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A set of the 'Journal' in covers, as originally issued, is being formed at the Club, and the Honorary Librarian would be very grateful to any members who would assist in its formation either by presenting the parts required or letting him know where they are for sale. The parts still lacking are 1, 2, 6, 17–21, 24, 28, 31–37, 48, 58, 59, 63–68, 78–81, 83, 84, 94, 98–101.

REVIEWS AND NOTICES.

Le Massif de la Bernina. Par August Lorria et E. A. Martel. (Zurich: Ast. Institut Orell, Füssli. 1894.)

THIS excellent work, in the production of which the authors have had the assistance of the Rev. W. A. B. Coolidge and J. Caviezel, is designed, as the preface informs us, to be, if successful, the first of a series on the High Alps, from Nice to Vienna. It is illustrated by fifty héliogravures apart from the text and 150 engravings from photographs dispersed through the text.

The authors appeal to the Alpine public as to whether this work shall remain as the description of a single group, or whether, by its being freely subscribed for, they may be enabled to carry out their full scheme. The object of the present work, as well as of those which may follow, is to gather together the results of more than thirty years' exploration in the Alps by the members of the numerous Alpine clubs, with an abridged account of all the most

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interesting episodes, together with chapters devoted to topography, geology, zoology, botany, &c., and especially to illustrate freely, truly and durably. It is intended, therefore, that the work should be not a mere record of first ascents, but should show the present state of our knowledge of the Alps—thanks to Alpine explorers. It will, therefore, include accounts, given sometimes in full, at others by *résumés*, not only of first ascents, but of new routes, and of original expeditions (winter ascents, ascents by night, ascents without guides), accidents, &c.

The authors realise how difficult it must be to fully carry out such a programme as this, without missing a single expedition in searching through such a vast mass of literature. That they have succeeded as well as they have in the present volume shows great patience and care, though in spite of this there are still a few omissions, as well as several mistakes in names, &c.

If we might be allowed to make a suggestion for a future volume, we think it would be well to communicate with the author of the account of each expedition, where this is practicable, so as to ensure correctness in detail. The illustrations with which this work abounds are to form a standard of the present condition of glaciers, mountains, &c., by which changes may be detected in the future. And in order that they may be permanent the process of héliogravure has been employed, resulting in pictures which are practically indestructible. These pictures, which are of great beauty, are taken from photographs by various well-known Alpine photographers, and are exceedingly well chosen, so that collectively they present to the reader all the most lovely and grandest views of this fine range.

The book itself is full of interest, and the method, followed as often as practicable, of giving the account of expeditions in the author's own words imparts a vividness and reality which greatly add to this. If regarded simply as a scientific collection of facts relating to this region, the book would be of the highest value. But it is not only interesting from this point of view, but even more so to the general Alpine public, and especially to those who know the district intimately. The pictures are a very great feature in the book, some of them being taken at a great height, and others showing the mountains as seen from the lower part of the glaciers or from the valley, whilst there are several very beautiful views of the valleys themselves. Others show the appearance of the different villages in summer and winter, and there are very interesting portraits of climbers and guides.

Altogether this work is a magnificent one, and in congratulating the authors we sincerely hope that, in spite of the somewhat high price, necessitated by such elaborate illustration, and of the fact that the book is written in French, it may meet with such liberal support in this country as may encourage them to bring out the other volumes, and thus complete one of the finest works ever produced on any mountain range.

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Climbs in the New Zealand Alps, being an Account of Travel and Discovery. By E. A. FitzGerald, F.R.G.S. (London: T. Fisher Unwin.)

Mr. FitzGerald is, I think, to be congratulated on his book, as well as on his climbs. His descriptions are graphic, and the general impression left on the mind, after reading his story, is highly characteristic of New Zealand travel. The extreme fickleness of the weather in the Southern Alps; the violent and sudden storms which these ice-clad peaks, placed as they are in the midst of a huge area of ocean atmosphere, bring into existence; the difficulties of transport, the shakiness of those waggons which, after having served their day and generation in more civilised regions, are sent up to end their days in the mountains—anything being good enough to get lost in a glacier stream—all carry my mind back to many an anxious hour of fourteen years ago. While these things have not varied much, great advances have taken place in other matters; the 'Hermitage' has been built, the roads and bridle-paths extended, the Ball Hut erected at what was our fifth camp, so that Mr. FitzGerald speaks of sending a pack-horse up to it in four hours, a journey which took us four days of weary 'swagging,' the journey being extended to a week by bad weather, which stopped all progress.

Mr. FitzGerald's tour was well conceived, including, as it did, the scaling of several first-class virgin peaks, and a long and most difficult journey through the west coast valleys, with their almost impenetrable vegetation and foaming torrents, and then returning over high Alpine passes, involving great hardship and severely testing the endurance of all the party. His picture of the Central Southern Alps is thus rendered complete, for he saw it from all points. Some of Mr. FitzGerald's difficulties arose, no doubt, from his disregard of the necessity of taking a sufficient supply of food. To start, for instance, on a journey across the ranges into trackless valleys, whose dense vegetation had often been described, with no more than 'half a day's provisions,' appears to have been rather a reckless proceeding. Of the many New Zealanders whom the author came across, and who seem to have taken a kindly interest in his proceedings, young Clark deserves special mention. He acted as porter, and was, after Zurbriggen, Mr. FitzGerald's chief helper. It is evident that he is a plucky, good-humoured, athletic, and self-confident young colonial.

It would be easy to quote passages which touch on the peculiar charms of New Zealand mountaineering. One or two must suffice. The author has gained the virgin summit of Mt. Sefton, and looks down on the wondrous panorama at his feet. 'It was now nearly 11, and the sky was blue and cloudless. The South Pacific Ocean lay calm and sparkling in the sunlight, with its long, white, intermittent streaks of surf beating upon the smooth beach of the west coast. Around and behind us the Alps arose, range behind range, their vast glaciers and fields of everlasting snow shining bright in the clear morning air.' This entrancing view was the

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reward of a desperate struggle with difficulties, of repeated failure, and after one serious slip which very nearly brought the author's climbs to an untimely end. Again, the New Zealand ice world of the west coast is presented to us thus:—

'The rocky precipices here descended to the very edge of the Fox Glacier, and were covered with a mass of fern, shrub, and semi-tropical creepers, forming a brilliant wall of intense green down to the very lip of the dazzling white ice.

'The mists had by this time lifted, and the sun was already making its appearance and investing this strange and new spectacle with all its splendour.'

The scenes passed through on the day following were still more imposing. Having threaded their way over glaciers and rock ridges, they at last gained a ridge overlooking the great Franz Joseph Glacier, which, with its tributary glaciers, forms an expanse of ice—'one which, I imagine, can scarcely be equalled except in the Himalayas, or, perhaps, in the Polar regions.'

When Mr. FitzGerald's climbs were finished, Zurbriggen returned to fetch down the tent, &c., with Adamson, of the Hermitage.

It had been left at our old bivouac on the Hochstetter ridge. The weather being fine when they were at the bivouac, Zurbriggen and Adamson started for an ascent of Mt. Cook. Adamson stopped about 2,000 feet below the summit, while Zurbriggen finished the ascent alone, reaching the top in fourteen hours from the bivouac. He says in his account, which Mr. FitzGerald has translated: 'From 10.40 till 1.50 we pursued Green's route—namely, along the arête.' Here he is quite in error, as Mr. FitzGerald suggests, and his remarks about the bergschrund go with this. His route did not coincide with ours until close to the summit. The two routes are very easily seen in the author's beautiful photograph of Mt. Cook, which faces p. 142.

Zurbriggen followed the arête which rises from the bottom of the left-hand side of the picture; whereas we followed the Linda Glacier (to the right of the picture) to its very head, and thence, by rocks and ice, climbed to the arête by which Zurbriggen ascended, and the crest of which we followed for about half an hour, *i.e.* until 6.20 in the evening. Zurbriggen's route is, I feel sure, the best and safest, but we had not the advantage, which he had, of inspecting it from the summit of Mount Tasman; and, therefore, did not trust it, although we fully discussed its merits.

The illustrations form such an important feature in Mr. FitzGerald's book that they call for special attention—some of the photographs suggest the difference between the glacier world of New Zealand and that of Switzerland. The piling up of heavy masses of ice on the slopes of Haidinger (as shown in the plate facing p. 168) is indicative of the heavy precipitation which takes place in the Southern Alps.

His photographs have been well selected, and are splendidly reproduced. His assistant artists have been in sufficient sympathy

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with his story to portray some of the incidents he has described with spirit, but, except in the case of the landscape views, it is hard to think that they have done their best. Talking of spirits, I do not think that the frontispiece has been happily selected; it is far too suggestive of a 'full-dress rehearsal' on the Brocken: whereas the picture of the crevasse, by the same artist (facing p. 170), is much better.

The map is a model of clearness, and the whole 'get up' of the book reflects great credit on the publishers; without, however, desiring to be over critical, we cannot but think that in presence of Cook and Tasman, whose memories are constantly being brought to our minds, 'Discovery' on the title page of a mountaineering book is too big a word. W. S. GREEN.

The Exploration of the Caucasus. By Douglas W. Freshfield. Illustrated by Vittorio Sella. (London and New York: Edwin Arnold. 1896.)

The first thing to strike us in taking up 'The Exploration of the Caucasus' is the great contrast between it and Mr. Freshfield's previous book on the same mountains, and the circumstances of their ushering into the world. When the latter appeared it was as though

Far off a solitary trumpet blew,

and it was six years before an echo was heard in Mr. Craufurd Grove's 'Frosty Caucasus.' But now through the pages of the magnificent work before us we know not how many trumpets sound

A peal of warlike glee!

We heartily congratulate Mr. Freshfield, Signor Sella, and all who have contributed to these noble volumes—appropriately dedicated to the memory of W. F. Donkin. We shall not attempt to criticise them. Appreciation, not criticism, seems to us to be the natural attitude of all mountain-lovers towards the treasures here offered them. Comparisons are not called for, but we think every reader of them will allow these volumes a very high place of honour, not only for the beauty and variety of the pictures, the excellence of the maps, the graphic accounts of ascents and adventures, but also for the solid and well-arranged information contained in Appendix B—to mountaineers one of the most interesting portions of the work.

Perhaps no better idea can be given of the growth of knowledge with regard to the Caucasus than that supplied by the two following quotations from Mr. Freshfield's pages:—

The 1860 edition of Keith Johnston's 'Dictionary of Geography' contained these very remarkable assertions, the first of which was repeated in 1877:—

'The mountains of the Caucasus are either flat or cup-shaped; the existence of glaciers is uncertain.' *

* I. p. 9.

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Contrast with the above—

The really mountainous part of the chain, from Fish Dagh on the west to Basardjusi on the east, is over 400 miles long—a distance about equal to that between Monte Viso and the Semmering in the Alps.

Its skirts stretch out for another 150 and 100 miles respectively to the neighbourhoods of Baku, on the Caspian, and of Novorossisk, the new Black Sea corn-port of Ciscaucasia. It runs from W.N.W. to E.S.E., between latitudes 45° and 40° N., its centre being in the same parallel with the Pyrenees. The snowy range—'the frosty Caucasus'—which begins north of Pitzunda on the Black Sea, stretches without interruption to the eastern source of the Rion, the ancient Phasis.

Between the Klukhor and Nakhar Passes and the Mamison Pass—that is, for 100 miles, a distance as great as from the Col de la Seigne to the St. Gotthard—there is no gap under 10,000 ft.; no pass that does not traverse glaciers. Continuous no longer, but broken by gorges, one of which is the famous Darial, the snowy central crest stretches eastward, culminating in the glacier groups of Kasbek (16,546 ft.) and Tebulos (14,781 ft.). East of the historical pass of the Caucasus—commonly known as the Darial, but more correctly as the Krestovaya Gora, or Mountain of the Cross—the mountain ridges diverge, enclosing between them the barren limestone plateaux and yawning ravines of Daghestan —'the Highlands,' as the name implies.

The valleys round Tebulos have been described by Dr. Radde in his work on the Chevsurs. Its glaciers, as well as those of Bogos, have been recently explored, climbed, and photographed by a German mountaineer, Herr Merzbacher. Judging from his views, the forms of the peaks are less bold, and the scenery as a whole is less varied, than in the Central Caucasus. The range that forms the southern boundary of Daghestan, and shelters the rich forests and orchards of Kakhetia, is tame in outline though high in general elevation, and only becomes picturesque and interesting in the neighbourhood of the broad basaltic cliffs of Basardjusi (14,635 ft.), a mountain which has lately been climbed and described by Mr. Yeld and Mr. Baker.*

The evolution of the book is interesting. We believe it was first talked of as a sort of Caucasian Peaks, Passes, and Glaciers. When that proposal fell through, Mr. Freshfield took in hand a Caucasian Climbers' Guide, but finally reverted to the first scheme in a modified form. He has summarised for us the work of mountaineers in the Caucasus for the past eighteen years, and has yet given us in Appendix B what is, practically, the foundation of a climbers' guide.

The Alps were first explored by travellers, the Caucasus by mountaineers; hence the work before us is something between Brockedon's 'Passes of the Alps' and 'Peaks, Passes, and Glaciers.' Mr. Freshfield has combined the geographer's and the climber's standpoint. He has treated the chain above and below the snow-level as a whole, and he has not stopped short on either side of that line. We have here, in fact, a record of travel as well as of mountain adventure.

The distinctive mark of the book, its first purpose, is to describe not the author's or any one else's feats, but the mountains them-

* I. pp. 27-8.

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selves. In these pages nature does not serve as a background to figures in an heroic or quasi-heroic attitude, the travellers are themselves figures in a landscape. The scheme of the work is the logical outcome of this intention. Mr. Freshfield, after giving in the first chapters an outline of Caucasian exploration and its results, abandons chronological sequence and arranges his matter in topographical order. In this way, if he sacrifices something, he secures his object of impressing on the reader as he goes on the distinctive features of the various groups and districts and their inhabitants, and particularly in bringing into prominence the strange story of the Lost Valley of the Caucasus, Suanetia. If the whole book 'takes a good deal of reading,' as the phrase goes, each chapter is more or less complete in itself and can be studied separately.

To summarise the contents in any detail would take too long. A prominent place is given to the story of the search undertaken in 1889 for traces of the fate which overtook Mr. Donkin, Mr. Fox, and their guides in the preceding year. The mountaineer will find full descriptions of the ascents of the most prominent peaks. Mr. Freshfield describes his own adventures on Elbruz, Kasbek, Tetnuld, Ukiu, the Laila, and Shoda.

Mr. Holder narrates his ascents of Dykhtau (whose change of name we greatly regret, while agreeing with Mr. Freshfield that in this case the decision of the Russian surveyors must be accepted) and Katuintau. Mr. Cockin tells the tale of Shkara, Janga, and Ushba. Mr. Woolley contributes his conquest of Koshtantau. We are glad to see passes once more resume their old importance. Mr. Freshfield describes no less than six 'grands cols' over the great chain, and two splendid passages of its spurs. By advice—and even by taunts—he essays to urge his successors to develop the 'High-Level Routes of the Caucasus,' and not to confine themselves to peak-hunting. In what may be called the lower branch of travel we have M. de Déchy's chapter on the Kuban sources (illustrated by an excellent special map) and the author's account of the valleys of the southern slope from the Mamison Pass to Sukhum Kale, the tangled forests of the Skenes Skali, and the pathless and lonely wilderness of the Kodor.

Let us take, as a specimen of Mr. Freshfield's style, his description of the view from Ukiu :--

I lingered long over the view; the sunlit snows were so beautiful, the mountain forms so sublime, that it was hard to leave them. Far beneath the rivers sprang from their icy cradles, flashed in the depths of the forest-fringed ravines, or shone, thin lines of silver, as they wandered out beyond the green foot-hills into the luminous distances of the northern steppe. Close at hand, and far as the eye could reach, the great peaks of the Caucasus rose like 'whiter islands' out of the untraversed sea of air.*

* II. p. 19.

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We may also quote specimens of the author's power of briefly summing up the characteristics of a peak or panorama :—

Kasbek is a solitary classical mountain, not a Gothic pinnacled ridge.*

Or, of the valley of the Kodor—

It was not so much any individual peak that fixed the eye as the glory of the whole landscape—the rolling leagues of forest, the broad hills bright in the early sunbeams, the flashes of light in the depths: here a cliff, there a sinuous reach of river, nowhere any sign of human habitation.†

Nor is there wanting a lighter touch, as in the description of the traveller's relations with the folk of Bezingi or with the Suanetians,‡ who have 'carried out Church disestablishment and disendowment with curious thoroughness,' have 'realised the new ideal of a society where the freewill of the individual overrides all other considerations, and the only check to crime is the reciprocal extinction of criminals,' and yet, inasmuch as they keep three Sabbaths in the week, are, according to Carlyle's test, 'even more virtuous than the Scotch.'

Of the flowers, who can read without enthusiasm? Hear Mr. Freshfield himself:—

The slopes above the great Leksur Glacier, from 9,000 to 10,000 ft., were green in July, and the grass was enlivened with poppies, *Anemone narcissiflora*, gentians, ranunculus, campanulas, myosotis, veronicas, geraniums, framed by the darker foliage and great cream-coloured blossoms of the *Rhododendron Caucasicum*.§

Tall, yellow lilies were common; of wild roses I noticed several varieties; a white rose delicately flushed with pink was the commonest.‖

But the beauty of the foreground is beyond all possible anticipation. Level lawns of smooth, lately mown turf are surrounded or broken by thickets of laurels, rhododendrons, and azaleas. Yellow lilies, lupines, and mallows flower amongst them; bluebells and campanulas carpet the ground.¶

Hear, again, M. Levier.

It was a garden (some 3,000 ft. above Cholur), but a garden of the gods. In a vast clearing, an amphitheatre, of which the walls were rocks and pines, myriads of monkshoods, surpassing the height of a man on horseback, displayed their blue and white flowers. Raised one above the other, and artistically grouped as if by the hand of a skilful landscape gardener, they adorned a long hillside. A crowd of other plants of the most diverse kinds disputed the soil with them, pushing between the straight stalks of their rivals, and prolonging their own blossoms as far as possible towards the light. It seemed a struggle as to which should climb above the heads of its neighbours and exhibit the most brilliant colours. The firework of flowers recalled the artificial bouquets of coloured stars thrown up against the sky at some city festival.** A

* I. p. 87. † II. p. 202. ‡ I. p. 218. § I. p. 43. ‖ I. p. 44.
¶ I. p. 240.

** We have heard a countryman remark of a laburnum in full flower, 'Talk about fireworks; there's a finer firework than any they can show in the gala field!'

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dense mass of verdure, composed principally of the great leaves of a groundsel and of the Alpine sorrel, covered another part of the glade, penetrating under the pines, and completely hiding the path. The enormous panicles of an ashy-blue campanula rose out of this confusion, and loftier still, the rival of the monkshoods, a scabious balanced its great yellow flowers some six to eight feet above the ground. A little further there was a display of white umbelliferous blossoms, fine grasses, potentillas with blue-green leaves. In the places where the flowers reached only to our knees we picked handfuls of azure columbines with white centres, ranunculus of several species, an *Astrantia* with pink stars delicately veined in emerald green.*

And as to the fruits of the Caucasus, we think most travellers will modify their regret that 'Wine is unknown in the northern valleys, and an exceptional luxury in the southern,'† when they read—

Strawberries, raspberries, and currants abound on the south side, particularly in the glen of the Skenis Skali. Plums and pears almost drop into the mouth of the traveller as he rides down the valley of the Kodor.‡

Of the Caucasian forests, which have already gained themselves name and fame, whether they are tangled like those of the Kodor or the Laila, or interspersed with glades like those of Suanetia, where individual trees attain to superb proportions, we have not room to speak. We remember reading with great interest Mr. Phillipps-Wolley's account, mainly from a sportsman's point of view, of the birds and beasts of the Caucasus. Mr. Freshfield does not forget them.

Both Signor Sella and M. Jukoff found the upper region of the glacier strewn with the bodies of birds of passage, which had perished in the attempt to cross the chain. In July the travellers came upon the skeletons of ducks, larks, and quails, besides many that were not recognisable; in September, Signor Sella met with quails, alive, but too feeble to escape from the fatal prison in which they found themselves. These observations establish the fact that the migratory birds do not, as had been supposed, make the circuit of the range, but boldly, and even blindly, face the snowy barrier at its loftiest point.

Notices of the *tur* or bouquetin are few, those of bears are more frequent. The maize-loving beasts can only be restrained from their favourite food by a whole arsenal of terrors—chants, drums, and torches.

On scientific matters English mountaineers in the Caucasus have for years been exposed to the gibes of the foreign specialist. Mr. Freshfield carries the war into the enemy's camp. He defines the scientist as 'a person who bears the same relation to a man of science that a poetaster does to a poet,' and he then proceeds to lay on 'correction' with the zest of the schoolboys on a famous occasion at Dotheboys Hall. 'Pretenders who misuse the name of science' are reminded that 'a statement which is neither accurate

* I. p. 45 foll. † I. p. 67. ‡ I. p. 44. § I. p. 101.

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nor intelligible cannot be made scientific by any initials attached to the name of its author.' But the best vindication of the Alpine Club is the fact that the complete and accurate description of the physical features of the Caucasus and the physical maps which specialists have failed to produce here lie before us. Mr. Freshfield not only gives facts and figures, he often suggests the inferences to be drawn from them. For instance, after observing that remarkable feature in Caucasian scenery the lack of lakes and waterfalls, he adds the following noteworthy and, we think, original remarks :—

I disbelieve, for reasons I have set out fully elsewhere, in the excavation by moving ice of rock basins. But that glaciers keep them scoured and leave them empty is obvious, I suppose, to every mountain traveller who uses his eyes. I cannot doubt that glaciers preserve basins formed by other agencies, and that when the protection of ice is removed such basins are slowly drained (by the erosive action of torrents) or obliterated. The absence of water-filled hollows in the Caucasus . . . may prove that the period during which the glaciers have not greatly exceeded their present dimensions has been a longer one in the Caucasus than in the Alps.*

As to geology, Professor Bonney, in Appendix A, gives a very interesting and, as far as the information at present attainable will allow, an exhaustive account of the 'Physical History of the Caucasus,' to which specialists will turn. It is accompanied by a geological map, based on the recent geological maps of the Russian Empire, and corrected in certain details by the author's and Signor Sella's observations.

In his account of the various races met with in the central mountains—Ossetes, Turks, Imeretians, Suanetians, Abkhasians, Mountain Jews—Mr. Freshfield has been successful in hitting off their characteristics, while the photographs reproduce for us their dress and general appearance. Folk-lore and kindred subjects are treated of as far as is possible in a volume not devoted to such subjects, and references are given to the special works recently published. Some very curious facts are given as to the ancient churches of Suanetia, disused for centuries, and the treasures and curiosities concealed within them.

Whatever the ultimate verdict may be on the question raised by Mr. Freshfield in his Preface as to the comparative merits of photographs and artists' drawings as material for book illustration, there can be no doubt that his own purpose has been fulfilled by the photographs supplied him by Signor Sella, Mr. Woolley, and M. de Déchy. The seventy-six beautiful photogravures and 140 plates in the text serve to illustrate the letterpress and fill in the author's description with an accumulation of topographical and characteristic detail such as only the skilled photographer can obtain. Here is one example : Mr. Cockin as he climbs the ridge of Shkara notes, 'Across the Dykhsu Glacier Ailama looked most imposing, its slopes within our view hung with tier upon tier of glacier,

* I. p. 53.

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like the north side of the Lyskamm, but in heavier masses.' The description is terse and graphic; but how much is it emphasised and added to by the noble view supplied by Mr. Woolley on the opposite page! The glades of Brobdingnagian blossoms, the gloom of the pine forests, the grace of the birches that fringe the high pastures and frame the snowy peaks, the peaks themselves with their hanging glaciers and avalanche-fluted slopes—in two words, the flowery and the frosty Caucasus—are in succession brought under the reader's eyes.

The three large panoramas, the first of the size, we believe, executed in photogravure, are successful and extraordinarily instructive. A tour might be planned from them in conjunction with the map. Signor Sella here takes the mountaineer up 'exceeding high mountains,' into a region to which the grey clouds that roof the underworld serve as a silver floor, and shows him as in a vision the kingdoms that await him. Some of the initial letters to the chapters deserve a passing word of recognition; they are curiously typical of Caucasian travel and people, and very delicately reproduced.

The map—the first authentic map of the whole Central Caucasus—will be to future travellers in the Caucasus what the Alpine Club map was to travellers in the South-western Alps, and much more. How many expeditions will the enthusiastic climber be able to devise from studying it, especially when Appendix B supplies him with a Climbers' Guide in addition? We have had some experience in such work, and can appreciate the care and trouble that the Appendix must have cost. If climbers make the use of it they ought to do, Mr. Freshfield will be well rewarded for his pains. The only slip we have noted is that a foot note referring apparently to the eastern peak of Elbruz has got appended to the western.

We cannot admire too much the perseverance under difficulties and the technical skill which distinguish the Russian Government surveyors; while the courtesy and generosity of General Kulberg, the head of the survey, and his able officers, MM. Jukoff and Bogdanoff, show that chivalry has not disappeared from the world. They have given Mr. Freshfield all the assistance in their power, and we are sure they will be gratified with the maps which the care and skill of Mr. Reeves and the intelligent staff of Mr. Stanford have produced from the materials so liberally supplied.

We would that we could follow Mr. Freshfield into the 'general character of travel among the mountains; the difficulties to be overcome, the hardships to be encountered, the pleasures to be won.'* He gives a full account of all this, and adds an interesting comparison between the Alps and the Caucasus, from which we take the following:—

The landscapes of the Caucasus are less picturesque but more romantic. The scenery appeals more to the imagination; even when

* I. p. 65 foll.

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ugly, it is rarely commonplace. It is as Shelley's poetry to Scott's. The scale is larger, mankind is less conspicuous.*

In my judgment, then, the supremacy of Caucasian scenery lies in the heart of the chain; it consists in the forms of the peaks, their lavish glaciation, and the richness of the flowers and forests that clothe many of the upper valleys. Its inferiority, compared to Alpine scenery, will be found in the outskirts of the mountains. The strength has to be sought; the weaknesses, on the contrary, are obvious at first sight. The Caucasus has no lakes. It offers nothing to compare to the highly decorated loveliness of Como, the stately charm of Garda and Maggiore, or the pastoral romance of Lucerne and Thun. †

Mr. Freshfield gives much excellent advice to travellers intending to visit the Caucasus, from which we make the following extracts:—

To all who intend to wander among the peaks and glaciers of the Caucasus, or other partially explored mountain regions, I would offer this advice. Do not grudge time spent in reconnoitring. Carefully examine your mountains from some outstanding, and, if possible, fairly high station before you attempt any novel expedition. . . . It is also essential, in my opinion, that the guides selected to take part in distant expeditions should be men who have gained experience in parts of the Alps far from their own homes, where the mountains have been new to them. ‡

Add to this the joint exhortation of two ex-Presidents, for part of which we must make room:—

We have found at the other end of Europe a strange country, where giant peaks wait for you—remote, sublime, inaccessible to all but their most patient lovers. If you worship the mountains for their own sake, if you like to stand face to face with Nature where she mingles the fantastic and the sublime with the sylvan and the idyllic—snows, crags, and mists, flowers and forests—in perfect harmony, where she enhances the effect of her pictures by the most startling contrasts, and enlivens their foregrounds with some of the most varied and picturesque specimens of the human race—go to the Caucasus! §

Will our younger members turn a deaf ear? Will they not rather,

By bare imagination of a feast

such as this, offered them by the Frosty Caucasus, be driven at once to emulate the triumphs and to share the pleasures of their elders?

Mr. Freshfield will have it that the mountains may serve as a Workshop for the physical student, or a Cathedral for those who find Churches inadequate. But here, if we may say so, is the conclusion of the whole matter: 'The Caucasus is an admirable playground.'

Upper Teesdale, Past and Present. By James Backhouse, F.L.S., F.Z.S. London: 1896.

This unpretentious little book can be recommended with confidence to anyone who thinks of visiting Upper Teesdale. 'The area

* I. p. 72. † I. p. 74. ‡ II. p. 215. § I. p. 79.

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of country covered in these chapters is extensive. . . . From the source of the Tees on Cross Fell to Middleton-in-Teesdale, as the greatest distance E. and W., and from Harthope Head to High Cup Gill Head, from N.E. to S.W., represents an area of close upon ninety square miles. . . . Not a single point upon the total area lies less than 700 ft. above sea level, and on Cross Fell an elevation of 2,890 ft. is reached.' For those who take an interest in Alpine flowers this district has a special attraction. We quote from the chapter on the Teesdale Flora. 'Roughly speaking, Upper Teesdale must rank as about the richest district in the kingdom, in proportion to its size; for whilst adjacent valleys (*i.e.* Weardale, Lunedale, Swaledale, &c.) can boast a large and varied flora, Teesdale has the additional advantage of possessing a larger number of geological formations within its limits; consequently a greater variety of soils. This advantage is also increased by a greater range of elevation. Thus, upon limestone, occurs *Gentiana verna*, upon the basalt *Potentilla fruticosa*, *Pyrola secunda*, *Arbutus Uva-ursi*; upon the sugar limestone (granular), *Alsine stricta*, *Viola arenaria*, *Helianthemum canum*; on the Fell Top limestone, *Myosotis rupicola*; in high mountain bogs—probably never less than at 2,000 ft. elevation—the scarce *Saxifraga Hirculus*, and so on. In certain places there are pastures in which *Trollius europaeus* reigns supreme; in others, again, a pink shade over several acres is caused by myriads of *Primula farinosa*; whilst, higher still, on limestone plateaux, *Gentiana verna* luxuriates in celestial beauty.' The author, who is an authority on ornithology, gives an Avi-Fauna of Upper Teesdale. We wish the little book the success it deserves.

Bergen's Fjellmannalag Aars-Oversyn. 1895.

The issue of this, the first year book of the Bergen Alpine Club, is one of many signs of the steady growth of the sport of mountaineering amongst the descendants of the vikings. Bergen already numbers several doughty wielders of the ice-axe, some of whom are also ready writers and good sketchers; hence we may reasonably expect great deeds to be enacted in the future, as well as good sporting papers by members of the club.

The principal features of the book are a laudable attempt to tabulate the principal deeds of daring achieved on the snowy Justedals Bræ from the year 1820 to the present time, a list of passes over this snowfield, both ancient and modern, an amplification of one compiled a few years ago by the present writer, a valuable glossary of technical mountaineering terms,* a few short papers and an excellent coloured panoramic view of the Jotun Fjelde from a sketch by the late Emanuel Mohn. W. C. S.

* *Nor. Tur. For. Aarbog for* 1890, p. 38.

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