

REVIEWS AND NOTICES.

Jahrbuch des Schweizer Alpenklub, vol. xxvii. (Bern: Schmid, Franke & Co.)

This volume (the second on the enlarged scale) is as large and as fully (though not so richly) illustrated as its predecessor. Dr. H. Dubi, who now appears as editor, declares he felt as much afraid on undertaking the office as he did at his first examination. He complains that the main work depends upon only a few, mostly old tried friends, and that notices of new expeditions sent direct to him are comparatively few; of the ten pages which these occupy, about nine-tenths are extracts from the 'Alpine Journal.' Amongst the new ascents (or ascents by new routes) not extracted from that Journal are the following:—The peak called locally Foliaz (Petit Combin, 3,671 m. = 12,044 ft.) was ascended from the Alp de Boveyre on the W. side by MM. Thury, De la Harpe, Desmeules, Bischof, and Seltzer, on August 2, 1891. On August 8 the same ascended the Grande Aiguille des Maisons Blanches (3,690 m. = 12,106 ft.) from the W. On August 14, 1891, Mr. Evan Mackenzie, with J. Bich and D. Maquignaz, crossed the Punta des Cors (3,855m. = 12,648 ft.) on the ridge between Val Tournanche and Val Peline from Prerayen to Breil.

On October 10, 1891, Dr. Gröbli ascended the Ausser Barrhorn (3,621 m. = 11,879 ft.) and the Gampspitz (3,414 m. = 11,201 ft.), near the Barrjoch.

Several expeditions by the Rev. W. A. B. Coolidge are extracted from the 'Oesterreichische Alpen-Zeitung.' On July 17, with C. Almer, jun., he crossed the Passo dei Laghi (2,821 m. = 9,254 ft.) from the Devero Alp to Binn. On July 20, with C. and R. Almer, he ascended the Blinnerhorn (3,384 m. = 11,103 ft.) direct from Binn, and descended to the Tosa Falls. On July 21, from the Tosa Falls he ascended the Nufelgiuhorn (2,869 m. = 9,380 ft.). On July 22 the Ofenhorn (Punta d' Arbola, 3,242 m. = 10,637 ft.) in 1½ hr. from the Hohsand Pass. On July 26 the Helsenhorn (3,274 m. = 10,746 ft.) from the Ritter Pass by the S.W. ridge. A new descent was effected to Veglia by the S.W. slopes and the Lago Bianco.

On July 29 he crossed the Hohenmatten Pass (2,878 m. = 9,442 ft.) between the Hübschhorn and Breithorn, leading direct from Simpeln to the Monte Leone.

On June 14 the Pierre Cabotz (2,741 m. = 8,992 ft.), in the Moveran Group, was ascended by M. Pascal, with J. Veillon and J. Marletta, of Plaus. The ascent took 7½ hrs.; they had to fix iron holdfasts in several places, and consider the mountain more difficult than the E. peak of the Dent du Midi.

On October 11 the Alpli Lücke (2,750 m. = 8,022 ft., Handegg district) was crossed by C. Montandon, R. König, and Fräulein König, without guides.

On August 14 Messrs. Fynn and Murphy, from the Pavilion Dolfuss, ascended the E. peak of the Hühnerstock by the E. ridge, then tra-

versed the ridge (this is new) to the W. peak. On the E. peak they found Mr. Coolidge's card, and on the W. peak Pfarrer Baumgartner's card. They confirm Mr. Coolidge's view,* and estimate the E. peak to be 50 m. (164 ft.) higher than the W. peak.

On July 13 Mr. Coolidge, with C. Almer, ascended the Piz Pesciora from the Wytenwasser Pass. This is considered to be the first authentic ascent.

In the Forno district (Maloya) Herr A. Rydzewski, with Ch. Klucker and Mansueto Barbaria, made the following first ascents:— On June 18, Cima di Cantone (3,334 m. = 10,939 ft.); on June 30, Cima del Largo† (3,188 m. = 10,460 ft.); on July 8, Torrone Centrale (3,290 m. = 10,794 ft.); and on July 12, Sciora di Dentro (3,207 m. = 10,476 ft.).

On August 13 Herr A. Ludwig ascended the two summits of the Kirchlispitzen (2,555 m. = 8,382 ft. and 2,541 m. = 8,336 ft.) above the Luner See (Scesaplana district).

In the special district (the Prättigau, as before) we have three contributions. Herr S. Ludwig (Scesaplana) describes the ridge dividing the Prättigau from the Schanfigg Thal, with ascents of the Hochwang, Mattlishorn, Fluella Weisshorn, &c., besides the Kirchlispitzen above mentioned. He gives many interesting particulars about the inhabitants and their occupations, and some amusing instances of mutual village chaff. Thus the people of Klosters are joked about their bear-hunt. When they came in sight of the bear, they turned back, saying, 'That's not our bear: our bear had a mark over his eye.' The people of Conters are joked about their church. After a heavy fall of snow, a man coming down the hill stumbled over something sticking out of the snow, and found he had tripped over the top of the tower. Herr E. Imhof (Scesaplana) describes various excursions, some of them being 'ridge walks,' such as have become the fashion of late. Thus in a three days' excursion from Schiers, on the first day he passed over the Rothhorn, Hochwang, Kunkel, Kistenstein, and by the Fundey Thal to Langwies; on the second day by Arosa and the Furketti to Davos; and on the third day, over the Schiahorn, Weissfluh, Schwarzhorn, Casanna, to the Baths of Fideris, and thence to Schiersch.

Herr G. Fient (section Rhaetia) gives an account of the St. Antonier Thal, which runs N.N.E. from Küblis in the Prättigau. Its lowest point is 1,281 m. (4,072 ft.), and its highest cultivated ground 1,742 m. (5,715 ft.) above the sea. No grain will grow; there are only meadows, pastures, and alps. How much the valley suffers from the violence of the elements is shown by the decrease of the population from 440 in 1781 to 353 in 1888. Yet their industry and good management of their land contrasts favourably with many. Amongst the calamities which he enumerates the greatest was that of 1689, in which an avalanche overwhelmed the village of Saas and destroyed fifty-seven persons, and an avalanche in the same winter at St. Antonier destroyed thirteen persons and a number of cattle. The writer of the article is a native of the valley, and when a boy tended

* See p. 130.

† *Alpine Journal*, vol. xv. p. 374.

cattle on the Alp. He disliked his duties, and had more pleasure in rambling over the hills. One day in June there was a frightful thunderstorm. The peals of thunder were continuous, the flashes of lightning incessant. The boy rejoiced in the storm; he was ignorant of his danger; but it was neither this ignorance nor the grandeur of the spectacle which gladdened him. He thought that the day of judgment was come, and rejoiced that henceforward he should no more be troubled with the obstinate cattle. The expeditions in the range north of the Prättigau are much facilitated by the Douglas Hut at the Lüner See, which has lately been doubled in size, but is said to be expensive, and by the good inn at Partnaun.

Out of the special district Herr Gustav Euringer (the well-known Dolomite climber) describes a number of ascents (seventeen) in the Val d'Herens and Val de Bagnes, in the years 1887-91, with the guides Kederbacher (father and son) of Ramsau, and other local guides Clemens Perren, Maurice and Jos. Gaspar, of Evolena, &c. The most difficult were the ascents of the Dent Blanche and of the Bec Epicoua, in both cases probably from being made late in the year. Herr Th. Borel (S.A.C. St. Gallen) describes several excursions in the Dolomites, amongst them ascents of the Elfer and Cimon della Pala. Strange to say, he could find no guide for the Antelao either in Cortina or Borca (they were probably engaged elsewhere). A short but interesting notice of the Pusterthal is prefixed to his article.

Two articles are devoted to the mountains that surround the Forno glacier, by Herr A. v. Rydzewski, in June 1891, and Frau Hermine Tauscher-Geduly, in August 1889, and July 1891. Amongst the new ascents of the former mentioned above, the most difficult was the highest point of the Cima del Largo. Several platten afforded fine instances of 'crack' climbing—in one case, where there was hold for the feet but none for the hands. The descent was greatly facilitated by the rope, but at the largest platte they had much trouble in getting it loose again. The Forno Hut (2,651 m. = 8,402 ft.) renders the ascents much shorter, few of them taking more than seven hours. Herr Rydzewski's headquarters were at Promontogno, at which he greatly commends the Hotel Bergellerhof. Frau Tauscher was accompanied by her husband and Mr. Norman-Neruda, and, in addition to Klucker, had as guides Alois Pinggera and Josef Reinstadler. They ascended Piz Forno, Piz Torrone Orientale (here snow- and 'schutt-' covered platten gave a great deal of trouble), and Piz Bacone. One day Mr. Norman-Neruda ascended the Monte Rosso alone with Klucker. They were not well provisioned, and on the way back Mr. Norman-Neruda slipped into a small crevasse. His pocket jamming reminded him that there was a piece of bread in it, and his hunger was so great that he began to eat before extricating himself from the crevasse.

Herr A. Wäber (the late editor) discusses the vexed question of the old pass between Grindelwald and Wallis. This began at the Petronella chapel at the lower Grindelwald glacier and ended at a similar chapel at the Viesch glacier. In the eighteenth century it is quoted as once having been in common use; to have served for the passage of armies, of marriages and baptismal parties, &c. Eminent authorities

have come to different conclusions. Herr Wäber thinks that occasional use of the pass has been extended to an assertion of common use.

As novelties in the mountaineering become more scarce, greater interest attaches to records of older expeditions, such as those of Lord Minto in this Journal. Herr A. Wäber has unearthed the MS. of a tour by Dr. Brunner in Upper Piedmont in the summer of 1829. In a sixteen days' tour from Bern he crossed the Lotscher Pass, the Monte Moro, the Val Formazza, and the Gries Gletscher Pass and the Grimsel.

The general articles are sufficiently varied to give interest to all readers. Dr. J. H. Graf describes an original Panorama of a part of the Alps of Unterwalden and Bern. This was made in 1754-55 by Jacques Barthélemy Micheli du Crest from the castle at Aarburg, where he was confined as a State prisoner for eighteen years (1747-65). A copy of the Panorama is given, of which the original is in the Library of Lucerne. It is rude and imperfect, but as one of the earliest efforts to obtain a true representation of nature it deserves our admiration.

Pfarrer L. Hürner (formerly of Imhof, then of Erlenbach, and now of Wimmis) contributes an article entitled 'Ein Edelweiss-Fund.' Whilst at Erlenbach he learned to know thoroughly the Stockhorn, and also those who lived and worked upon its Alps. Besides describing some of the walks on the mountain, he gives an account of J. B., a peasant of Erlenbach, who, by singular industry and energy, raised himself and family to a position of comfort, requiring however, persistent effort to maintain it. In spite of his hard work he managed to educate and improve himself even to the extent of describing various events of his life in poetry.

Dr. Egli-Sinclair (section Uto), after discussing the various views on the subject of mountain sickness, describes the experience of himself and companions during a ten days' residence (August 14-24, 1891) at the Refuge Vallot (4,400 m. = 14,436 ft.). His observations lead him to the conclusion that it does not result from fatigue, but from the rarity of the air after reaching a certain elevation. The hæmoglobin in the blood, which conveys the oxygen from the air through the lungs to the rest of the system, is deprived of its usual supply, and so the indisposition called 'mountain sickness' is produced. In his case the hæmoglobin was diminished by upwards of one-third. This sickness may become so intense as to cause death if the person is not removed to a lower level. To this cause entirely he ascribes the death of Dr. Jacottet, which took place at the Refuge on the night of September 2-3. The party carried with them compressed oxygen, which was, however, used in vain—a curious result if the symptoms were really caused by a lack of that element. Dr. Sinclair found the only relief in small doses of phenacetin.

Dr. Albert Heim, in a curious article on death by a fall or shock, concludes, from the evidence of numerous persons who have survived such accidents, that such a death is absolutely painless, and may be termed 'a beautiful and happy death.' The experiences of the per-

sons are in many cases given at full length, and are extremely interesting.

Dr. F. A. Forel presents his twelfth report on glacier variations. The glaciers in the Eastern Alps at length show signs of advance, at least in the Ortler district. Prince Roland Bonaparte, C.A.F., reports that of the French glaciers twenty-one were retreating or stationary, and fourteen have begun to advance (since 1885). In the Swiss Alps eleven glaciers are retreating, fifteen advancing, and five stationary. The total number of glaciers advancing is now fifty-four.

In 1891 a tunnel was driven through the ice at the summit of Mont Blanc to ascertain the thickness. In the centre of this tunnel, at a distance of 23 metres from its entrance, there was deposited on August 29, 1891, a plate of lead 8 in. by 6 in., with an inscription stating that it was placed there at the request of M. Forel, and requesting any one who should find it to observe the time and place, in order to calculate the rate of its movement. A wooden hut has been erected on the summit capable of accommodating two persons, with an arrangement whereby any vertical or horizontal movement can be observed. This was visited on January 21, 1892, by M. Dunod, with the guides F. Payot and the brothers Simond. No perceptible change had taken place in the four months, and M. Janssen is convinced that the position of a wooden building on the summit capable of resisting the wind would be subject to very little change. The Refuge Vallot, where the observers and workmen were lodged, was then incomplete. It now consists of six rooms. Two of these are for the use of tourists, and are provided with mattresses and coverlets for eighteen persons, and a petroleum cooking-stove. The other four rooms are reserved for M. Vallot's use, and consist of a bedroom and kitchen, a room for instruments, and a dark room for photographic purposes. Two monuments have recently been erected on the Säntis, one to Herr Christoph Jetzeler, who perished on the mountain in September 1791, and is said to have made the first ascent twelve years before. He was a native of Schaffhausen, and was brought up to his father's trade of a furrier; but he early devoted himself to the study of mathematics and physics, in which he distinguished himself, and was in constant correspondence with Euler and the Brothers Bernoulli. He was, however, still more distinguished by his philanthropic efforts for the good of his native town during the last twelve years of his life. The other monument is erected at the Seealp-see to Dr. Friedrich v. Tschudi (died January 1886), in 1866 Central President of the S.A.C.

With regard to early ascents, there are printed in this volume two letters from Rudolf Meyer and Jos. Hugi about the first ascent of the Finsteraarhorn, and the account of the first ascent of the Wetterhorn communicated by Herr Ad. Vogt (who took part in the expedition) to the 'Augsburger Zeitung' in 1845.

There are a number of reviews and other notices. The question of a periodical for the S.A.C. is still under discussion, but it will probably commence in 1893.

The Stockje Hut, which was completely destroyed by an avalanche.

is to be rebuilt at the expense of the S.A.C., and will be maintained conjointly by the sections Moleson and Chaux-de-Fonds.

The Silvretta Hut has been rebuilt in a better position. Besides these, seven new huts have been built (or are building) in the years 1890-91. 1. On the Dom. 2. At the foot of the Fuschhörner on the Oberaletsch glacier. 3. The Krönten Hut in the Erstfeldthal. 4. The Chansion Hut on the Grand Combin. 5. The Fridolliu Hut on the Bifertenstock (to replace the old Grünhorn Hut). 6. The Voralp-thal Hut above Göschenen. 7. The Calanda Hut. 8. The Bétémps Hut on Monte Rosa. The last two are in process of construction. In all these cases the Club bears from 50 per cent. to 75 per cent. of the expense. The number of Swiss huts now amounts to thirty-nine.

The Club has increased its contribution to the Guides Assurance premiums from 30 per cent. to 50 per cent.; 205 guides are now insured to the amount of 641,000 francs.

It has not been found possible to form a new and comprehensive tariff for expeditions. The abuse of displaying advertisements on the rock face at the Devil's Bridge is still continued, and the landlord of the Bellevue at Andermatt threatens to hand over the whole rock surface to an advertising firm unless the authorities at Canton Uri consent to restore the old Teufelsbrücke which fell in 1888. For this purpose, however, he offers to contribute 2,400 francs.

The volume is enriched with a number of illustrations, of which the most striking is the Aiguille de la Za, which forms the frontispiece.

In a case attached to this volume are a map (1 : 50,000) of the Evolena-Zermatt district, a panorama from the Mettelhorn, and a reproduction of G. Studer's panorama of the Mont Blanc group taken from Mont Vélán in August 1856.

The number of members of the S.A.C. has now reached 3,719, and the balance to their credit at the end of 1891 was 41,224 francs (1,649l.). This is the largest balance they have ever had, and this in spite of the additional expense incurred for the two volumes of the enlarged 'Jahrbuch.'

J. S.

Zeitschrift and Mittheilungen (Band xxiii.) des Deutschen und Oesterrichischen Alpenvereins. (Munich: Lindaner.)

The notices of expeditions, either new or by new routes, seldom appear in the annual volume, but are generally communicated to the fortnightly periodical. In the numbers for 1892 are recorded a great number, though perhaps not great considering that the German-Austrian Alpine Club now numbers 25,700 members. Many excursions were made in the winter 1891-92. Herr Theodor Wundt seems to take to mountain climbing exclusively in the winter. On December 23 he, along with the guide Jacob Horwarth, ascended the Patna Spitze and Vorder Basler; on December 24: the Osterva; December 27, the Lomnitz peak; and December 28, the Eisthal Spitze, all in the Tatra district. The inn at Neuschmeks, which is open all the year, is convenient for these ascents. The Schneespitze (near Gossensass) was ascended on January 29 by Herr Max Hess, with Joseph and John Mithlsteiger. Dr. R. v. Lendenfeld (the New Zealand explorer) visited the Teplitz

hut and the Müller (cork) hut on the Pfaffennieder on January 21. The sections of the Italian Alpine Club at Milan and Turin organised excursions in the winter, and individual members made many ascents. On December 10 the Croda da Lago was ascended by Frau Jeanne Immink, with Pietro and Antonio Dimai. An ascent of the Gross Venediger, by the route followed by the Archduke John of Austria in his attempt of 1828, was made on August 23, 1891, by Dr. Guido Lammer alone.* He took $7\frac{3}{4}$ hrs. from the Kursinger hut, of which three hours were consumed in step-cutting. The passage of the vast Gwächte (cornices) to the Vorgipfel required great care. The hut was reached by the ordinary route in $1\frac{3}{4}$ hr. On July 22, 1891, the Schwanzkoff (S.W. of the Parseierspitze) was ascended by C. Lindenschmitt and L. Rebel. On June 22, 1892, the Schwarze Wand (2,919 m. = 9,577 ft.) in the Tribulaur group was ascended (for the first time from Pflersch) by Herr Leon Treptow with Johann Windisch. This mountain lies at the head of the Sandes Thal, between the Obernberger and the Gschnitzer Tribulaun. It has been ascended five or six times from Obernberg by passing over the Obernberger Tribulaun. The ascent from Pflersch is more difficult. Strange to say, this mountain is not found in the Innsbruck tariff of excursions from Obernberg. The ascent of the Pflerscher Tribulaun is now rendered more easy by a hut near the Sonnessee at a height of about 2,300 m. = 7,546 ft., which was opened on August 30. Wire ropes have also been fixed at the most difficult places. In the Zugspitz district Dr. Mainzer, with Joseph Dengg, made a number of ascents, of which that of the Hochwanner from the N. on June 24, and a traverse of the Dreithorspitz group on July 2, were new. He intended to publish a climbers' guide to the district, but on September 2 he and the guide perished in descending from the Plattach Spitze after a fall of fresh snow. The unfortunate Egon Stücklen, who perished with his guide, Joseph Innerkofler, in an ascent of the notorious Fünf-fingerspitze on September 6, had previously on July 12, ascended the middle peak of the Fluchthorn by a new route and crossed to the S. peak, and on July 17 ascended the Henneberg Spitze in the Jamthal. On this day the ascent of the Gross Venediger by the north ridge was effected by Herr Hermann Meynow, with Johann Unterwurzacher, from the Kursinger hut. The passage of the ridge was difficult. A number of new ascents were made in the Olivone district (E. Switzerland) by Dr. L. Darmstädter with Johann and Georg Stabeler (Taufers). These included Piz Corbet (June 10); Fil di Dragiva and Fil di Ciaro (June 13) from the Alp Gangella, the Pizzo di Termine, the Torrone d'Orza (June 17); and Punta di Remia (June 18) from the Alp Nancole above Augio; the Fil di Pianasso (June 21); Cima di Cogni and Fil Rosso (June 22); and Pizzo Bianco (June 25) from the Alp Curciusa di Sopra; Torrone di Luzzone, and Torrone di Nava (June 28); Torrone di Garnesa, Vernokhorn and Plattenberg (June 29) from the Alp Scaradra di Solto; Piz Casinelli, Piz Sorda, and Piz Jut (June 30) from the Alp

* See vol. xv. p. 556.

Scaradra di Sopra ; Piz Gaglianera (July 3) ; the Rheinwaldhorn by a new route (July 6), and Piz Simano. Some of these peaks, before unnamed, have been named by Herr Darmstädter, and other names he has changed. He was accompanied by the guides Johann and Georg Stabeler (Taufers).

The Höllhörner and Kleiner Wilde (near Oberstdorf) were ascended on July 26 by Herren L. Strigl and Kranzfelder. These peaks were considered inaccessible, but were found to present no serious difficulty ; the expedition, however, took 20 hrs.

Herr Emil Artmann, with Jos. Innerkofler (Landro) ascended the Drei Zinnen by a new route, and the Antelao by the N.W. ridge.

The Vorderkarlspitze (? 2,500 m. = 8,200 ft.), near Sappada, was climbed by Professor Heinrich with Peter Kratter.

The Gross Seekofl was climbed by the N. ridge on August 4, and by the S. face on August 31 ; and the Haunold was traversed from N. to S. by Victor Wolf-Glanvell with Jos. Appenbichler (Inner Prags). In Dauphiné, Herren Robert H. Schmitt, C. Niemetz, and Adolf Siebeneicher (all of Vienna) effected two ascents which, though not new, are remarkable. On July 25 they left the Refuge Carrelet at 2.45 A.M., and reached the ridge of the Barre des Écrins at 5.45 P.M., and the summit at 6.15 P.M., and thence they left at 6.45 P.M., but after passing several points on the ridge they stopped at 7.45 P.M., and bivouacked at about 4,000 m. = 13,124 ft. They started next day 6 A.M., and did not reach La Béarde till 8.45 P.M. On July 28, leaving La Berarde at 2.15 P.M., the Pyramid Duhamel was reached at 9.15 P.M. Here they bivouacked. On July 29, starting at 3.45 A.M. the Glacier Carré was reached at 8.30 A.M., and the Grand Pic at 10.45 A.M. Leaving at 11 A.M., they reached the Brèche Zsigmondy at 4.30 P.M., and the Pic Central at 8.30 P.M. Here they had to spend a second night. July 30, leaving at 4 A.M., they reached La Grave at 2 P.M.

On June 8, 1892, Dr. Christomannos, with the guides Nischler and Gerstgrasser, leaving Unser Liebe Frau (Schnalserthal) at 12.15 A.M., ascended the Similaun, and made a traverse to the Hohe Wilde, passing over six intervening peaks. The Eishof, in the Pfossenthal, was reached at 10.15 P.M. On August 4, Dr. Christomannos and Mr. Alfred Swaine, with Jos. and Fried. Reinstadler of Sulden, and Jos. Pichler of Gomagoi, leaving the Bergl hut at 2.30 A.M., ascended the Trafoier Eiswand, then traversed the three Krystallspitzen, the Payerspitze, the Geisterspitze, and the Naglerspitze, and reached the Franzenshöhe at 6.20 P.M.

The same party on September 27 made the second ascent of the Ortler by the Marltrat.

On August 13 the Langkofel was ascended by A. Brunialto with Luigi Bernard. A way was found by which the second couloir, so dangerous from falling stones, was avoided.

Near Davos, the first ascents of Piz Grialetsch, Piz Ravighel, and of the Radunerkopf, and that of the Schwarzhorn by the N. ridge, were made by Herr Oscar Schuster.

The first passage from the Marmolada to the Klein Vernel was made by Herr Leon Treptow, with Jos. Innerkofler (Sexten), on July 8, and

the first ascent of the Drusenfluh from the Swiss side was made on August 12 by Dr. Stokar, with the guide Michel from St. Antonien.

Three Viennese students—Walter Merz, Victor Wessely, and Hans Lorenz, made, on August 28, the second unguided ascent of the Fünffingerspitze (by Mr. H. Wood's route); also the first ascent of a peak which they name the Langkofelkarspitze (between the Langkofel Kar and the Plattkofel Kar) on September 1; and ascended on August 30 the Gran Odlä, the most difficult peak of the Geislerspitzen. Opinions vary greatly as to the difficulty of the traverse on the Fünffingerspitze, where the accident took place on September 6, but there is no doubt of the danger, since any slip on the part of one climber would be fatal to both if roped together. It is a place where the rope affords no security unless firmly held (or fixed) at both ends of the traverse.

On August 15 the Schrammacher Spitze (3,410 m. = 11,200 ft.), in the Tuxer Kamm, was ascended from the Alpeiner Scharl (2,960 m. = 9,712 ft.) by Herr L. Grün, with the guide Johann Hörhager.

In the 'Zeitschrift' we have from Herr Johann Pemsel (Nuremberg) an account of excursions in the Brenta group. He was accompanied by Jos. Ladner, of St. Anton, and Bonifazio Nicolussi, of Molveno. He complains that the latter was much less acquainted with the Brenta peaks than he had been led to expect. On the seven days beginning August 10 he made as many ascents, the most difficult being that of the Crozzon di Brenta from the Vedretta dei Camuzzi. This is the most difficult route for the ascent, and it was made still harder by their choosing a wrong 'Rinne,' in which they climbed amidst great difficulties for two hours, exposed continually to the risk of falling stones. He strongly recommends the ascent of the Torre di Brenta (first climbed by Mr. E. T. Compton in 1880). Herr Hermann Meynow, with his guide, Johann Unterwurzacher (Neukirchen, in Pinzgau), ascended most of the peaks which encircle the high-lying village of Gurgl, concluding with an ascent of both peaks of the Wildspitz and of the Hinterer and Vorderer Prochkogel on the same day. The numerous shelter huts in this neighbourhood make the excursions much easier.

The Franz Senn hut was built in 1885, half an hour beyond the last chalets in the Alpeiner Thal (Stubai). In 1891 it became the property of the Innsbruck section of the D.Ö.A.V. Herr A. Heilmann describes the different excursions which can be made from it. In some cases the lines of ascent are marked, as, for instance, from the Franz Senn hut, over the Schwarzenberg Joch, to the Amberg hut in the Griestal. Herr Hans Wodl contributes another chapter on the Niedere Tauern. This chapter extends from the Waldhornthörl (between Tamsweg and Schladming) to the Predigerstuhl (Gross Sölk Thal). The Preinthal Verein (so named from the Preinthal, a branch of the Höllethal, near the Raxalp) is a society formed at Vienna for exploring these mountains. By their efforts the Preinthal hut has been built on the Waldhornthörl (1,700 m.), which greatly facilitates the excursions.

Herr F. Kilger contributes a number of ascents in the Mieminger

Gebirge, which almost complete his exploration of the group. Amongst these the ascent of the Obere Platte from the Alpel Thal and of the Hohe Mundi from the Niedermunde Sattel were new. A hut is being erected in the Alpel Thal by the Munich section in honour of Freiherr Hermann v. Barth, one of the first explorers of these mountains.

Herr Theodor Wundt describes a number of winter tours. He must not only have a great love for such tours, but must be a man of extraordinary strength and endurance. Some of the expeditions would have been the end of many tourists: too exhausted to go on, they must have perished in the snow. To take two instances; after reaching the Fluela Hospice at midnight on December 30, he started next morning at 3.45 A.M. to ascend the Schwarzhorn. This is in summer an excursion of about 5 hrs., three up and two down. He endeavoured to make the ascent by a more direct route. On first leaving the track he sank up to the armpits, and waded on in snow never less than a yard deep. At 11 A.M. he reached the 'Sattel,' beyond the Radin glacier. The top was reached at 3.15 P.M. (11½ hrs.), and he reflected with satisfaction that he had beaten the mountain. He took a couple of photographs and was off again at 3.30: the Sattel was reached at 4.15. Here he determined to go direct to the Fluela road, and began by sliding down to the glacier. But the snow was too soft: he must begin wading, or rather fighting, his way hip deep in snow. As the darkness came on he fixed his gaze on a block in the distance, and made for it. After a long struggle it seemed as far off as ever, and he sank exhausted in the snow; rose and made fifty steps or so, and sank again; then fifty steps more, and sank again. A feeling of complete indifference came over him; he lay then about half an hour, when he suddenly felt thirsty. He had some schnaps with him but did not like it, so he ate snow, several handfuls, and the effect was little less than miraculous. Courage and resolution, and with them strength, returned. He rose and fought once more on his way, the block was reached, but the ground rose before him. He turned to the right into a ravine, and struggled desperately down it. Hour after hour passed away: it was 9 P.M. when he gained the slopes overlooking the road. Down these he slid, lost all command of himself, and was carried over a (fortunately) low cliff, and nearly buried. He struggled out, and at 10 P.M. reached the line of telegraph-poles. This led him to the hut where lived a road-watchman and his wife, who, after some parleying, admitted him, and did what they could for him. Next morning he walked to Sûs, and reached St. Moritz by the Post. Next morning he went by the Post to the Albula Pass, and attempted the Piz Albula (Piz Uertsch). After six hours' work he gave up at 2 P.M., partly from the lateness of the hour, partly from the fear of avalanches. All the same, he says, that had he been an hour earlier he would have gone on.

On January 3 he went to the Bernina Houses with the guide Johann Gross, intending to cross the Diavolezza Pass to the Boval hut. This, in summer, would be a walk of six to seven hours. On January 3 they started at 3 A.M. If anything the snow was worse than on the Schwarzhorn. Herr Wundt expected the guide would every moment give in, and he felt inclined to assent to this, though he would not

suggest it; but Gross' pride was up; the other guides at Pontresina had called him a fool for going alone with the Herr on such a tour, and so he was resolved not to give in. The Pass was reached at 2 P.M. Here they hesitated, as the clouds on the Piz Bernina looked threatening. Gross, however, thought they might get across the Morteratsch glacier in three hours, before it was quite dark. At first they got on fast, but the climbing of the moraine of the Pers glacier in the deep snow nearly exhausted them. At 4 P.M. they reached the Isla Pers. The work here was very severe, and all hope of reaching the Morteratsch glacier before dark was abandoned. Before reaching the nearer bank their fatigue compelled a halt. Rest and refreshment restored them somewhat. About 5 P.M. they reached the bank. In the gloom the glacier looked indescribably wild. The passage of the glacier amid immense difficulties cost them $3\frac{1}{2}$ hrs. Gross said the hut was only ten minutes distant, but it took them an hour to reach it (19 hrs.). Herr Wundt's passion for photographing winter scenery must in some degree be his excuse; his paper is illustrated by some good specimens from the Algäu district, but the two expeditions above referred to are acts of almost inexcusable folly.

Dr. Kurt Hassert takes us to the wilds of Montenegro, where, in a fortnight's excursion, he succeeded in reaching the summit of the highest peak (Cirova Peiina [?] 2,500 m. or 8,200 ft.). The ascent was somewhat difficult. The party consisted of four men and three horses, armed with three guns and as many revolvers. Neither of the latter, fortunately, were they obliged to use. This region has only been visited two or three times by tourists, and the accommodation is not such as to attract visitors. He never saw a bed, and never took his clothes off during the whole fortnight. In many parts there are no streams, and water is so scarce that it is far too precious an article to use for washing—that luxury could only be indulged in when they came across some small stream or lake.

Dr. Carl Sapper describes the mountain chains of Central Guatemala, and gives an account of a passage which he made from North to South in the late autumn of 1889. The difficulties attending any deviation from the beaten tracks arise mostly from the luxuriant vegetation of a tropical climate. The highest summits exceed 4,000 m. (13,124 ft.); but the highest elevation attained by Dr. Sapper was 3,190 m. (10,466 ft.) on a nameless summit near one of the numerous passes. As both accommodation and provisions are not to be depended on, the traveller has in a great degree to rely upon himself. Dr. Sapper had a train of about fifteen Indians, who carried tent, bed, and provisions of various kinds; so that he was in various respects much better off than Dr. Hassert in Montenegro. His journey was cut short by the inability of his Indian attendants to bear the exposure for so many days at a height varying from 2,200–3,200 metres.

Herr A. Waltenberger contributes a lengthy notice of the explorations of Freiherr v. Barth, in the Alps between the Lake of Constance and Salzburg. Between 1868 and 1875 he ascended nearly every prominent peak in this region. He was one of the foremost champions of guideless climbing, and he would probably have still been in the front rank had he not been too early cut off on his African expedition.

Hauptmann J. Baumann discusses the question of war in mountain regions, with illustrations from ancient and modern history: Alexander at the Pass of Susa; Hannibal's passage of the Alps; Tyrol in 1809; Montenegro and Bosnia in 1878, &c.

Hauptmann Obermair supplies a want much felt by giving a statement about the different maps of the Alps, enumerating in order the sheets issued by each country and the region represented in it, and adding maps which enable the tourist at once to select either the general or local map which he requires.

Dr. Richard v. Wettstein describes the flora of the Breccia strata above Hötting (Innsbruck), on the slopes of the Solstein range.

Dr. Fritz Kerner v. Masilaun gives an account of the 'Föhnmauer,' the wall of cloud,* which forms when the south wind (Föhn) blows along the watershed of the Central Alps, and especially above the main passes. He ascribes to this wind the passage of various plants from the S. to the N. side of the Alps.†

There are two articles on glaciers—one by Dr. G. Kerschensteiner and Dr. Hans Hess on the measurement of the Hochjochferner, accompanied by an original survey on the scale of 1:25000, and another (No. 12) by Herr F. Seeland on the Pasterze glacier.

Dr. L. Freytag gives a list of Alpine publications relating to the manners and customs of the inhabitants of the Alps, extending from the 'Laurin' (thirteenth century) to the present day. A number of illustrations (many of them from photographs taken by the writers themselves) are in the volume and in the case attached to it, together with a general map of the Eastern Alps (Western half) and one of the Sonnblick district. J. S.

Annuaire du Club Alpin Français, vol. xviii. Année 1891.

The contents of the 'Annuaire' of the French Alpine Club for the eighteenth year are even more varied than usual, but there are at least six articles which to us seem somewhat out of place in Alpine chronicle. From the papers on 'Corsica,' 'Majorca,' 'Sparta,' and 'Tunis,' we learn much about the inhabitants of the respective countries, their pursuits and industries, but very little about the mountains. Between these articles and those strictly Alpine are two intermediate in character, one by M. Martel, continuing the narration of descents to underground caverns by M. Gaupillat. It would appear that subterranean exploration and aerial voyaging have something in common which unites them at least subjectively; for while M.

* I have seen a similar cloud on the ridge of the Orto d'Abramo (W. of Rovereto). This runs from N. to S. and falls in steep crags on the E. side. The cloud was on the E. side, and rose from the ridge like a great wall 2,000-3,000 ft. high; on W. side view was clear; on E. obscured. The cloud did not extend below level of ridge, as I could constantly see down the crags on that side. The cloud was constantly changing. Every now and then bits were detached towards W. and disappeared, and sometimes the wall belled out like a sail.

† Various plants have come from S. to N. Tyrol since the railway was opened. Has not the railway something to do with this as well as the S. wind?

Gaupillat assisted M. Martel in the navigation of the Stygian Tindoul, M. Martel, in return, treated his friend to an emotional course in a balloon, his wife and a professed aeronaut being the other occupants. The total severance from the earth's surface seems to have been the common bond that lent a charm to experiences so different, and in the balloon excursion M. Martel seems to find a further, though to our mind, questionable advantage, 'de l'absence totale d'efforts physiques, qui remplacent par une sensation de bien-être idéal la fatigue souvent si pénible des escalades alpestres.' It is still somewhat a moot point, but we believe, for ethical as well as physical reasons, the most difficult half of an Alpine climb is held to consist in the ascent, and it is well that it should be so. With the balloon, however, this is reversed. The descent of M. Martel and his companions seems to have been both perilous and disagreeable, and we do not think the perusal of his paper is likely to convert anyone from seeking to rise by his own exertions rather than trusting to carburetted hydrogen.

Turning to the strictly Alpine papers, we notice 'Une Ascension Féminine,' by two ladies, of the southern Aiguille d'Arve. This was first climbed by Mr. Coolidge in 1878, who had to scale near the summit a ledge or wall of rock reported by him as 'quite as bad as anything on the Meije,'* which he had ascended two days before. There seems to be little doubt from the judgment of the experts who have climbed both that the central aiguille is the highest, though Miss Paillon not unnaturally gives the benefit of the doubt which has existed as to the claims of the southern and central peaks to the one on which she was standing.

Count Russell gives as usual an account of his summer wanderings in the Pyrenees. He does not take us over any new ground, but to such a genuine admirer of the mountains the ground is always fresh, and he has the happy art of making the reader share his enthusiasm, whether it be in a seventh ascent of Mont Perdu, or a twenty-first of the Vignemale. The night bivouac on the mountain, which he infinitely prefers to an early start in the dark, has for him still the same charms as when he was a younger man. We partly agree with him, but for enjoyment the bivouac should not be made above the snow-line, even with a *peau de mouton*, and we doubt whether the Count's experiences on the summit of Mont Perdu will induce many to follow his example.

In the multiplicity of matters dealt with, the giants of the Alps are not altogether neglected. M. Pierre Puiseux, himself one of the most active members, whose father, Victor Puiseux, was the first to reach the Silber Sattel in 1847, takes a pardonable pride in recounting the history of the first ascents of Monte Rosa. We have an interesting account of the attempts on the mountain made by Vincent Zumstein and all the early explorers, and their claims to the several peaks are well allotted to each. M. Puiseux seems to arrive at the same conclusion as Mr. Coolidge,† that it was the Grenzgipfel or eastern peak which was climbed previous to September 1854, when the Ost Spitze was reached by the Brothers Smyth, and afterwards by Mr. E. Kennedy.

* *Alpine Journal*, vol. ix. p. 95.

† *Ibid.* vol. xv.

This latter peak is given as 200 mètres to the east of, and only 7 mètres inferior to the Dufour or Höchste Spitze, first climbed by Hudson and Smythe's party in July 1855. The paper is illustrated by a sketch-map, and three excellent photographic views of Monte Rosa as seen from different sides. The drawing by M. Schrader gives a faithful representation of the mountain as seen from the Gornergrat, and the line of ascent usually followed.

Turning to Mont Blanc, the Vice-President, M. Durier, discusses the feasibility of establishing a permanent observatory on the summit. His colleague, M. Vallot, who seems to have made more ascents of Mont Blanc than any amateur, including nine whole days passed in a small tent on the top, has already constructed an observatory and refuge at his private expense, just above the Rochers des Bosses, at a height of 4,365 mètres. Being within two hours of the summit of Mont Blanc, this is much used as a halting-place in modern ascents. M. Jansen, after a laborious sledge ascent in 1890,* was struck with the advantages to science of an observatory on the actual summit of Mont Blanc; and M. Eiffel, who seems to flinch at nothing, had undertaken to make the preliminary studies for carrying out the work. Here especially it was essential that 'the house should be founded on a rock,' and the first point to ascertain was how near the rock approaches to the summit of the Calotte. The configuration of the rock below is presumably not at all conformable to the hard surface of the snow, and to ascertain at what depth it may be reached a tunnel had to be driven. M. Eiffel had determined that, in order to be successful, a platform of rock must be found at a depth not exceeding 12 mètres below the surface. The tunnel in the ice was commenced on the N. side towards the Petits Mulets, at an elevation of 14 mètres below the summit, and was carried horizontally for 29·4 mètres, till the boring corresponded with the actual summit, but no rock had been found. The weather seems to have been bad more or less, and after fifteen days spent between the summit and the Vallot observatory, the work, under the direction of M. Imfeld, the engineer, had to be abandoned. In this short time three lives were lost. Dr. Jacottet, who had joined the expedition as an amateur, had succumbed to the cold; a tourist and his guide were killed by an avalanche; and many of the workmen were incapacitated by frost-bite. Though the gallery was subsequently carried 23 mètres further beneath the snow, still no rock was touched, and we think enough was done to show that the summit of Mont Blanc can never be permanently occupied, either as a habitation or observatory. The Pic du Midi is about the highest station that can serve for this purpose in our latitudes.

An ascent as adopted by M. Janssen, whether dragged on a sledge or suspended in a palanquin, will not commend itself to any mountaineer, young or old, of either sex. Still we may observe that so much has been done towards facilitating the ascent of the highest mountain in Europe that, given time and weather, it is now within the reach of all by easy stages: the first day to the Grands Mulets, the second to the

* *Annuaire*, 1890, C. A. F. p. 410.

refuge Vallot, whence to the top 2 hrs. ; again sleeping at the refuge, and so home to Chamonix. We can recommend the sketch panorama from the summit, drawn by M. Schrader from photographs by MM. Imfeld and Vallot, as a useful aid to be studied before the ascent—not in situ—by those who would appreciate the view.

Among the scientific articles, Prince Roland Bonaparte continues his observations of the periodic variation of French glaciers—that is, on the Pyrenees and the Alps which belong to France. On the whole, the glaciers would seem to be receding, but the Prince restricts himself to noting the facts, without attempting to assign a cause or to draw conclusions. The most important contribution to this section is the joint paper by MM. Margerie and Schrader on the geological structure of the Pyrenees. They show that the break in the centre of the chain as depicted on maps is rather fanciful than real, and that the apparent dislocation east of the Maladetta is not due to horizontal displacement—that there is no single axis of upheaval parallel to the chain, but that there are at least three several granite zones more or less at angles with it, and hence that the tertiary and secondary strata are not unfrequently inclined towards the axis of elevation, and not towards the plain. A very clear and comprehensive map of the geology of the whole chain of the Pyrenees is appended, the only fault being that it is on too small a scale.

The multiplicity and variety of matter dealt with in this 'Annuaire' can hardly be wondered at, when we find that the Club consists of forty sections, and numbers in all 5,389 members. Following our example, we are happy to find that the C.A.F. have issued an index to the first fifteen volumes—i.e. from the year 1874 to 1888. C. P.

Die Besteigung des Cimone della Pala: ein Album für Kletterer und Dolomitenfreunde. Von Theodor Wundt. (Stuttgart: Greiner und Pfeiffer.)

This book, although the ascents described in it are neither new nor particularly formidable, is, owing to the originality of the author's scheme and the beauty of the illustrations, a very interesting production. Herr Wundt's main idea is to put before the reader, with the assistance of photography, the actual details of a typical rock-climb; and he has succeeded to a remarkable extent in overcoming the inherent difficulties of his task. The most important chapter consists of a minute description of an ascent of the Cimone della Pala, the second highest peak of that Dolomite group for which San Martino d. Castrozza is the head-quarters; the narrative being profusely illustrated with reproductions from the author's photographs, not only of the peaks as a whole and in detail, but also of members of the party at work on it. It is notoriously difficult to find and occupy points of view from which presentable photographs of the latter sort can be obtained, but Herr Wundt has triumphed over all such obstacles, and has produced some of the most sensational representations of climbers in action that we have ever seen.

The very sensationalism of these plates, however, only serves to accentuate the fact that, under certain conditions, nothing is more deceptive than a photograph. Take, for instance, plate 16. This

shows the *mauvais pas* of the Cimone, a rock passage which is in reality by no means difficult, notwithstanding the lamentable presence of a long wire rope. In the plate the difficulty is enormously exaggerated, as the author indeed partly admits. Observe the third man on the rope: he is in reality well enough placed, but compared with his apparent position in the plate that of the gentleman in "Kommen Sie nur" is one of indolent ease. Assuredly Mr. Willink is justified, for Herr Wundt's camera has fairly out-Willinked him. All this, however, is almost inevitable and does not detract from the high merit of Herr Wundt's work; although it may make the book undesirable literature for uninitiated female relations.

Apart from the ascent of the Cimone the volume contains a good deal of interesting matter. The author gives a pleasant sketch of San Martino, and also of its guides, of whom he justly speaks in the highest terms. He narrates ascents of the Pala di San Martino and the Vezzana, the latter being made alone, and an unsuccessful attempt, also made alone, on the Cima di Ball, and he has a good deal to say in praise of solitary climbing.

Perhaps the Dolomites, owing to the almost total absence of crevassed glaciers, afford as favourable a field as any for those who care about this sombre pastime; not that they are easy, but because the difficulties lie on the surface. A man is much less likely to overestimate his unassisted powers on these rocks than he is to underestimate the dangers of solitary and apparently easy glacier work.

The volume closes with a chapter on mountain photography, which contains little that has not been said already. Herr Wundt is an excellent photographer, and the illustrations are very numerous, and, on the whole, of a high order of merit, though some of the smaller plates are disfigured by a Kodak-like distortion. The whole book is handsomely got up in a form which recalls that of Signor Sella's "Monte Rosa e Gressoney," and is beautifully printed.

The author is to be congratulated on the achievement of an unquestionable success; and, as circumstances prevented him this year from dealing with the Sass Maor and the Cima di Canali, the two best climbs in the district, it is to be hoped that he will be encouraged to give us some day a companion volume, completing his survey of this fascinating group of mountains.

A. F. de F.

THE ALPINE CLUB EXHIBITION OF PICTURES AND PHOTOGRAPHS, 1892.

THE Alpine Club is able to exhibit together not only work done by its artist members in the last autumn, but pictures that were years ago the delight of many when exhibited, but now almost forgotten. Some of us still remember the sorrow in the artist-world when John S. Raven was prematurely cut down just as he seemed rising to the head of his profession. An exhibition of his works was soon afterwards gathered together by the Burlington Fine Arts Club. One Alpine picture, a very beautiful Matterhorn then shown, we should like to see again. Mrs. Morris kindly lent a large and powerful picture of the