

back to the coast for stores. August 3 : Climbed about Pretender Peak. August 4 : Moved camp up the left side of the Three Crowns Glacier to the foot of the middle peak of the Three Crowns. Climbed the Middle Crown (4,000 ft.). August 5 : Leaving the sledges and camp behind, went an 18½-mile ski expedition, climbed the Diadem (4,150 ft.), and returned to camp. August 6 : Climbed the Middle Crown again. August 7 : Returned towards the coast. August 8 : Reached base again on the shore of King's Bay.

MOUNT HEDGEHOG.—This mountain is part of the range of the Horn Sunds Tinder, and is the peak partially ascended in 1896 by Messrs. Garwood and Trevor-Battye.* On August 17, 1897, at 8.30 P.M., Mr. Garwood, and Sir Martin Conway left their camp on the E. shore of Goose Haven, Horn Sound, and went up the right bank of Goose Glacier, following the route of the previous year. At 12.30 A.M. on the 18th they left the last year's bivouac place, and after passing over a low craggy point gained the foot of the peak's W. rock arête. The ascent was made up an ice couloir just S. of these rocks, and the final narrow S. snow arête was gained at its head. By this the ascent was completed in about 4 hrs. from the bergschlund. The view was clear in all directions above a wide-spreading floor of cloud. The highest point of the Horn Sunds Tinder was found to be an excessively sharp peak, two or three miles further north, which surpassed Mt. Hedgehog by about 40 ft. Camp was reached again at 10.30 A.M.

REVIEWS AND NOTICES.

Mountaineering. By Sir W. Martin Conway. 'The Encyclopædia of Sport.' Part XI. January, 1898. Pp. 23-48, 53, 54. London: Lawrence & Bullen.

Sir W. Martin Conway's article on mountaineering in this new encyclopædia is an able summary of matters connected with the craft. It begins with a short history of mountain travel. A translation of the account of a passage of the Great St. Bernard by John de Bremble, a monk of Christ Church, Canterbury, in February 1188, given by Bishop Stubbs in his lectures on 'The Study of Mediæval and Modern History' (it, as well as the narrative of another passage in 1128, will be found in Coolidge's 'Swiss Travel,' pp. 5-9) is quoted on p. 24. We reproduce two sentences:—'I have been on the Mount of Jove: on the one hand looking up to the heavens of the mountains, on the other shuddering at the hell of the valleys, feeling myself so much nearer heaven that I was more sure that my prayer would be heard, "Lord," I said, "restore me to my brethren, that I may tell them that they come not into this place of torment."' The story, told in brief, is brought down to the latest achievements of climbers in the Caucasus, Ecuador, the Himalayas, New Zealand, Africa,

* *Alpine Journal*, xviii. pp. 373-82.

Chili, and Spitsbergen. The Italian expedition to Mount St. Elias—in fact, the mountains of North America as a whole—have been strangely overlooked.

We regard the comments on 'The Sport and its Dangers' as excellent. The following remarks are particularly happy—'There is nothing so demoralising as to sit still in a raging gale. Cold then becomes an increasingly potent enemy; the vitality is sapped, the power of initiative is diminished, foolish counsels attain the ascendant, and all manner of misfortunes are likely to ensue. Next to standing still, the most ill-advised line of action is one of frantic haste in difficult places. Never is patience more essential than when the elements are furiously raging. Never is caution more continuously called for' (p. 41). The hints on 'Alpine Climbing for Beginners' are also very good and timely. For instance (p. 42), 'Snowcraft is the thing that takes most learning, and it is with snow mountains, and still more with snow passes, that a beginner should begin.' The sections on 'Equipment' and 'Mountain Exploration' bear evidence of the author's experience. Whilst speaking in the highest terms of Mathias Zurbriggen—such men as Zurbriggen will, he thinks, be always exceptional—he gives it as his opinion that a skilful amateur is in all respects superior to ordinary Alpine guides, who seldom prove good travellers. He concludes by saying (p. 47), 'A party for mountain exploration would be ideally constituted if it consisted of a leader who should be the surveyor, geographer, photographer, and general organiser; an amateur guide, who might also be a geologist; and a third man, who should be a naturalist and collector. Such a party, with the needful local following, may go anywhere.'

Sir Martin Conway's remarks on the greatest height likely to be attained will interest many readers. 'My own experience led me to believe that we might have reached an altitude of 24,000 ft. if our mountain had been so high. We spent two nights at 20,000, and I think we might have slept 1,000 ft. higher without much additional suffering; but I doubt whether men could be found to carry even the lightest camp to more than 21,000 ft., where, by the by, the cold at night is intense, and the need imperative of protection and warmth for bodies in which the blood is feebly circulating. The future will show whether any precautions can be taken, or appliances devised, by which these difficulties, discomforts, and dangers can be diminished. Under present circumstances, I doubt whether a height of 25,000 ft. will be authentically reached. I am convinced that peaks of more than 25,000 ft. will not be climbed for many years to come' (p. 48).

The article is provided with twelve illustrations by Mr. A. D. McCormick, of which we speak with some hesitation. Those entitled 'Climbing a Chimney' and 'Hidden Crevasses' are perhaps the best. We understand that the writer of the article had nothing to do with the selection of the illustrations.

We notice a few minor slips in detail: Dr. Paccard was not one of Saussure's party on Mont Blanc. On p. 24 'roamers' should be

'Romers.' The qualification necessary for the Alpine Club given on p. 44 omits all mention of 'contributions to Alpine literature, science, and art.' Moreover, 'mountain expeditions' should be substituted for 'regular ascents,' for an explorer who has made no 'regular ascents' can be and has been elected. The mistake of writing 'Dykhtau' for 'Koshtantau' we feel more inclined to sympathise with than condemn. The assertion that 'no decently led party should be lost through fog on the upper part of Mont Blanc' is too strong. M. F. Schrader's article in the *Annuaire du C. A. F.*, 1895, referred to elsewhere in this number of the 'Journal,' may afford interesting evidence on this question.

In the Bibliography attached to Sir M. Conway's article, but drawn up by 'A. C. C.,' while we notice several works which we certainly did not expect to find, we miss such well-known books as Mr. Whympers's 'Zermatt,' Mr. Hinchliff's 'Summer Months among the Alps,' Tyndall's 'Hours of Exercise,' Bonney's 'Alpine Regions,' Forbes's 'Travels,' Murray's 'Switzerland,' and three works by former Editors of this Journal—Mr. H. B. George's 'Oberland and its Glaciers,' Mr. D. W. Freshfield's 'Italian Alps,' and Mr. W. A. B. Coolidge's 'Swiss Travel.' Among books published abroad we miss Tuckett's 'Hoch Alpen Studien,' Durier's 'Mont Blanc,' Studer's 'Ueber Eis und Schnee,' Heim's 'Handbuch der Gletscherkunde,' 'D'Anes' (for D'Arve), The 'Penine Alps,' and 'Corlidge' are curious misprints.

The Glossary must not be implicitly trusted. To take examples: There is no such thing as a *glacière-table*, the Föhn is not generally a S.E. wind, a glacier is not 'an accumulation of frozen snow in a valley,' nor is an *arête* definable as 'the highest ridge of a mountain.' Hand-hold, gully, shoulder, cairn, crest, are common words used by mountaineers in their ordinary significations, and hardly deserve a place in a glossary, particularly in one remarkable for its omissions.

Philip Stanley Abbot. Reprints from the 'Appalachian.' Boston: 1897. (Privately issued.)

This volume is a memorial to one of the most energetic and promising young climbers beyond the Atlantic, whose premature death on Mount Lefroy, in the Rocky Mountains, on August 3, 1896, was referred to in a note on p. 227 of our last volume. A short account of several complete ascents of Mount Lefroy, made on the same day of last August from the opposite direction, will be found in our preceding number (vol. xviii. p. 438).

Mr. Abbot, who was 29 years of age, was, by the testimony of all who knew him, a man of singular force and energy. He had climbed much in Switzerland round Zermatt, and had made several successful ascents in the Rockies. He was an enthusiast for the heights, and had set his heart on organising and uniting the mountain clubs of the Far West and bringing them into closer connection with the Boston Appalachian Club, of which he was one of the leading spirits. To its Journal he was a frequent con-

tributor. Several of his articles are reprinted in the volume under notice, which also contains a brief memoir and a portrait of its subject.

Mr. Abbot set out from the chalet on Lake Louise with three friends, Professors Fay and Little and Mr. Thompson, to attempt the ascent of Mount Lefroy by way of the glacier trough known from its exposure at certain seasons to avalanches as the Death Trap. Starting at 6.15 A.M. the party reached the saddle on the main chain without much difficulty at 11.50. After a halt, followed by four and a half hours' step cutting in steep ice-slopes, they gained the foot of the crags of the final peak. From this point we quote Mr. Fay's narrative :—

'At 5.30 P.M. we drew up under an immense bastion possibly seventy-five feet in height, behind which lay the summit of which as yet, owing to foreshortening, we had had no satisfactory view. This frowning face rose sheer from a narrow margin of tolerably stable scree that lay tilted between its base and the upper edge of the sloping ice that we had just left behind us. Looking past it on the right we saw, a few hundred feet beyond, the tawny southern arête, so shattered as to be utterly impassable. In one place a great aperture, perhaps forty feet high and five or six in width, revealed the blue sky beyond. Evidently our course did not lie in that direction. On the left the dusky northern arête rose with an easy gradient possibly an eighth of a mile away, but across an ice slope similar to that up which we had so long been toiling, and in truth a continuation of the same. To cross it was perfectly feasible, but it would take so long to cut the necessary steps that a descent of the peak before dark would have been out of the question.

'But now Mr. Abbot, who had moved forward along the rock-wall to the limit of the rope, cheerfully announced an alternative. His view beyond an angle in the bastion revealed a vertical cleft up which it was possible to climb by such holds as offered themselves. Bidding Thompson and me to unrope and keep under cover from falling stones, he clambered some thirty feet up the rift, secured a good anchorage, and called upon Professor Little to follow. This the latter proceeded to do, but while standing at the bottom of the cleft preparing to climb, he received a tingling blow from a small stone dislodged by the rope. A moment later a larger one falling upon the rope half severed it, so as to require a knot. As danger from this source seemed likely to continue, our leader had Little also free himself from the rope and come up to where he stood. From here a shelf led around to the left, along which Abbot now proceeded a few yards and discovered a gully leading upward, unseen from the point first attained, and this also he began to ascend. To Mr. Little's question, whether it might not be better to try and turn the bastion on the shelf itself, he replied, "I think not. I have a good lead here."

'These were the last words he ever uttered. A moment later Little, whose attention was for the moment diverted to another portion of the crag, was conscious that something had fallen swiftly past him, and knew only too well what it must be.

Thompson and I, standing at the base of the cliff, saw our dear friend falling backward and head-foremost, saw him strike the upper margin of the ice slope within fifteen feet of us, turn completely over, and instantly begin rolling down its steep incline.* After him trailed our two lengths of English rope—all we had brought with us—which we had spliced together in our ascent over the last rock slope, in order to gain time by having less frequent anchorages than were necessitated by the short intervals of one sixty-foot line. As the limp body rolled downward in a line curving slightly towards the left, the rope coiled upon it as on a spool—a happy circumstance amid so much of horror—for not only did this increase of friction sensibly affect the velocity of the descent of nine hundred feet to the narrow plateau of scree above mentioned, but doubtless the rope, by catching in the scree itself, prevented the unconscious form from crossing the narrow level and falling over the low cliff beyond. Had it passed this, nothing, apparently, could have stopped it short of the bottom of the gorge leading up to the pass from the western side of the Divide—a far more fearful fall than that already made.'

Mr. Abbot's friends acted with courage and promptitude in the terrible position in which they were placed. Profiting by the steps already cut they were able in three hours to make their way down to the spot where their companion lay insensible, but still breathing. He expired only a short time after they joined him, but from the nature of his injuries there was no reason to suppose that he had regained consciousness after his first fall. The body was ultimately recovered and brought down for interment.

It has always been our custom in these pages to examine closely into the circumstances of the accidents by which our friends have been lost to us with the object of extracting any lessons or warnings they may furnish. If we follow our usual practice in the present case, our American colleagues will readily understand that no want of feeling or deep sympathy is thereby indicated. This is the first fatal accident they have had to record, and it may prove to be very illustrative of the kind of risk most likely to be encountered by those who have to face untrodden crags and snows in all the enthusiasm of youth and discovery, and without the restraining influences of the lifelong caution and experience of the Alpine peasant.

At first sight the present case may seem one of the mischances

* How the terrible disaster occurred we shall never know. In all probability his foothold, or more likely his handhold, gave way; though it is not impossible that he was struck by a stone descending from above. The facts that no outcry preceded his fall, and that the fatal wound was on the back of his head, seem, however, to argue against this latter hypothesis. I know not how to account for my immediate impression, unless I actually saw something to create it during the momentary slackening of his swift rush past us, but it was an increase of horror lest a large stone, clasped in his arms, should crush him as he struck the slope. The visual memory itself is exceedingly indefinite as regards details. [*Original footnote.*]

incidental to mountain exploration which are deliberately faced by every climber. In a sense it may have been so ; for a loose rock is one of the most subtle forms of danger. Yet when we apply our attention to details, we cannot fail to note that the direct climb up the last rock face was adopted in preference to a more secure route, because time ran short. The start had not been made till 6.15, at least two hours too late. Further, if the rope is ever discarded, it should not be left dangling at the leader's waist, adding to the weight he has to lift, and rendering his companions helpless in case of a slip. Two lengths of rope, all the party had, were, we are told, attached to Mr. Abbot when he fell. It may occasionally be permissible for old climbers to reconnoitre on rocks alone and untied. But to do this they should be endowed with the stolid patience of a veteran guide who tests before he trusts every hold. Such patience is hardly attainable to the natural confidence of youth. Even Emile Rey failed in it at last! Parties of young climbers must learn to stick together, to back one another up, and not to throw down loose stones, if they wish to climb with security. To do this may seem a counsel of perfection ; it may often be hard, it is sure to be irksome ; but it is an essential part of the craft of mountaineering. The proper use of the rope on rocks, and *à fortiori* on snow-covered glaciers and ice, is the beginning of wisdom. We in Europe have learnt these lessons through many disasters, and we hope that American climbers may so profit by our experience as to suffer far fewer losses than have fallen to our lot.

Annuaire du Club Alpin Français, vols. xx., xxi., xxii., 1893, 1894, 1895.

We much regret that, owing to a misunderstanding, so excellent a journal as the 'Annuaire' has not for some time been noticed in these columns. The twentieth volume opens with a very sympathetic notice of M. Abel Lemercier, the founder of the French Alpine Club. The mountain articles are contributed by M. P. Puiseux, 'Round Zinal'; 'The Allevard Massif,' by M. H. Dulong de Rosny; two on the Pyrenees, 'An Excursion to the Néthou,' and an account of the Massif of the Hourgade; a second excursion in the Sierra Nevada by Dr. Bide, and a study of part of the Cantabrian Mountains (The Picos de Europa) by Count de Saint-Saud and M. P. Labrousse, with a map by Col. Prudent.

M. J. Vallot gives an account of scientific work at the Mont Blanc Observatory. M. Emile Camau treats in an interesting way of French Mountain Troops. There is a very appreciative biographical notice of Mlle. Angeville, 'la fiancée du Mont Blanc,' who, in 1838, at the age of forty-four, planted 'le drapeau de l'alpinisme féminin au sommet du Mont Blanc.' The writer, Mlle. Mary Paillon, is herself well known in the Alpine world.

M. F. Schrader contributes a valuable note on sheet 6 of the map of the Central Pyrenees. M. E. Pressoir describes the ascent of l'Akouker in the Algerian Djurjura.

The other articles, *e.g.*, 'Tripoli,' 'The Sioule' (in Auvergne) 'In Corsica,' are rather connected with travel than with mountain-

eering. In the last-named paper M. Th. Salomé (pp. 270-78) describes the trial at Bastia of a famous bandit and assassin. The passage will be found interesting: apparently the multitude at Bastia had the same admiration for this gentleman of the thicket as the lady had for Gilderoy in the ballad. M. M. A. Martel continues the account of his underground triumphs in a sixth campaign.

Vol. xxi. offers the reader a much larger proportion of articles connected with mountaineering than its predecessor. The place of honour is given to MM. Joseph and Henri Vallot's article on 'La Carte du Massif du Mont Blanc' on a scale of $\frac{1}{200000}$.* It contains a very careful study of the Chamonix aiguilles—their heights and their names. It should be read by all who are interested in the subject. On p. 85 is given the origin of the name A. du Fou (to be found on Kurz's map). The variation in names seems great, to take for example the varieties of spelling in Montanvert on pp. 46-7.

M. Helbronner ascends the Aiguilles des Glaciers. M. M. H. Dulong de Rosny relates the first ascent of the Southern Aiguille de la Glière (the highest was conquered by Mr. Coolidge in 1887) in the Tarentaise, a district still too little visited by English climbers. M. Armand Guéry describes the Col de Tenneverge and the E. peak of the Dent du Midi. M. H. Cuënot visits the Binnenthal.

Norway has two articles allotted to it; the first by Mme. Aline Martel on a passage of the Jostedal Glacier, effected with her husband in July 1894; the second, entitled 'A Tour in Norway,' by M. E. Gallois, is a travel, not a climbing paper.

The Pyrenees receive a large share of attention. M. F. Schrader, so well known for his work in these mountains, writes on the extent of the glaciers of the Pyrenees, and is followed by M. É. Belloc, who deals with mountain and lake explorations in the Central Pyrenees, and gives a beautiful 'carte bathymétrique' of the Lac d'Oô. M. Lourde-Rocheblave treats of the snowfall in the Pyrenees in January 1895.

M. Camau follows up his article in the previous volume on the French Alpine Troops by one on the Italian. M. P. Guillemain gives us 'La Meije dans l'image,' 'Cet inventaire vise uniquement les pièces gravées ou les dessins manuscrits.' M. M. A. Martel continues his subterranean labours, and then describes the Col de la Casse-Déserte in a paper illustrated by a beautiful picture from a photograph by Signor V. Sella of the Col and of the Pic Bourcet. This fascinating peak was first climbed by Mr. F. E. L. Swan in 1887. M. Ch. Bioche, who visited the Val de Bagnes on July 6, 1894, describes graphically what he saw on the scene of the *Débâcle* on July 28 in the same year.

Amongst other non-mountaineering papers, M. M. Monmarché, writing on 'Round Lioran,' says that Lioran would be the Chamonix of the Cantal, if the Cantal were not ignored or despised by tourists.

* See *Alpine Journal*, vol. xvii. p. 77.

A long article on the Island of Lemnos is interesting to mountaineers only as mentioning the longest fall yet recorded—that of Vulcan, which lasted a whole day.

In vol. xxii. M. Charles Durier properly holds the first place with a paper on Mont Blanc, entitled, 'Sur les routes du Mont Blanc.' It is illustrated by a very useful sketch after a photograph by M. Joseph Vallot, taken from the Mont Maudit. M. F. Schrader follows with a description of a *Tourmente* on Mont Blanc. This article furnishes exciting reading, and deserves careful study.

The party, including Mme. Schrader, spent two nights at the Refuge Vallot. The first was bitterly cold, and the storm raged fiercely. It was succeeded by a long day of gloom and despondency, during which the storm increased hourly. After a second night of cold and storm, M. Schrader's party decided to attempt the descent to Chamonix. They had a terrible experience. The storm still continued. They found the Petit Plateau covered with a recent avalanche, and on reaching the Grands Mulets learnt that M. Rothe and the guide Simond, who had preceded them, had been overtaken by the avalanche, and that they had, without knowing it, walked over the buried victims. The angry weather pursued the travellers even to Chamonix.

This is but the briefest summary of a most graphic account, but what M. Schrader calls the moral of his paper must be quoted. 'Others,' he says, 'have described how Mont Blanc, good-natured in fine weather, and easier to climb than any of the great summits, becomes formidable in storms. What we would insist upon is that the shelters (observatories or refuges) built on the sides or on the summit ought not to cause us to neglect any of the precautions which used to be observed before these shelters existed.' These are words of wisdom.

To one fresh from reading M. Schrader's vivid narrative the opinion expressed elsewhere in this number on Sir Martin Conway's statement, 'no decently led party should ever be lost through fog on the upper part of Mont Blanc,' will probably commend itself. Nor should the words of so excellent and so experienced a guide as Alphonse Payot (quoted by M. Schrader, p. 31) be forgotten: 'Avec ce temps-là (*i.e.*, the *tourmente*) le plus fin peut y être pris.'

M. G. Bartoli writes of the first ascent of the Ouille de la Balme, 3,020 m., and M. Ernest Brunnarius explores the Bietschthal, and talks of the charms of guideless climbing, and of 'la jouissance incomparable du *campement sous la tente*.' M. Emile Belloc invites his readers to the Pyrenees in an article entitled 'Du plateau de Lannemezan au Glacier des Gourgs-Blancs' (Gourg means lake). The party saw five full-grown isards and a little one.

There are two papers on winter mountaineering: one by M. F. Regaud on the Col du Bouquetin, by which and the Col de Nivolet his party crossed from Bonneval to Val Savaranche; the other a charming narrative of an ascent of La Croix de Belledone by Mme. Jeanne Paillon, who was accompanied by her son and

daughter and the famous English climber, Miss Katharine Richardson.

We have more of 'Mountaineering Reversed' in papers by M. Edmond Renauld on 'Le Jura Souterrain' (third campaign), and the indefatigable M. M. A. Martel, who visits the Marble Arch in Ireland, and Gaping Ghyll in Yorkshire.* M. Cuënot writes of the Swiss Jura 'Round Ste.-Croix.'

There are travel papers on Tunis, Iceland, Asia Minor, and the Caucasus. The last treats of the Dariel and Erivan, and has a sketch of Lake Goktcha by the author, M. Eugène Gallois.

Under the heading 'Sciences et Arts,' the article most generally interesting is perhaps that by M. E. Trumeau (himself a soldier) on the 'Marche du corps d'armée du Maréchal Souvarov du 11 septembre au 5 octobre 1799. An ascent of the Roche Melon in 1588 is curious. M. P. Puiseux has a long article on the mountains of the moon. One inducement to climbers they certainly hold out: 'Les jours de la Lune valent quinze des nôtres.' M. Ch. Durier writes at length on Vesuvius and Capri, and gives a number of reproductions of old illustrations. The volume contains other articles besides those mentioned, but enough has been said to show what varied interesting and entertaining reading the 'Annuaire' for 1895 supplies.

Bollettino del Club Alpino Italiano, No. 62. 1895-6. (Turin.)

This volume of the *Bollettino* opens with two obituaries, both presenting rather more features of interest for English readers than they are accustomed to find under that head in foreign periodicals. The first commemorates our late honorary member, Mr. R. H. Budden, and is practically an amplification of the words used by Mr. Freshfield in his address at the winter meeting of 1895.† Though never a 'high-tourist,' Budden was a devoted lover of the Alps, and his memory will always be cherished among Italian mountaineers. He seems to have been to the last the genuine 'John Bull' suggested by the portrait here given of him. The bushy white whiskers and the firmly-shut mouth, with its somewhat long upper lip, belong to a type more familiar in London than in Turin—unless, perhaps, in the height of the tourist season, when paterfamilias reluctantly accompanies enthusiastic daughters on the road to Rome or Naples. Nor did the features belie the character of the man. We can feel that Signor Vigna has depicted him faithfully. 'His speeches were most original, each representing some idea which he wanted to rivet into our heads, spoken with a peculiar intonation and pronunciation that betrayed his origin, but gave his words something vibrant, ringing, energetic. Characteristic of many of his discourses and not to be forgotten were certain passages of rough but frank eloquence, which permitted him to tell us point blank, and caring only that we understood him,

* The latter was described in these pages in a graphic article by the same writer. *Alpine Journal*, vol. xviii. pp. 120 foll.

† Vol. xviii. p. 3.

some crude truths, which, if said by any other than the apostle of Alpinism, would have ruffled the susceptibilities of not a few.'

A man of ample means and simple life, he threw himself heart and soul into all schemes for the promotion both of interest in the mountains themselves, and of the welfare of the dwellers among them, identifying himself with his adopted fellow-countrymen, while never forgetting his own nationality, and earned the respect and affection which he deserved.

Signor Brocherel writes on Emile Rey. Most of the eminent guide's achievements in his profession are familiar to all students of recent Alpine literature. What is, perhaps, less known, though equally creditable to him, is the trouble that he took, even after his success as a guide was assured, to improve his education. He spent a winter at Meiringen to learn German, and some years later (as M. de Déchy mentioned in a former number of this Journal) had Johann Fischer to stay with him in order to improve himself in that language. It may be pointed out that the peak climbed on September 12, 1878, by Messrs. Dent and Hartley was not the Petit Dru, and that the 'mezzi mecanici' used by those climbers appear to have amounted to one ladder.

The tourist articles are few. Signor Leone Sinigaglia continues the interesting occupation of finding new ways up Dolomite peaks, a pursuit which has the merit of being inexhaustible within any period that need be considered. This time he seems to have been attracted by the south-west corner of the Croda da Lago, but an inspection of the photograph which he gives of that mountain shows at least a dozen gullies and ridges, quite as unpromising as those selected by him, each of which will, no doubt, in due course furnish 'the finest, and at present most difficult, rock-climb in the Ampezzo Dolomites'; subsequently taking the humble place—which we learn that the once famous Grosse Zinne has now taken—of 'a scramble of elementary facility, embellished with a few "rhetorical passages" and "common-places," and, like it, performing the function of "cock-horse" to youthful beginners in the Alps.'

The papers on the glaciers of the Grand Paradis group, and on the Maritime Alps, the former by SS. Porro and Druetti, the latter by Herr Fritz Mader, are rather of the 'monographic' than of the episodic order. No doubt this is the form which Alpine writing, especially in the larger 'organs,' must be expected more and more to take. It is hardly possible to conceive any incident in mountaineering the like of which has not been described a score of times; the charm of detailed exploration, at all events in the most visited districts, has, of course, vanished for ever; but something may yet be done in the way both of systematic investigation of natural phenomena, and of observation, topographical, scientific, and so on, applied to entire groups. The ubiquitous camera is of service here in mitigating what is, it may be feared, for most readers the repellent quality of papers containing a good deal of what is known to printers as 'tabular matter.' For those, however, who will take it as it is meant, Herr Mader's paper, the result, as we gather, of six

years' excursions in the Maritime Alps, will be found full of interesting information. Papers of this kind, reprinted in a handy form, would form excellent tourists' companions.

Dr. Enrico Abbate writes a kind of itinerary of the Terminillo Group, the 'Tetricae horrentes rupes' of Virgil, a part of the Apennines lying in the Abruzzi to the north-west of Rieti. The summit from which the group is named rises to a height of 2,218 m. (7,267 ft.). It offers a fine view, and is described as 'an imposing mass of compact limestone.' The district has been little visited, and studied not at all. The scenery appears to be severe. The nature of the country has passed into Dr. Abbate's account of it, which is also compact and severe, mainly composed of figures and classical quotations. It may be commended to anyone who feels a call to be borne, with Horace, 'in arduos Sabinos.'

The remaining articles are purely scientific. One on the 'glacial problem' is doubtless a valuable addition to the literature of that fascinating subject, but it has hardly more to do with the Alps than with the county of Norfolk. Signor Luigi De Marchi is the author. The other, by Dr. Piero Giacosa, deals with the results of a scientific expedition to Monte Rosa, for the purpose of investigating the waters and the snows of the upper regions. This again appeals chiefly to specialists. There is an interesting account in a note of some electrical phenomena observed at the Capanna Margherita during a thunderstorm; and some observations on the comparative amounts of ammonia found in the water of various glaciers. That of the Mer de Glace—or rather its snow—seems to be unusually rich in that compound. To the ordinary observer this appears no more than might have been anticipated.

Bollettino del Club Alpino Italiano, No. 63. 1897.

The contents of this volume are unusually varied and particularly interesting—at least, to the present writer. First in importance, though last in order, is the paper in which Signor Gallo, Signor Vittorio Sella's companion in the Caucasus in 1896, describes their autumn tour, a short narrative of which appeared in our last volume. Signor Gallo's paper might be studied with advantage by some of our own contributors, for, visiting the Caucasus for the first time, he has not only seen, but knows how to convey to the reader his fresh impressions. He has caught the local atmosphere and characteristics. There are writers, as there are painters, who make all mountains look alike, and whose accounts of mountain ascents in different regions are only to be distinguished by the local names. Signor Gallo is very far from any such dullness. His paper has also the great advantage of being copiously illustrated by reproductions of his companion's photographs. By means of a telephotograph from Teplic, it is conclusively proved that the snowy summit visible over a lower ridge from Rekom and other points in the Ceja valley is Adai Khokh itself. It may further be gathered that while the slopes leading to the ridge S. of

the peak are precipitous, those leading to the gap N. of it are, though steep, practicable, and from this point there would seem to be no difficulty in walking up the N. crest to the summit and descending by Mr. Holder's route—a splendid expedition. There is obviously a great deal more to be done in this group by competent explorers. The panorama from 'Kom,' above Chegem, confirms Mr. D. Freshfield's map as to the importance of the 'nameless peak' in the Urubashi spur, ignored in the Survey, and as to the position of Bashiltau and its neighbours. The summit marked in the panorama as 'Woolley's Sarikol Bashi' would appear to be a crest E. of the Mestia Pass. The Italian explorers will, perhaps, add to their merits in the eyes of their successors by their failure to reach the very highest points of either Tepli or Sugan. From the first ascent of Elbruz downwards Caucasian climbers have shown not infrequently a similar—perhaps not altogether voluntary—consideration for posterity.

Turning to the Alps, we welcome a series of careful studies of out-of-the-way districts, known as yet to only a few of our more eclectic members. Professor A. Viglino writes on the Maritime Alps District—the Switzerland of Nice, as it is sometimes not very happily called—where peaks of pale granite, stained gold with sea-lichens and encircled by clusters of dark mountain tarns, command all that lies between Toulon and Corsica on the one hand and Monte Rosa and the Disgrazia on the other. This region, studded, as it is, to an extent unequalled elsewhere in the Alps, with lake basins, affords an excellent opportunity for applying the test of local scientific observation to popular theories. The result of Professor Viglino's studies is expressed in terms almost identical with those employed by Mr. D. Freshfield.* He dismisses the theory of glacial excavation, and regards these concavities as of tectonical origin—that is, as part of the original structure of the range in its upheaval. He might have gone on to suggest the local reasons which may account for so many more of these concavities having escaped being filled up in the Maritime Alps than in other Alpine regions. The lakes lie, for the most part, near the crests, on ground shown by not very ancient moraines to have been exposed only for a relatively short time to the action of earthslips, torrents and alluvial deposits. Any scientific student who wishes to observe the process by which, when the protection of the ice has been withdrawn, lake basins are converted by these agencies into level pastures, may see it going on under his eyes in the S.W. valleys of the Adamello group.

In Val di Scalve, described exhaustively by Signor Castelli, the gymnastic mountaineer may find little attraction beyond the cliffs of the Presolana. It boasts, however, in the Via Mala Bergamasca, the most picturesque gorge in the Italian Alps, and the situation of its chief villages on upland slopes traversed by a multitude of

* *Proceedings of the Royal Geographical Society*, vol. x., New Series, 'On the Conservative Action of Glaciers.'

hill-paths should have attractions for those who complain of some Alpine resorts as 'too much in a hole.' Signor Castelli mentions a very curious historical fact, which goes some way to confirm the legendary connection between Charlemagne and this district, to which Mr. D. Freshfield long ago called attention in an appendix to his 'Italian Alps.' In A.D. 774 Charles gave to the Abbey of St. Martin of Tours all the property of the Fisc in Val Camonica and Val di Scalve. These possessions remained in the hands of the French abbey until A.D. 1087, when they were transferred to the Bishop of Bergamo in exchange for lands near Turin and Pavia.

The third neglected district described is more severely Alpine, and abounds in glaciers and crags, recently rendered more accessible by the Clubhut erected at the head of Val Grosina. The Cima dei Piazzzi might have been a famous mountain had it not stood between such neighbours as the Bernina and the Orteler. When seen from the heights between Livigno and Val Viola, its glacier slopes are singularly imposing. Since Mr. Coolidge has promised a paper on the district, we must not linger over Signor Sinigaglia's attractive account of his varied climbs.

The remaining articles are a paper on Etna, one on some new expeditions on the S. side of Monte Rosa by Signor G. F. Gugliermine, a scientific article on the glaciers of the Grand Paradis by Signor A. Druetti, and a notice of the life of Michele Lessona, an Italian traveller, who climbed Demavend in 1862, and was one of the first to excite in his countrymen the love of high places. He died in 1894 at Turin, where he had long held a Chair of Zoology. Throughout his life he was a voluminous contributor to scientific publications. He was also the author of an account of an ascent of the Torre d'Ovarda, his principal Alpine feat.

Swiss Jahrbuch.

In this volume (xxxii.) the special district (Ober Engadin) is again very poorly represented. There are only contributions from the same three members as in 1896, and the editor thinks another year might be allowed to it, and recommends especially the Val Bregaglia and the southern slopes of the Bernina. In spite of the unfavourable verdict of the public on the coloured plates (aquarellen) in the last volume he has again ventured to admit two into this volume. He regrets that out of some 80 notices of books in this volume only one is signed by any other name than his: *i.e.* 'Mummery's Climbs in the Alps and Caucasus,' reviewed by Paul Montandon. Of ascents either new or by new routes not already noticed in the A. J. are the following:—On September 18, 1896, M. C. Bosviel, with the guides Petitgax and Estivin, ascended the Aiguille du Tricot (3,681 m. = 12,076 ft.) from the Pavillon des Deux Frères by the W. ridge. On July 29 M. Alex Brault ascended the Aiguille du Moine from the Couvercle by the W. face, opposite the Aiguille du Dru, a difficult climb of six hours. On August 26 S. Giulio Brocherel, from the upper huts in the Allée Blanche, ascended the Aiguille d'Estellette (2,975 m. = 9,762 ft.) On August 24 Mr.

Valère A. Fynn, with F. Biselx, ascended the Aiguille de la Varappe from the Fenêtre de Saleinaz by the S.W. ridge. In September 1895 the guides Coquoz and Revaz, of Salvan, ascended the Dent du Midi from the side of Salanfe. On August 2 Mr. Theodore Tesse, with the guide Delez, ascended the Pointe Beaumont (2,474 m. = 8,117 ft.) from the Col de Fenestral. On July 15 M. Julien Gallet, with the two guides Bovier from Arolla, ascended the summit S. of Mt. Brûlé (3,576 m. = 11,733 ft.), whence they reached the Aiguille d'Ancien (3,411 m. = 11,191 ft.) and the Aiguille de Lense (3,146 m. = 10,322 ft.). They were prevented by a difficult arête from advancing further, and descended by the E. face to the Valpelline and Prerayen. At this place the accommodation is said to be much better than reported by the guide books. On July 16 they ascended the Becca Vanetta (3,337 m. = 10,950 ft.), and on July 20 the Mt. Blanc de Seilon, by the N. arête. On August 19, 1895, MM. Zschokke and Hahn ascended the point of the Diablons (3,612 m. = 11,847 ft.) from Graben by the E. ridge. They found the same peak had been ascended in July by a student from Basel with a Zinal guide. On August 17, 1895, the Petit Dent de Moreles was ascended by MM. Gaud and Veillon by the ridge which is opposite to the Roc Champion. On August 6, Herr A. Baumgartner, with three friends from the Gault hut, reached the Hühnerlucke, traversed the Hühnerstock, and descended by the N. ridge. On July 13, Mr. W. A. B. Coolidge, with Ch. Almer, jun., made the second ascent of the summits, 3,200 m. (10,500 ft.) and 3,207 m. (10,524 ft.), of the Strahlgrat (Binnen Thal) by a new route from the Turben Glacier. On August 2, H. H. Amberg and Züblin, from All'acqua in the Bedretto Thal, ascended the Poncione Valeygia (2,864 m. = 9,396 ft.). On July 26, HH. Clément and Schneider attempted from Wasen the ascent of the Fleckistock by the S. face. Herr Schneider stopped half an hour below the summit, which was reached in 10½ hrs. On August 30, Herr Alex. Burckhardt ascended the Muttler from Schleins by the E. ridge, descending into the Maises Thal and to Samnaun. On September 10, 1895, Herr K. Bernhard ascended the Fluchthorn by the S.E. ridge, with several variations from the ordinary route. On August 27, 1895, Herr Essich, with Ladner, effected the passage from the Rennspitz (Fluchthorn) to the S. peak. Various new expeditions are noticed in other parts of this volume.

In the Club district Dr. Stokar contributes an account of his ascent of the Tinzenhorn by the E. face. They had to pass some very difficult places, and had one very narrow escape from falling stones. They left the Aela hut only at 7 A.M., on account of bad weather; reached the top at 1.30 P.M., and Bergun at 9.30. He thinks the new route longer, more difficult, and less interesting than the old one. On July 26 he ascended Piz Kesch by the S. face. This route, however, was probably followed by the guide Planto in 1863, and by Herr Lendenfeld in 1887. The ascent from the Club hut took 7 hrs. On the way down they at first followed the W. ridge, and then descended direct to the glacier. Above this they encountered an

ice slope. To avoid cutting steps, Mettier first lowered the two tourists by the rope, and then, in attempting to slide down, he lost hold of his axe and came down anyhow, fortunately shooting over the bergschrund. Herren Ludwig and Imhof, on August 11, in a ridge walk from the Fuorcla Crapalu to the Fuorcla da Mulix (Albula), made the first ascent of the Pizzi delle Crappa (3,060 m. = 10,040 ft.). On August 15, the same two gentlemen, with Mettier, ascended the Piz d'Err from the Err Glacier. This was new, but with the exception of the passage of a steep ice couloir and a steep snow slope which followed it, presented no difficulty.

Out of the special district Herr Gustav Euringer describes a number of excursions in the Tarentaise and Maurienne, the most difficult of which was the Aiguille de la Glière (3,886 m. = 11,120 ft.) from Pralognan, on August 9, 1895, with Bich and Gentinetta. In descending from the Grande Casse to the glacier below the Grande Pente they were surprised by a fall of stones where no cover was to be had, but fortunately escaped unhurt. Herr Robert Helbling (Uto) describes some excursions in the Val de Bagnes, of which the highest was the Combin de Corbassière, but there is nothing new. With two friends he was three weeks in the Panossière hut. On reaching Martigny, on August 27, they were very short of cash. Two had just enough to pay the fare to Zurich, whilst the third found refuge with a sister at Sion. M. Julien Gallet (Chaux de Fonds) describes two ascents in the Lötschen Thal—the Lauterbrunner Breithorn by the N.E. arête, and the Jüghorn. The former had been attempted in 1898 by Messrs. Benecke and Reade. In 1896 Mr. Reade was again at Ried looking for traces of his two friends, Benecke and Cohen, lost the year before; M. Gallet, with the two guides Kalbermatten, and also Joseph Rubin. On August 2 they started at midnight, and instead of mounting to the Schmadrijoch made for the Breithorn ridge more directly; on account of fresh snow this was only reached at 10 A.M. Thence along the S.E. ridge as Messrs. Benecke and Cohen. Arriving at the Gendarme, where these had turned back, they attacked it right in front. It turned out to be less formidable than it looked. Joseph Kalbermatten succeeded in climbing the first 80 mètres, and helped up the others with the rope. Before reaching the summit they had to pass six other gendarmes; also two snow peaks joined by a snow arête so fine that they had to advance with it under one arm. The top was reached at 2 P.M. After 20 min. halt they began the descent, fearing soft snow. Ried was reached at 8 P.M. Herr Biehly (Bern) describes the first ascent of the Klein Lauteraarhorn by a couloir from the Strahleck Glacier. They left the Pavillon Dolfuss July 11 at 1 A.M.; but after gaining the Strahleck Glacier attempted the ascent by a couloir, in which about 12 noon they were surprised whilst resting by an avalanche of stones. They succeeded in gaining shelter, but all their provisions were carried away. They descended in haste, and then found they had tried the wrong couloir and returned to the hut. July 12 they got off at 1.30 A.M., and at eight were at foot of the right couloir. Here they left their bags.

The couloir was in parts no broader than the avalanche furrow, and they had much difficulty in working their way up. The col was reached at 11 A.M., but many difficulties were before them. Twice they had to make difficult traverses, and the actual summit had to be won by a bold leap over a chasm at 3 P.M. After half an hour the descent began, which was equally difficult. Their bags were reached only at 8 P.M., and they made up their minds to bivouac. After a miserable night they started at daylight, crossed the Strahleck, and reached the Schwarzegg hut at 9.30 and Grindelwald at 11.30.

Herr Dr. Jorger (Piz Sol) contributes an article on the Valser Thal (Lugnetz). The principal mountain ascent is that of Piz Aul (3,124 m.=10,250 ft.), which he made by a new route from the Sattelte Lucke (N. of Piz Aul) by the E. face in 1877. He relates many local legends. The most amusing is about the advent of the reformed religion in Lenta. The parish meeting which was called to consider the matter thought there was no room for two religions in so small a parish, but put the matter to the vote. The votes on either side were equal. Great perplexity ensued. At this moment the goatherd came down from the mountain with his charge. Some one suggested that he had a vote, and being in the day-time nearer heaven than most other people, must have special knowledge in religious matters. So said, so done. The goatherd voted for the mass, and the question was thus happily (?) settled. Herr R. Reber (Bern) describes a number of excursions about Poschiavo. The article may almost be said to be a guide to the neighbourhood. There is at least one virgin peak (Pizzo di Sena) over 10,000 feet. The article is illustrated by an original sketch of G. Studer, taken from Cavaglia, below the Bernina Pass, and revised by Herr Reber. Herr Ludwig Purtscheller (St. Gall) contributes an account of the ascent of Mount Elbruz, made by him along with Herr Merzbacher, with the guides Kehrer and Unterweger, of Kals, on Aug. 18, 1891. Starting from a bivouac (3,550 m.=11,647 ft.) at 1.15 A.M., they reached the summit at 9.10. The excessive cold (5° F.) compelled them to return in 20 minutes, and the bivouac was reached at 2.40 P.M. Dr. E. Scherer (St. Gall) contributes a memorial notice of Herr J. J. Weilenmann, who died on June 8, 1896. He was one of the oldest and most active members of the S.A.C. His mountaineering began in 1850, and he made a great number of important ascents, many of them alone. He may be said to be the pioneer of solitary climbing. However, he was very cautious, and never met with a serious accident. He never used an ice-axe, but carried a long alpenstock and a pair of 'steigeisen.' Dr. A. Zschokke (Aargau), in an article on the history of mountaineering, gives an account of one of the earliest mountain ascents since the Christian era, that of Mount Ventoux (1,912 m.=6,273 ft.) by Petrarch on April 13, 1336. Herr Meyer v. Knonan contributes a notice of Josias Simler (1530—1576), with special reference to his works, the 'Description of Wallis' and the 'Commentary on the Alps.' M. F. Correvon (Genève) writes of the means employed to protect

the rarer plants of Switzerland. A society was formed for this purpose in 1888 at Geneva, which now numbers 900 members. An annual bulletin is published, which is distributed not only to members, but to many others, to Alpine Clubs, Scientific Societies, botanists, clergymen, &c., also to hotels and to municipalities in places where the plants grow which need protection. A certain number of protective gardens have been formed, as at Bourg St. Pierre, at the Hôtel Weisshorn in Val d'Anniviers, and elsewhere, where the rarest plants are especially cared for. Herr W. Schibler (Davos) describes the Flora of the neighbourhood. Here there are nine months of winter and three of cold summer. He gives the daily record of plants from March 1 to May 31, amounting to 188. The seventeenth report on glacier variation is given by Dr. F. A. Forel (Morges) and Dr. L. du Pasquier (Neuchâtel). They consider that a great error has been committed in confining the observations hitherto to great glaciers, since the factors which contribute to the increase and decrease of the glacier are far removed from each other. The former, the snowfall at the upper end, the latter, the ablation at the lower end of the glacier, in distance and in vertical height are far apart, and in their effects far removed in time, often 10-12 years, so that a glacier may be actually retiring when snowfalls have been abundant; whereas in a small glacier these actions are carried on in close proximity. No doubt the observations would be more delicate and difficult, but they think the effort ought to be made, and that much might be done by means of photographs taken at regular intervals from the same spot between June and November, and if possible on the same dates each year. During the year 1896 the glaciers of the Eastern Alps show a decrease. The Editor contributes an account of the first ascent of the Titlis in 1744. Herr C. Egger (Davos) gives an amusing account of a 'ski' excursion near Arosa, in order to get a photograph of a herd of chamois. Dr. August Walker (Weissenstein) having ascended one mountain (a peak of the Faulen) whilst intending to climb another, gives a recipe for ensuring the same result. (1) Take no guide in an unknown district. (2) Go in spring, when all the paths are covered with snow. (3) Never mind if the aneroid and the height given on the map do not agree! Herr Paul Montandon describes several new ascents in the Urbachthal. Of these the ascent of the Graugrat (8,192 m. = 10,210 ft.), in the ridge S. of the Ritzlihorn, with descent on the E. side to the Arlen glacier and the Handeck, was the most difficult. He gives a complete list of the peaks and passes which surround the Gauli glacier.

In reply to a demand from Mr. Coolidge for information about all ascents, Herr J. Lüders (Basel) gives an account of his ascent of La Rossa (Unter Alp, near Andermatt). Herr Christof Iselin (Tödi) describes a 'ski' tour from Matt in the Sernfthal to Flums on Jan. 3, 1897. They started from the Winkel huts in the Ranchthal at 7.30 A.M. (temperature 5° F.). The first ascent of 400 m.

(1,312 ft.) required 86 turns. The average inclination of the track they made was 15°. When the slope is very steep they must use 'reifen' (ordinary snow shoes). They reached the top at twelve. In parts of the descent great caution was required on account of the snow cornices which crowned the cliffs. Flums was reached late after a long halt at Prod. The estimated distance was 30 kilom. (19 miles), which occupied 11½ hrs., of which 2½ were halts. It might be done in 6 hrs., but would be hard work. Herr O. Moehly describes two ascents made by him near Zinal, chiefly to elucidate the panorama drawn by him of the upper Val d'Anniviers from the Roc de la Vache, near Zinal. Mr. Coolidge writes to correct misstatements made about the 'Climber's Guides,' &c., in various articles in previous volumes of the Jahrbuch. The Club huts are 44 in number, but many of them appear to be in a very bad condition. The only one well spoken of is the Bêtesmen hut on Monte Rosa. But the cost of that was great, amounting to nearly 600l., of which the Club paid three quarters. The Club now numbers 4,959 members, and the finances are in a better condition than at the end of last year.

The folding case attached to the volume, besides the view of the Val d'Anniviers above mentioned, contains a view by Herr J. Knecht of the Alvier group from the Aelplikopf, above Bärschis (Walensee), one by Herr Stocker of the Titlis group from the Rossstock above Altorf, and a Panorama (reproduced) by G. Studer from Piz Languard. This was taken on August 12, 1857, and is said to have been done in 4 hrs. J. S.

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This volume (xxviii) is richly illustrated with sixteen full page engravings and forty in the text, of which more than half are from the drawings of Mr. E. T. Compton. Herr F. Kronecker describes a tour in New Zealand in 1894. He obtained the services of Thomas Fyfe, one of the boldest mountainers of New Zealand, and of Adamson, the landlord of the inn at Hermitage, below the Tasman Glacier. With them he ascended the Hochstetter Dom (9,826 ft.) and Mt. Darwin (9,960 ft.), the latter being a first ascent. The former was first ascended by Herr Lendenfeld in 1883. In this, as well as in the two previous ascents, the glacier was found easier than in 1883. On Mt. Darwin the tourist had a narrow escape, having broken through a cornice, and at one point the ridge was so narrow that he and one guide passed astride, whilst Fyfe traversed it with the ease of a rope dancer. Herr Kronecker was struck with the absence of trees. Even on the western slopes they only attain to a quarter of the size of their European namesakes. He was much worried by the rough grasses the Wild Irishman (*Discaria toumatosa*) and the Swordgrass (*aciphyllum*). This was atoned for by various novel beauties, especially the Mt. Cook lily (*Ranunculus Lyalli*), the great white aster (*Celmisia*), and many strange veronicas. He concludes with a summary of Mr. Fitzgerald's ascents in 1895.

Herr Ferd. Lowl contributes a geological sketch of the neighbourhood of Kals. Of this an outsider cannot say much. Old friends of the Groders at Kals will be glad to learn that Thomas Groder is well; one in particular, who was snowed up with him in the Stüdl hut nearly thirty years ago.

In 1895 Herr Albert Penck was deputed by the central committee of the D.Ö.A.V. to instruct some students in glacier observations, and in the summer of 1896 they examined the glaciers of the Sonnblick. For this purpose the Sonnblick House would have been most suitable, but proper space was wanting, and the charges were prohibitive. They put up at Kolm Saigurn. Their attention was mostly directed to the Goldberg Glacier, and the result of their observations, compared with previous ones, showed that the glacier had diminished about 11 per cent. since 1871.

Herr Oswald Redlich discusses the names of places in the Eastern Alps and their meaning. The names were given by the original settlers, partly from family names, partly from their natural surroundings; and these names, though often altered by subsequent events, tell us in a way their history. Nearly all the great changes in Europe swept over the E. Alps, but in the remoter valleys the changes were small. He illustrates his theory chiefly from Tyrol, where the names seem mostly to show the influence of neighbouring tribes. Thus South Tyrol is affected by the proximity of Venetia and Illyria, and North Tyrol by that of Bavaria.

Herr Hans v. Zwiedineck-Südenhorst writes of the E. Alps during the French wars. He discusses the several campaigns of 1796-7, 1799, and 1800-1801, and speculates on various movements which might have been adopted to repulse Napoleon. The campaign of 1801 showed that the possession of the mountains of Tyrol was of no strategic advantage to Austria if the enemy held the valley of the Danube.

Herr Hans Grosberger writes of the region occupied by the ancient tribe of the Taurisci. This lies in the lesser Tauern, between Radstadt, in the valley of the Ens, and Mautendorf on the Mur. The district round this latter place is called Lungau, and to this particular attention is directed. The character of the inhabitants and many peculiar customs are described, those at marriages being almost too strange to be true. Various strange epitaphs are quoted. One of the most curious is that of Countess Anna, of Schwarzenberg, who was born in 1535 and was married no fewer than six times, the last two dates being 1611 and 1617, and died in 1623.

Herr Richard v. Strele contributes a curious and interesting article on the custom of introducing the ass, with our Lord upon it, in the procession on Palm Sunday. First of all a live ass was ridden by a man; later a wooden figure to represent both was drawn along. The custom seems finally to have been discouraged by the clergy, and gradually fell away in the latter half of the eighteenth century, though it is said still to be retained in some places. There are various specimens still to be found in museums, of which two illustrations are given.

Herr Ludwig Purtscheller has come down from the difficult peaks with which he has so often delighted us, and condescends now to explore the lower, but comparatively unvisited, region of the Defereggerthal. Though seldom visited by strangers, it is a populous valley whose inhabitants often leave their native wilds, and are found in all parts of Europe. The trade is mostly in coarse carpets, to which is often added straw-hat making. There are well-known Deferegger firms in Vienna, Gratz, and elsewhere, with numerous branches. The valley is approached directly from Unter Huben, on the Windisch-Matrei road, but it may be approached by easy and interesting passes from the Pusterthal on the South, and from the Virgenthal on the North. The group of the Hochgall (8,440 m. = 11,286 ft.) is approached from the Patscherthal, and the section Deferegger (D.Ö.A.V.) has constructed a path to the summit. A shelter hut is projected. The finest point of view is the Pfannhorn (2,668 m. = 8,787 ft.), N.E. of Toblach. Herr Purtscheller ascended many peaks on both sides of the valley, the highest being the Lasörling (8,096 m. = 10,158 ft.), S. of Pregratten, in the Virgenthal.

Dr. Fritz Kögel describes a number of excursions in the Reichen-spits group. This lies N. and E. of the Ziller Grund. He made the first ascent of the Birnluckekoff (2,870 m. = 9,415 ft.) from the Birnlücke Pass. On the Hohenbergkarkoff (2,761 m. = 9,042 ft.) he was once in a critical position. In a narrow gully a block, resting between the rock and the rubbish, had been passed by the guide without touching it. Herr Kögel having, as he thought, tested its steadiness, grasped its upper edge to help himself up. It began to move, and he was only just able to hold it up till the guide reached him and enabled him to let the block loose. The guide, Franz Hofer, of Krimml, is highly spoken of.

Herr M. v. Prielmeyer contributes an almost exhaustive article on the Alps of the Grosinathal. This lies between the valley of the Adda on the S., the road from Tirano to the Bernina Pass on the W., and the Val Campo and Val Viola on the N. and E. Its highest summit is the Cima di Piazzì (3,439 m. = 11,283 ft.). The principal summits have all been ascended, the most difficult, the Cima Redasco (3,139 m. = 10,299 ft.), having been conquered only in 1896. The tourist is here assisted by three refuge-huts, the Casa d'Eita (1,703 m. = 5,587 ft.), on the Dosso d'Eita, at the head of Val Grosina, the Capanna Dosedé (2,850 m. = 9,350 ft.), on the Passo Dosedé, and the Casa Malghera (1,972 m. = 6,470 ft.), by the church of Malghera in the W. branch of Val Grosina.

Herr Joseph Enzensperger writes on the mountains of the Wilde Kaiser, near Kufstein. This district—twenty years ago one of the least visited—is now perhaps the most frequented in the Eastern Alps. He describes the several peaks and their ascents. Amongst these are two new expeditions, the ascent of the Hintere Gamsflucht (2,150 m. = 7,054 ft.), on June 29, 1895, and the traverse of the Predigtstuhl on the same day in 1896. None of the peaks can be called easy, and many of them are very difficult. The

Hintere Karlspitze (2,284 m. = 7,493 ft.) has the finest view, but is by no means easy to ascend in nailed boots. 'Kletterschuhen' here (and elsewhere in the district) are advisable. He made this ascent with three friends on July 26, 1896, and on this day passed the Stripsen Joch for the one hundred and tenth time (!).

Herr Norman Neruda contributes the first portion of a paper which is to be a monograph of the Rosengarten group, from the Karersee (Caressa, Costalunga) Pass to the Schlern. Each peak and pass is mentioned, the history of their exploration often given, and, as far as possible, the nomenclature put to rights, which in the midst of general confusion is often very difficult, *e.g.* between the Rosengarten Spitze and the Coronelle Spitze are three passes, whose names appear indifferently to be applied to all three. National jealousy is often the cause of names being changed. He deprecates strongly the naming of peaks after persons, and forebodes the time when all the old names will disappear.

Herr Steinitzer describes a tour in the Alps of Bergamo. Beginning with the Grigna (Settentrionale), whose popularity is shown by there being no fewer than three shelter-huts on it, he passed by the Val Brembana and Val Seriana to Val Camonica, making various ascents, of which the principal was Monte Coca (3,052 m. = 10,014 ft.). It is a district which, though not attractive to the ambitious Alpinist, is second to none in the variety and beauty of its scenery.

Herr Julius Pock, of Innsbruck, who for many years devoted himself to the Sarntal Alps, has for the last seven years systematically explored a district quite unknown to tourists in general. This is a small German-speaking district (Sauris = Zähre) in Friuli, bounded by the Piova, and the Canale S. Canziano on the N.; by the Rio Degano (Tagliamento) on the E.; by the Canale di Socchieve and Val Mauria on the S.; and by the Piave on the W. The principal stream is the Lumiei, whose lower course is an almost impassable gorge. On its upper course lie the villages of Sauris di Sotto (Untere-) and Sauris di Sopra (Obere-Zahre). In the former are three inns, but food and accommodation are very primitive. Herr Pock paid five visits to the district, the first in 1889, on which occasion he was told that he was the fifth German tourist who had been there. Sauris is best reached by a low pass (Monte Pura, 1,489 m. = 4,721 ft.) in 4 hrs. from Ampezzo, in Socchieve, which is about 6 hrs. from the Carnia station on the Pontebba railway. Herr Pock entered and left the district by various passes, and ascended most of the peaks. Several of these reach nearly to 2,500 m. (Clapsavon, 2,463 m. = 8,091 ft., and Monte Bivera, 2,474 m. = 8,117 ft.). Several of the higher peaks were climbed by Italian tourists in 1874 and 1877.

Attached to the volume is a sheet (No. III.) of the Ötztal and Stubai district; two illustrations to the papers by Herr Penck and Herr Kronecker; and panoramas from the Cassianspitze (Durnholzthal) and of the Venediger and Zillerthal Alps from the Glocknerkarkoff (Birnlücke).

J. S.