*. We offer Herr von Bülow our most hearty thanks for his pains and trouble, and we are quite sure that all who use his admirable index will be filled with gratitude for the toil and loss of temper which his work will spare them, and with amazement at the patience and hard labour which its compilation must have cost him.

Annuaire du Club Alpin Français. 12ème Année. 1885. (Paris.)

If the 1885 'Annuaire' contained but one of the articles it now includes, it would be one of the most important volumes of the series. This is the paper which stands first, and which is an exhaustive monograph on the great peak of the Meije in Dauphiné, worthy to rank side by side with that on the Ecrins published in the 'Annuaire' of 1882. It is due to the pen of M. Georges Leser, who has himself made the ascent (after one unsuccessful attempt, in which the party were beaten back after reaching the Glacier Carré—that is, after all the chief difficulties of the climb had been overcome), and who has been aided by those best acquainted with the peak, especially by M. Claude Verne for all relating to the W. ridge, and to the great couloir on the N.W. side which he overcame in 1885. The result is that we have an authentic account of all the attempts on and ascents of the peak, by whatever route, Herr Otto Zsigmondy contributing an original account of his ascent by the Eastern ridge. A specially useful chapter is the minute description of the usual route by the Southern face, the key to which, we believe, is the change in the geological character of the mountain and the different lie of the strata. The paper is lavishly illustrated, the view of the Meije from the La Grave side of the Brèche being a good reproduction of a marvellous photograph by M. Charpenay of Grenoble, while in another 'phototypie' of the climbers at La Bérarde taken on August 5, 1885, we have the group of the brothers Zsigmondy and Dr. Schulz, one of whom was destined to lose his life on the Meije next day. Last but not least is the map of the district between the Col de la Lauze and the Col des Ecrins (on a scale of 1:100,000), constructed on the basis of his own observations by M. Henry Duhamel, and forming the continuation of his previous map (Ecrins to Col du Sélé) in the 'Annuaire' of 1882. It is (especially in its second revised form) marvellously accurate and extremely clear, being the first detailed map of the real topography of this district, which is so faultily represented on the French Government map. The

map is worthy of the paper which it accompanies, the two together forming one of the most important original contributions to a little-known corner of the Alps which have been published for many years. Ten successful ascents of the highest peak had been made by the end of 1885, on all of which, save two made without guides, and one on which the Almers were the leaders, the Gaspards of St. Christophe have been the chief guides. To these one other must be added, made last summer by a young English officer of the 19th Hussars, Lieut. Swan, to whom we owe a paper in this volume mentioned below. Gaspard père for the first time, we believe, visited the great Swiss peaks in 1885 with MM. Brulle and Bazillac, in the course of a remarkable journey, the narrative of which is rather unfairly banished to the small type articles at the end of the 'Annuaire.' The party ascended the Southern Aiguille d'Arves, Dent Parrachée, Dôme de l'Arpont, Dôme de Chasseforêt, Grande Casse, Grand Paradis, Mont Blanc by the Aiguille Grise route, the Western Dru, the Matterhorn, and Dent Blanche. We are sorry to see that M. Brulle complains that he was much annoyed by the Zermatt guides because he brought a strange guide with him. The only other article on Dauphiné is a full description of the ascent of the Southern Aiguille d'Arves by M. Dulong de Rosnay, who appears (and rightly) to have been much impressed by the ascent, the characteristic feature of which he holds to be the 'sensation continuelle du vide, sensation propre, il est vrai, à toutes les grandes ascensions de rochers, mais plus marquée encore à l'Aiguille Méridionale d'Arves, en raison de sa conformation particulièrement verticale.' We would point out to the writer that he is wrong in believing that Emile Pic climbed a rock face on this Aiguille which old Christian Almer had tried in vain without his shoes. Almer's slope is far to the right, overhanging the Col de Gros Jean, and quite close to the edge overlooking Rieublanc; while Pic's is just a little to the right of the curious cleft which is the only means of access yet discovered to the upper part of the mountain.

In Provence we have an account of the ascent of Caoume, a hill north of Toulon, interesting as the scene (in the spring of 1787) of de Saussure's scientific observations near the level of the sea, before making his famous ascent of Mont Blanc. M. Bartoli contributes a very pleasant narrative of his exploration in January 1885 of the Montagnes des Maures (between Hyères and Fréjus), including a visit to La Garde Freinet, the head-quarters of the band of Saracen marauders who spread thence into the Maritime Alps, Eastern Switzerland,* and possibly the valley of Saas. In the Tarentaise, we have only one paper describing an ascent of the Chasseforêt near Pralognan, and a descent in thick mist to Termignon, a very awkward adventure; for, as the Dôme is situated in the very centre of the great snowfield of the Glacier de la Vanoise, nothing is easier than to lose the right direction, and wander for hours round and round.

The two papers on the Mont Blanc district are of considerable importance. M. Vignon, among other climbs, describes his ascent of the

* *Alpine Journal*, vol. ix. p. 254 sqq., vol. x. p. 269.

Aiguille de Bionnassay, which is believed not to have been climbed since the first ascent, in 1865, by Mr. Grove and his companions, the thrilling circumstances of which have been fully narrated in the second volume of this Journal. M. Vignon, starting from the southern Miage glacier, reached the foot of the peak by way of a tangled icefall, but found no difficulty in reaching the summit of the peak by the S.E. flank from the snowfield above the glacier. An attempt to descend by the E. arête failed, so the party, remounting to the summit, regained the foot by their previous route at 12.45, and thence followed Mr. Reilly's 1864 route along the great ridge at the head of the Bionnassay glacier to the Dôme du Gôûter, reached in *two hours and a half* only from the foot of the Aiguille de Bionnassay. Time did not allow of the ascent of Mont Blanc, so the party descended to Chamonix. It is curious that though, in the early days of the Alpine Club, the ascent of Mont Blanc from the Col de Miage was one of the chief problems sought to be solved, and that the whole way, from one point to the other, has been made in different bits, yet (we believe we are right in stating the case) no one starting from the Col de Miage has reached the summit of Mont Blanc the same day. M. H. Dunod gives us a very interesting account of the month he spent in besieging the Aiguille des Charmoz (which he very inconveniently calls the Aig. de Grépon),* always seeing yet not being able to reach Mr. Mummery's ice-axe, till a final attempt on September 2, 1885 (the party starting from the Montanvers Hôtel), was crowned with success, the final peak being reached from the S.W. (not by the N. arête, as stated by a slip), a new route, and one very nearly identical (if we mistake not) with that tried by Messrs. Balfour in 1881.†

Switzerland receives scant attention this year from the C.A.F., M. de Gorloff's wanderings among the well-known valleys of South Valais being the only contribution, besides M. Brulle's paper mentioned above; while the schoolboys of Arcueil explored the Ortelier group and the Dolomites, a district as yet but little known to French travellers. The Pyrenees, as usual, receive much attention. Count R. de Bouillé sends a monograph on the Pic du Midi d'Ossau, M. de Saint Saud continues the tale of his explorations (interfered with now and again by stern officials) on the Spanish side of the chain. Mr. Swan describes the first ascent of the Pic d'Astazou from the North, but seems to use the terms 'glacier' and 'couloir' as meaning the same thing. The third sheet of M. Schrader's great map of the Central Pyrenees is issued with this year's 'Annuaire,' one half of the map being thus now published. M. Martel sends a paper on certain remarkable features in Auvergne and the Cévennes, in the course of which he corrects his previous account of the curious rock formation called Montpellier le Vieux from a supposed resemblance to the town of Montpellier, and gives a detailed ground plan of the whole. There are also a number of papers dealing with semi-Alpine or even

* See *Alpine Journal*, vol. x. pp. 420, 500.

† *Ibid.* p. 397.

non-Alpine matters, on Malta, the Lebanon and the Anti-Lebanon, Formosa, Tonkin and the Pescadores Islands, and the volcanoes of Java, each interesting in their way, but for a full account of which we have unluckily no space.

Among the scientific articles, the first part of Monsieur E. Levasseur's essay on the grouping of the different ranges and 'massifs' of the Alps is placed at the head. We are much disappointed to find that it entirely consists of a long monotonous list of peaks and passes, impossible to wade through, and only to be understood by means of a good map, for which the very rough and confused outline given with the paper is not a sufficient substitute. M. Levasseur has had his paper revised by various specialists, and consequently his names and heights are very accurately given, though on p. 390 the Aiguille de Chambeyron is said wrongly to be on the frontier, whereas the Brec of the same name (3,888 mètres) is not mentioned, though it really is on the main ridge; and on p. 419 the misprint of 4,061 mètres attributed to the highest peak of the Fletschhorn by the Dufour map (that sheet of the Siegfried Atlas is not yet published) is copied without comment, though the peak is thus made far higher than the Weissmies (4,031), the reverse being really the case. M. Levasseur, too (p. 389), repeats the old story that S. Vêran is the highest village in Europe (2,010 mètres), ignoring entirely Avérole (2,035), in the upper Maurienne, and Jof or Juf (2,042), in the Aversthal (Graubünden). The author reckons as belonging to the Western Alps all South of a line passing through Aosta, the Col Ferret, and Martigny; while the Central Alps are cut off from the Eastern by the valleys of the Inn, Eisach, and Adige. The rest of the Central Alps and the Eastern Alps will be described in the 1886 'Annuaire.'

To our mind M. Schrader's orographical sketch of the Pyrenees is on a far more scientific and useful plan than M. Levasseur's, giving the main features of the chain (the key to which is to be found on the Spanish side), and not overwhelming us with masses of details. M. Schrader considers that on the French side of the chain it is the secondary topography which prevails, the whole slope being a descending one, and having been much worn away by weather and maritime influences; whereas the Pyrenees are prolonged on the side of Spain, where the primary topography is well preserved, and where, despite first appearances, an almost geometrical regularity prevails in each of the distinct groups or 'redressements' at a very sharp angle to the imaginary axis of the main ridge. This paper deserves careful study.

M. Vézian continues his studies on the origin of mountains, describing this year the different 'types orographiques' which are the result of the expansion of the liquid central fire of the earth. These are three in number.

a. *Chaînes à arc anticlinal*, such as the Mont Blanc range.

β. *Chaînes à strates diversement infléchies*, such as all the ranges to the north of the main ridge of the Alps.

γ. *Chaînes à plateaux*, like the Dolomites and the Mont Perdu.

M. Briot prints a proposal for improving the material condition of the Alpine populations. Much has been done for the lower hills by the rigorous enforcement of the laws as to replanting them with trees

and regulating the mountain torrents; but for the land at a higher elevation, M. Briot is anxious that the peasants should devote themselves to the production of that for which the land is best adapted—in this case not corn, but milk and cheese—their endeavours to be supported by societies in each commune, prepared to lend money for the furthering of these objects, these societies being under supervision of the Central Government and its delegates, in which category the French Alpine Club ought to take a prominent place. The State has power to enforce replanting, but the improvement of pastures has been left entirely to individuals, and little or nothing has been done. There is a good paper by M. de Pouvoirville on the requisites which combine to make some mountains excellent positions for studying and observing others, whereas some (despite their present popularity) are quite unfitted for this purpose. M. Durier has had the ingenious idea of observing the motion of glaciers by means of photographs taken every year; and thus from 1884–5, he finds that the Glacier du Bois was stationary, whereas the Bossons advanced rapidly. The reasons assigned for this difference in the behaviour of two glaciers in the same valley we must leave more qualified persons to consider, but the reproductions of M. Tairraz's photographs illustrate M. Durier's main thesis in a very admirable way.

M. Duhamel prints in full his paper on M. Cordier's ice-axe, read before the Turin Congress in 1885. The second bit of the axe was only found in 1884, seven years after the accident, and M. Duhamel is of opinion that it was by reason of its faulty construction (on a very commonly adopted model) that it broke and M. Cordier's life was sacrificed. Several diagrams help us to understand this paper, which should be read by everyone who uses an ice-axe—that is to say, by all climbers.

There is a curious paper on the well-known Inverness dog 'Clyde,' who is in the habit of begging for pennies, with which he buys cakes for his own personal consumption. He attracted the attention of some French visitors, and several letters from Mr. Lindsay, his owner, are printed, giving a full account of his remarkable sagacity and the way in which he took to this habit.

On the whole, this 'Annuaire' is interesting throughout, though the Meije paper is the only one of first-class importance. The French Club seems to be in a flourishing condition, for on May 10, 1886, it numbered no fewer than 5,321 members.

Section Lyonnaise du Club Alpin Français. Cinquième Bulletin.
(Lyons: 1886.)

The Lyons section of the C.A.F. has collected in a modest volume the papers read before it since the publication of its last Bulletin. No fewer than three deal with the Bernese Oberland, one being by the Abbé Chifflet, who was killed in 1885 on the Courtes, and of whose life and Alpine travels a sympathetic sketch is given by one of his old colleagues. Other papers describe an ascent of Mont Blanc by the Aiguille Grise route, and a journey from Algiers to Kairwan. There are in fact but two papers of what we may call local interest. Lieut.-

Col. Arvers gives a very curious account of the origin of the 'Alpine Companies' in France, and of the doings of his own battalion (the 12th) in the Dauphiné and Savoy mountains. This company, not content with making easy passes (it has crossed over 200), crossed in 1884 the glacier Col Lombard from La Grave to Rieublan, and attempted in 1885 the ascent of the Rochebrune above Briançon, no less than 30 men reaching the summit together. In honour of this the battalion has been made an honorary member of the section. M. Joseph Mathieu describes his ascent of the Meije in terms which seem to show that, contrary to general experience in such matters, the difficulties of the climb have not been exaggerated, and are not much diminished even by the increased experience of the Gaspards, gained on their repeated ascents.

The section numbers now 576 members, and its library includes 426 separate works or albums of photographs. It is well known that the 'Lyonnais' are among the most active and enterprising climbers in France.

Annuaire de la Société des Touristes du Dauphiné. Vol. xi. 1885. (Grenoble.)

This volume of the Dauphiné Society is unusually interesting. The chief article is that by M. Paul Moisson, on the tangled ranges south of Dormillouse, near the sources of the Drac. His two days' exploration between Orcières and the Durance valley form a fitting supplement to his previous labours in the Champoléon, and we trust that he will some day embody in a separate work all the information which he has gathered together on these districts; for, lying as they do to the south of the main mass of the Dauphiné Alps, it is rarely visited and still more rarely described. Another article deals with the Chaillol and Parières ranges, which were thoroughly explored (in the steps of Messrs. Gardiner and Pilkington, of MM. Bayard and Moisson) during several of the brightest days of that most brilliant summer of 1885. M. Ferrand relates his ascent of the Puy Gris, near Allevard, which has a legendary but apparently wholly undeserved reputation for excessive difficulty, if not inaccessibility.

M. Chabrand gives us a most interesting description of the valley of the Queyras, from Guillestre to Abriès, and of the Traversette. It is full of the historical details which we expect from the historian of the district, and brings out, too, the beauty of the views of the Viso and Dauphiné groups. The author, however, makes a slip in saying that S. Véran is the highest commune in France, as we believe that that doubtful advantage belongs to Avérole, in the Maurienne, near Bessans, the chief winter hamlet of which lies at no less a height than 2,035 mètres (= 6,677 feet). On page 167, too, M. Chabrand should not say that the Cols Girardin, Albert, and La Noire lead from Ceillac to the Ubaye valley and to Molines, for though the former statement is true of the two first named passes, the lofty and desolate Col La Noire leads from S. Véran to the Ubaye valley, and not one of the three leads to Molines from Ceillac, though one does lead from Molines to the Ubaye valley. But these are mere slips in a very valuable article.

A very interesting account is given of the development of the Société

des Touristes during the first ten years of its existence. Starting early in 1875 with ten members, and a budget at the end of that year of 3,890 francs, it numbered in March, 1885, 639 members, and its annual income was no less than 7,499 francs, despite the low subscription of 10 francs asked from each member. Few local societies can boast of such a rapid growth, and none, we are inclined to believe, can show a greater amount of work done, the little inn at La Bérarde being now quite ready for occupation. One is at first surprised to find in the transactions of a local society a long account of the Turin International Alpine Congress of 1885; but this is explained by the fact that Dauphiné and Piedmont have always been closely associated, and that the S.T.D. is now recognised as one of the more important Alpine associations. The 'Revue Alpine' of the principal expeditions made in the Dauphiné Alps during the season of 1885 is as well done as usual, though by a slip of the pen the conquest of the Meije by the Eastern ridge is dated August 4 instead of July 26.

Bollettino del Club Alpino Italiano per l'anno 1885, No. 52.
(Candeletti, Turin.)

This latest number of the 'Bollettino' opens with an appeal addressed to the members of the C.A.I. by the editors, who find that suitable articles relating to climbing are more and more rarely offered to them (probably because of the competition of the monthly 'Rivista Alpina'), and feel bound to apologise for the historical and geological character of the present volume. They point out that even in well-known districts there are nooks and corners which well deserve, for various reasons, to be explored and described; they engage that in future scientific articles shall not be so strictly technical as they have been, but should appeal rather to those interested in the Alps than to scientific specialists; and they express a hope that the descriptive and personal part of papers on mountain ascents will be kept subordinate to that portion which studies the topography and general aspect of the district in question. No doubt there is a dearth everywhere of 'climbing' articles, and we can thoroughly sympathise with the Italian editors while endorsing their suggestions and promises; but in this case the dearth seems to be an unavoidable result of 'running' two periodical publications, unless one is confined to business matters and to short notes (like the 'New Expeditions' in these pages), which can later be expanded and published in the more important periodical. Certain, however, it is that the current 'Bollettino' is singularly poor in any articles which describe climbs or explorations made by Italian mountaineers. Yet several of the papers therein contained are very valuable, as summaries of what has been done, thus showing those who have less leisure for the study of Alpine literature than for climbing what exactly remains to be explored and ascended in order to complete the monograph of any particular district.

The honours of the year undoubtedly belong to Signor Luigi Vaccarone, who is an explorer both of mountains and of the literature of mountains—a combination rarely found, and of which there is perhaps no more brilliant example than the case of that eminent Alpine writer.

The first of his two articles is an attempt to perform a Herculean task—a classified list of the first ascents and passages (with names of travellers and guides, dates, and references to original sources) of all peaks and passes on the main chain of the Alps from the Monte Viso to the Simplon. Only those who have ever tried to draw up such a list can fully realise the enormous difficulties, at once personal, historical, topographical, and bibliographical, of his undertaking. After a very careful examination of Signor Vaccarone's '*Statistica*' we can say with confidence that as a first draft it is most wonderfully full and complete. We say as a first draft, for the article is unpagged; and as the author modestly admits that there must be many mistakes and omissions, and asks for corrections, we presume that a revised edition will be published in a future number of the '*Bollettino*.' Such a list, it is clear, can only be made perfect by the aid of those specially acquainted with the various districts, and in this case we find that it is best done in those parts of the Alps which Signor Vaccarone has himself explored. We very much regret, however, to find that the honours of the first ascent of the Aiguille du Géant are given to the Signori Sella, who, though undoubtedly discoverers of the right way up the highest peak, themselves reached only the lower of the two pinnacles which constitute the summit. It will be necessary to define the limits of the different districts into which the Alps are divided for the purpose of this list, as each district has its own numeration, *e.g.* the Cottians, 76 entries; the Graians, 123; the Paradis group, 88; the Mont Blanc district, 102; the Pennine Alps (from the Great S. Bernard to the S. Théodule), 133; the Monte Rosa group, 108; and for the same reason it would be very convenient to have at the end an alphabetical index showing on what page any particular peak or pass is to be found. Then, too, some of the districts require a good deal of rearranging, as the method followed is not always the same; and the whole list requires very careful and minute revision, so as to ensure perfect accuracy, as well of statements of facts as of printing foreign names. Signor Vaccarone, too, is inconsistent; for, while stating that his list is confined to the main chain of the Alps, he includes the Tarentaise and outlying parts of the Pennine range, and omits entirely the great mass of the Dauphiné Alps—a system which, besides the disadvantage of inconsistency, seriously impairs the usefulness of the list as a key to all the Alps from the Viso to the Simplon. But despite these drawbacks, most of which are inevitable in the first draft of such a laborious and extensive undertaking, we have no hesitation in saying that Signor Vaccarone's list is an advance on anything of the kind hitherto attempted, and that in its definitive shape it will reflect the greatest honour both on the author for his untiring zeal, and on his Club, which has so well seconded his endeavours.

It is well known to all who take an interest in the exploration of the South-Western Alps that that part of the main Alpine chain which lies between the Levanna and the Ciamerella offers the greatest difficulties in the way of topography and of nomenclature, for the French and Italian surveys differ fundamentally on both points. Then, too, the chain has been mainly explored from the French side, as it is far more

easy of access than the Italian side, which, however, is far more conspicuous in all views. Signor Vaccarone, with the help of several friends well acquainted with the district (specially Signor Corra), has written an admirable account of it, illustrated by two very clear lithographs of the Italian slope. The knotty topographical questions are discussed and (what is more) settled, while the historical account of the exploration of the chain leaves nothing to be desired. By the publication of this paper Signor Vaccarone has rendered a great service to Alpine explorers, who must necessarily consult it if in search of information on a very tangled part of the Alps. It might perhaps have been well to avoid an excessive multiplication of names for insignificant pinnacles and useless passes. Then, too, Signor Vaccarone follows the new Italian map in holding that the Punta di Mezzenile (3,446 mètres) is higher than the Cima del Martellot or Roc du Mulinet (3,437 mètres), farther North. The French map assigns to these peaks the heights of 3,458 and 3,469 mètres respectively; and the writer of these lines (who has been up both summits) is confident that the French map far more nearly represents the truth than the Italian survey.

These two articles of Signor Vaccarone's throw the rest of the contents of the 'Bollettino' into the shade. Perhaps the most generally interesting of the other articles is that by Signor Grober on the southern and south-western faces of the highest peak of Monte Rosa, which is illustrated by the reproduction of a splendid photograph taken by Signor Vittorio Sella from the Lysjoch. The article itself, however, is full of the grossest mistakes and most careless omissions. It is implied that Messrs. Pendlebury and Taylor's ascent of Monte Rosa from the East was made before M. Déchy's expedition of 1871 up the south-western face, though of course the former expedition took place on July 22, 1872. Again, the honour of first climbing up the south-west face (*i.e.* of reaching the *Sattel* from that side) is given to M. de Déchy because of his ascent of July 29, 1871. Now, M. de Déchy no doubt made this expedition quite independently, but if Signor Grober had consulted his note in our pages* he would have seen that the Editor there pointed out that M. de Déchy's route was but a slight and unimportant variation of the route taken by Messrs. K. E. Digby and R. B. Heathcote in 1868.† Further, Signor Grober complains that Mr. Hulton's notes‡ of his ascent up the south face on August 20, 1874, are vague and do not indicate his precise route; though if he had studied them more carefully he would have seen that Mr. Hulton took the very route (up the rocky ridge coming straight down from the highest peak) which Signor Grober is inclined to think would be the best way for those approaching the peak from the Lysjoch. Finally, we are told that Messrs. Conway and Scriven in 1877 were the first to climb to the highest peak from the Zumstein or Grenz Sattel. Now it must be remembered that *part* of this route (*viz.* from the Ost Spitze to the Höchste Spitze) had been made in 1872 by Messrs. Pendlebury

* *Alpine Journal*, vol. vii. p. 154.

† *Ibid.* vol. iv. pp. 157-8.

‡ *Ibid.* vol. vii. p. 107.

and Taylor coming up from Macugnaga, while the *entire* route was first made on August 31, 1874, by Messrs. F. P. Barlow and G. W. Prothero, * of which expedition Mr. Conway and his companions were ignorant when they made their climb, as no account had been published of it.† An article containing such gross mistakes should never have been allowed to appear in the 'Bollettino.' It gives, however, some useful details as to the Club huts on the south side of the Lysjoch; one (the Capanna Gnifetti) is only two hours from the summit of the pass, and another will next summer be built on the pass itself, thus greatly facilitating the ascent of Monte Rosa from the South.

Among the other contents of the 'Bollettino' we may mention a very full account of the International Alpine Congress at Turin in 1885 (with the full report of M. Faraut's odd claim that S. Bernard of Menthon was the inventor of Club huts). Signor Brentari sends a chapter from his 'Guida Storico-Alpina del Cadore' on the topography and Alpine history of the group of the Zwölferkofel and Elferkofel, lying between the Sextenthal and Auronzo; Signor Brusoni a paper (apparently based on his 'Guida alle Prealpi Comasche') describing the Zuccone di Campelli and Zucco di Desio, in the hill country near Lecco; while Signor Cederna contributes a very well-executed monograph (quite a model in every way) of the Val Fontana, a glen which opens out to the North between Tirano and Sondrio in the Adda valley, and of which the chief summit is the Pizzo Scalino (3,329 mètres).

There are also several valuable geological articles, which we have no space to examine in detail. Two of these are due to the pen of Signor F. Sacco—one is a study of the Eocene beds in the upper part of the valley of the Stura di Cuneo, which attain the height of no less than 2,955 mètres in the Mont Enchastraye, south of the great pass of the Col de l'Argentière or della Maddalena; the other reports the results of a careful examination (specially from the paleontological side) of the peat-beds near Avigliana. Signor Cacciamali summarises his geological explorations in the Abruzzi, and Signor F. Virgilio examines the causes which have produced the curious rock basins known as 'Marmites des Géants' (such as the Gletschergarten at Luzern), holding, in opposition to several great names, but for apparently excellent practical reasons based on his own observations, that they are not due to the action on the rock beneath the glacier of 'moulins' formed by the streams on the surface of glaciers, but are rather the effect of subglacial streams carrying sand and stones which have dug out these curious hollows.

On the whole, we may say that in the 'Bollettino' of 1885 the articles of Signor Vaccarone are by far the most important for climbers, and that their excellence is in strong contrast to the very slovenly and careless paper on the highest Italian mountain by Signor Grober, who has presumed too much on the ignorance of his readers, whether at the Varallo Congress last summer or elsewhere.

* *Alpine Journal*, vol. viii. p. 400.

† Mr. Conway's *Zermatt Pocket Book*, p. 52.

Guida Storico-Alpino di Bassano, Sette Comuni, &c.
(O. Brentari, Bassano, 1885. 5 francs.)

This pocket volume of 300 pages is another instance of the thoroughness and capacity of Italians as writers of local handbooks. 'Amor patriæ' in the less extensive sense the modern Italian sometimes gives to 'patria' can hardly instigate to more useful work. And what an idea is given of the resources of the printers of a small country town by the mechanical production! The variety and clearness of types, the excellence of the stitchers' and binders' work, are such as we often desire without seeing in the products of capitals. One want, however, there is—better district maps based on the New Italian Survey. The extract from an ancient German map is not adequate.

A great deal of the country described is of course sub-alpine. Bassano itself is full of interest, and its situation at the opening of the great gorge of the Brenta, whose waters reflect Italian towers and are spanned by a Swiss-like covered bridge, the successor to that which gave its name to the da Ponte family—the local painters—is highly picturesque.

For mountain lovers it is the starting-point for Primiero, which lies outside the scope of the present volume, and also for nearer excursions to Possagno, Canova's birthplace, and to Asolo, the site of the Castle of Caterina Cornaro, Queen of Cyprus, and to the *Sette Comuni*.

These curious colonies, where a dialect resembling eleventh-century German is still spoken, occupy a high plateau in the hills between Bassano and Trent. The scenery is interesting, the views extensive and beautiful, so that on all accounts the district is worth a visit from strangers. The highest summit is the Cima Dodici (7,758 feet), which is said on one side to offer a sharp scramble. The inhabitants propose to make themselves accessible by a mountain railroad. Anyone who wishes to see them before they achieve this project will find all possible information, practical, picturesque, and scientific, in Signor Brentari's very carefully and thoroughly worked-out 'Guida.'

D. W. F.

Führer durch das Dachsteingebirge und die angrenzenden Gebiete des Salzkammergutes und Ennstales. Von Georg Geyer. (R. Lechner, Vienna. 1886. 1s. 8d.)

Here once more we have a guide book based not only on the acquaintance of the author with the literature relating to this group, but also on his personal explorations carried on in these ranges for the space of ten years, winter and summer alike. As Herr Geyer is a geologist as well as an experienced climber he is naturally the person best fitted to compile a guide to the Dachstein. It is written tersely but clearly. It has too the merit, possessed by few guide books, of meeting the demands of the ardent mountaineer as well as those of the ordinary tourist. The difficult climbs, such as the Thorstein from the Windlegerscharte, are as accurately and fully described as the easy stroll. Herr Geyer considers that by not adding to his book any illustrations or poor district maps he has conferred a benefit on his readers, and we heartily endorse his opinion. The book has been

published by the 'Section Austria' of the German Alpine Club (now presided over by our hon. member, Herr von Moisisovics), which deserves much credit for its enterprise and has earned the thanks of all visitors to the Eastern Alps.

A. LORRIA.

Zur Vergletscherung der Deutschen Alpen, von Dr. Albrecht Penck. (Separat-Abdruck aus Leopoldina. Heft xxi. Halle, 1885.)

In this memoir the author continues his researches * on the glaciation of the German Alps, dealing especially with the following points:—

(1) Owing to the great accumulation of ice on the central range in the Tyrol, some of that on the northern side of the watershed, in at least one instance, passed over to the south. This, in the case of the Pfitscher Joch, is proved by the occurrence of erratics of serpentine on the southern side of the pass, which must have been brought from masses which only outcrop on the north.

(2) The author investigates the relative velocity of different parts of an ancient ice-stream by considering the area of its section at a series of stations along its course. If the glacier obeys the ordinary laws of fluid motion, then, unless the augmentation of area of its section, due to the enlargement of the valley, keeps pace with the augmentation of its volume, due to the influx of tributaries, the velocity of the ice must be increased. Selecting the glacier which took its rise in the Oetzthal as an example, Dr. Penck shows that if v be the mean velocity of the three principal tributaries in the upper part of the valley, then the velocities of the main stream near Sölden, at the mouth of the Oetzthal, on the Seefelder pass, and at Scharnitz, were respectively $1.6v$, $2.5v$, $3.6v$, and $5.4v$, a result which appears to be of considerable interest. In the course of this investigation Dr. Penck calls attention to the very obvious fact, sometimes, however, overlooked, that by the lowering of the snow-line an augmentation of the glacier is produced, which bears a high proportion to the vertical decrement of the snow-line, because the augmentation of the glacier depends on the area of its feeding ground, which is largely affected by a small change in the height of the snow-line. It would therefore follow that in a time of increasing cold—that is, with a sinking snow-line—the advance of the glaciers would not only be rapid, but also accelerated as it proceeded, while the reverse would occur at a period of increasing warmth; i.e. the glaciers would retreat at first rapidly, then more slowly, from their limit of maximum extension.

The latter part of the memoir is occupied with some of the evidence in favour of an interglacial period. Instances are given—similar to those which have been brought forward by the glacial geologists of Switzerland—of the occurrence of gravels and clays overlying one set of moraine deposits and underlying another.

T. G. B.

Guides-Diamant Joanne: Dauphiné et Savoie. Par P. Joanne.
(Hachette, 1886. 6 francs.)

This volume of a very handy series has been well brought up to date. Route 20 bis on the 'Massif du Pelvoux' is an admirable sketch

* See *Alpine Journal*, xi. 190.

of the peaks and passes in the central Dauphiné Alps, and is exceedingly accurate and full. But why is the Ailefroide, the third in height of the group, absolutely ignored on p. 218? Why (p. 224) is the old Rochers Rouge route up the Pelvoux recommended, and no mention made of the way by the 'Couloir Tuckett,' which is both shorter in point of time, and also avoids the rather risky crossing of the Glacier du Clot de l'Homme? The Sommet des Rouies is easily ascended in three-quarters of an hour from the Col des Rouies (not two hours, as stated on p. 224), and in the description of the Col du Sellar (p. 228) a couloir seems to be identified with a glacier. A panorama from the Tête de la Maye, near La Bérarde, is given, and the map (p. 214) is one of the best and clearest and most accurate that we have ever seen, but unluckily it does not always agree with the text. When they differ, stick to the map. We are surprised, too, that no description is given of the Chaillol and Sirac ranges, though they appear all right on the map. Still the section is admirably done, and is in strong contrast to the slovenly way in which the Tarentaise has been treated. The many excursions round Pralognan, a most splendid centre for excursions, are almost wholly ignored, the Chasseforêt being marked on the map only, and the description of the Grande Casse (which offers no serious difficulties) being of the most alarmist nature. Tignes, too, is slurred over. For all the passes into Italy we are provokingly referred to the large Guide Joanne, while the Col de la Leisse is described (p. 409) as a most difficult and dangerous pass, though it is certainly not much more so than its neighbour the Vanoise or the Great Scheidegg. We may point out that the 'autels sculptés' (p. 329) in the chapel of S. Antoine at Bessans are non-existent, though the very curious frescoes are rapidly going to ruin, and that the Aiguille du Fruit, near Brides les Bains, far from being accessible in 10½ hrs. from Les Allues, has, we believe, not yet been completely ascended. The Tarentaise section requires to be revised and extended before it can be considered satisfactory.

Guide au Midi de la France. Second revised and enlarged edition.
(Leipzig: Bädker, 1886. 8s.)

We had occasion some time ago* to criticise very unfavourably the section on the 'Alpes Françaises' section in the first edition of this guide. It is now our pleasant duty to announce that the second edition has been completely remodelled, and is very full and accurate. The detailed and excellent descriptions of all the excursions, big and little, round Pralognan, Tignes, and Bonneval is in striking contrast to the Guide Diamant noticed above, which gives no separate map of the Tarentaise and Maurienne glaciers, while Bädker's is very well done indeed. It is reduced from the French and Italian ordnance maps, and is admirably clear even in the tangled chain between the Levanna and the Roche Melon, generally miserably represented. Indeed, Bädker's guide is now the only one which is thoroughly up to date in this part of the Alps (which resembles Switzerland in so many points), and may be thoroughly trusted for its accuracy and conciseness. The same remarks

* *Alpine Journal*, vol. xii. pp. 281-3.

apply to the revised Dauphiné section, which now forms an ideal pocket guide to the district, compiled by one who is evidently well acquainted with the country. But why is the Ailefroide assigned a height of 3,854 mètres only, that being the height of its lowest point, and why (once more) is the Rochers Rouges route up the Pelvoux the only one mentioned? The Aig. d'Olan is certainly not 'très difficile et dangereuse,' though that may be true of the Pic of the same name, and the N. Aig. d'Arve is not so black as it is painted. The map, too, of the Pelvoux group is good, though not quite equal to that in the Guide Diamant. The two pages given to the Queyras are well and carefully done, and the single one given to S. Martin Lantosque and the Col de Tenda is good as far as it goes.

Altogether this new edition is an enormous advance on its predecessor, and shows Herr Bädcker's enterprise and desire to make this volume as complete, as accurate, and as useful as the others of the series which have earned for him a world-wide reputation. No one visiting the French Alps should fail to carry this volume with him, for it embodies all the most recent information as to inns, guides, ascents, &c.

Séchet et Poulard : Fantaisie Alpestre. Dessins et texte par Emile Guigues. (Grenoble: Emile Baratier. 10 francs.)

From the earliest days of the Alpine Club the question of provisions has been the subject of as many heated discussions as porters, and indeed the two are not unconnected. Of late there have been signs of a deplorable schism in this matter. We have on the one side the ascetic school of climbers, whose aim is to carry as small an amount of food and drink with them as possible, and to consume even less; while the members of the rival camp—we may call them, merely for the sake of distinction, the gourmands—revel at incredible heights on potted lobster, followed by plum pudding (cold, in newspaper), and washed down by Bouvier *frappé*. No doubt, as on all such burning or rather freezing questions, there is much to be said on both sides; but the ascetic climbers should take warning by the sad fall of M. Séchet, while the gourmands may well tremble lest they may some day experience the sad state of body and mind of M. Poulard after that terrible expedition through 'La Combe.' These two heroes are great friends, and M. Guigues paints for us with pen and pencil the unexpected results of their rival theories on a joint climb. In the preliminary discussion before starting M. Poulard annihilates M. Séchet with a syllogism of irresistible force—from the gourmand point of view. 'Que l'homme d'esprit seul sait manger—Brillat-Savarin dicit: qu'un clubiste est un homme d'esprit (M. Séchet n'en doute pas, je pense?): ergo, qu'une excursion est une occasion unique et obligatoire pour faire un bon dîner.' Poor M. Séchet indeed is reduced to ejaculations: 'L'Annuaire et les Bulletins du Club Alpin ne sont plus que des catalogues de menus! le turbot du Sénat romain est ressuscité! Oh! horreur! Catastrophe inévitable! Oh! décadence! L'Alpinisme devenant une machine à confectionner des hommes gras. Horreur! horreur!' We eagerly follow the two friends in their cat hunt together with Ursule the *bonne*, nor

can anything but a perusal of M. Guigues' text and a study of his really admirable sketches convey a full idea of the agonies poor M. Poulard underwent, first at the hands of Jacques, the philosophising guide, and then of the fair Madame Beautreillis. But the turning-point of the whole tale is that fearful short cut through 'La Combe' (Jacques and the mule with provisions being sent on ahead), the perils of which were certainly calculated to try all systems to the utmost. It is indeed the immediate cause of the exchange of theories, each at once carried into practice, for M. Poulard, worn out with fatigue and thirst, makes over all those dainties packed up by Ursule to his friend Séchot. Séchot on his side finds the 'gourmand' system so excellent that in his excitement he carries it to an excess and begins to make a speech at an imaginary meeting of the Club Alpin: 'Mes chers collègues! . . . l'émotion . . . je suis heureux . . . j'apprécie . . . c'était vraiment succulent!' which shows how his principles had been given up once and for all. Long before M. Poulard had propounded to Séchot a terrible dilemma: 'Apprends, ô Séchot, que le Club Alpin sera gourmand ou qu'il ne sera pas.' Now, when the former ascetic is calling on the peasants to hold him up, as his gourmandise has told sadly on him, Jacques, that lanky, cool, Yankee of a Jacques draws the moral: "'Pour quant à ça vous parlez d'or, comme disait l'autre, l'homme doit vivre pour mang. . . .'" "Jacques, Jacques," interrompt lamentablement M. Poulard, "Jacques, que dis-tu, malheureux?" "Comme disait l'autre, mossieu!"

M. Guigues' sketches are the main part of this volume, and for the most part are very cleverly done and well produced by a curious process which in some cases seems at first sight very smudgy. But none of them pleases us more than the two pages devoted to the representation of M. Poulard's rapt countenance and varied expressions of delight as Ursule is running over the contents of the carefully-packed basket of provisions meant for his consumption, but which led to M. Séchot's fall.

Champéry et le Val d'Illeaz : histoire et description. Par Arthur de Claparède. (Geneva: Georg, 1886. 2 francs 50 centimes.)

This is a handy and useful guide to a valley which is becoming a favourite haunt of those who find that the middle heights suit them better than the lofty inns perched high among the glaciers. After some tall talk about the exceeding beauty of the mountain pastures in this valley and the striking appearance of the natives, which causes the writer to hint—without, so far as we know, any ground—at a non-Burgundian origin, M. de Claparède settles down to his work in a business-like fashion, and gives us an excellent chapter (acknowledging his obligations to M. Charles Le Fort, of Geneva) on the history of the valley. This is very interesting, for the Val d'Illeaz formed part of the possessions of the Dukes of Savoy in the Valais, the Upper Valais being ruled by the Bishop of Sion. It was not till 1536 that great part of the Chablais (including the Val d'Illeaz) submitted voluntarily to the 'dixains' of the Upper Valais and to the Bishop of Sion, who ruled them till the revolution of 1798, though it was only in 1815

that the Valais became a full member of the Swiss Confederation. The Illiez men seem to have been always noted for their Conservatism, in all the troubles from 1839 to 1844 valiantly supporting the anti-Liberal party, and later the Sonderbund in the war of 1847. We join with the author in longing for the day when the rich muniment-room of the Abbey of S. Maurice will be thrown open to historical students, for its contents are sure to throw great light on the early history of the Lower Valais. It is curious, in view of the long supremacy of the Upper Valais, to note that the present Bishop of Sion, Monseigneur Jardinier (for thirty years curé of Trois Torrents, in the Val d'Illiez), is the first native of the Lower Valais who has been elected bishop since 1203. We wonder, too, how many of M. de Claparède's readers were previously aware that the Val d'Illiez is called in the old documents 'Vallis Illiaca inferior,' to distinguish it from the 'Vallis Illiaca superior,' now known as the Lötschenthal?

A general description of the valley and of the village of Champéry (not forgetting its 'Temperance Café') is followed by chapters on the strolls, excursions, and ascents which are to be made in the neighbourhood. As far as we can judge, these are well done, the paths being minutely described; but the higher peaks (save the Dent du Midi) are rather too generally described. A map, too, is urgently called for, for it is not every one who has the great Federal map in its earlier (Dufour) or later (Siegfried) form at hand. M. de Claparède, too, should have added to his list of maps sheet 160 *bis* ('Annecy') of the French ordnance map for the French side of the passes leading from Champéry, though we are sorry to see that the higher passes are dismissed in a very cursory way, indeed with a couple of lines each. On the whole, that part of the book for which mountaineers would consult it is its weakest point, the easier walks being described at very disproportionate length. A useful chapter on the botany of the district and the tariff for guides complete this prettily got up handbook, which will doubtless become—as, on the whole, it deserves to be—the inseparable companion of any one visiting Champéry or any other part of the Val d'Illiez, whether for a long or for a short stay. It may, perhaps, be of use to point out that since the book was issued the last unclimbed summit of the Dent du Midi has been conquered. This is the Doigt (3,220 mètres), just East of the highest peak, which was ascended from the Salanfe side on July 3, 1886, by MM. A. Wagnon (the only traveller who has been on each of the six teeth of the Dent du Midi) and P. Beaumont with three Salvan guides.*

Das Ober-Engadin. Von M. Caviezel. 5th edition, enlarged.
(Chur: Hitz and Hail. 5 francs.)

This useful local guide makes its reappearance in an enlarged form, and is revised up to the latest date by the author, himself a resident in Pontresina. It is enriched by a sheet of Dufour's map and by a circular list of the peaks seen from Piz Languard. A few illustrations

* *Echo des Alpes*, 1886, pp. 161–7.

(of hôtels!) are scattered here and there. Considerable space is given to botanical, geological, and zoological subjects, but we miss a summary of the political and constitutional history of the valley. As a guide for climbers it leaves much to be desired; the higher excursions have not been made by the author and are described in exaggerated language (e.g. the Disgrazia 'zählt zu den gefährlichsten Touren'), while there are other inaccuracies (e.g. two different dates given for the first ascent of the Monte Rosso di Scerscen). We have been unable to find any list of Club huts on either side of the chain. Yet this booklet has one feature which ought to interest climbers and which we have never before seen in a guide book—a list of the great peaks of the district with the names of the first ascenders and the date of the ascent.

This guide book can be specially recommended to those who wish to make expeditions of moderate length and difficulty, for the various easy walks round the different villages are fully described. We are glad too to see that Herr Caviezel has abandoned any attempt to classify and docket the inns, a task sure to exasperate both host and guest.

PROCEEDINGS OF THE ALPINE CLUB.

THE Annual General Meeting was held in the Club Rooms on Tuesday, December 14, 1886, at 8.30 p.m. Mr. G. E. FOSTER (Vice-President) occupied the chair, and explained that he did so in the absence of Mr. F. C. GROVE, President of the Club, who was unfortunately detained by illness in the Canary Islands.

MESSRS. C. J. ARKLE, A. J. BUTLER, J. GURNEY FOWLER, H. W. HOLDER, J. A. LUTTMAN JOHNSON, W. LARDEN, J. VAN RENSSELAER, G. A. SMITH, A. G. TOPHAM, and A. C. TOSSWILL were balloted for and elected members of the Club.

THE CHAIRMAN announced that Mr. F. F. Tuckett had supplemented his gift of a year ago by another specimen of glacier-polished rock from Norway, which he presented to the Club. Mr. Coolidge had also presented a large and valuable collection of over 220 rock specimens from mountain-tops in the South-Western Alps, which had been arranged by Professor Bonney.

THE CHAIRMAN (for the Committee) nominated Mr. C. T. Dent for the office of President for the ensuing year, in the room of Mr. F. C. Grove, whose term of office had expired. Mr. NICHOLS seconded the nomination.

MR. EUSTACE HULTON demanded that the election should be by ballot.

Professor POLLOCK interpreted Rule II. to mean that there should be a ballot only in case of a contested election. He submitted that it was irregular to demand a ballot, and that, as it was impossible then to nominate any other candidate, the last day for nomination having been a week previously, and as only one candidate had then been nominated, it was the duty of the Chairman to declare that candidate, Mr. Dent, duly elected.