

REVIEWS AND NOTICES.

Die Gletscher der Ostalpen. Von Dr. Eduard Richter.
(Stuttgart: Engelhorn. 8vo. pp. 306. 12s.)

THE question which Dr. Richter sets himself to solve in this work is the following: In what extent and with what peculiar phenomena do glaciers appear in our territory, and what are the conditions—climatic and orographic—of their appearance? Closely connected with this are, of course, the much-debated questions as to the 'snow-line'; namely, the definition of the term, the determining causes, and the means of fixing its position in any given district. If the 'snow-line' be defined as the level at which the average annual snow-fall is exactly balanced by the annual melting, it is pretty clear that some relation must exist between it and the 'Firmlinie,' as German observers call the line at which névé passes into glacier ice, the boundary between the region of accumulation (Sammelgebiet) and the region of waste (Schmelzgebiet). We should say that Herr Richter somewhat exaggerates the difficulty of ascertaining this line. Of course it is not a sharp one; but, except when snow lies very deep, one can generally tell within a few score yards that névé has ended and ice begun. At any rate it may be taken as quite certain that Herr Richter is right in dismissing with some contempt Höfer's so-called 'law': 'the névé-line lies exactly midway in height between the levels of the upper edge of the névé and of the lower end of the glaciers.' A more amusing instance of a 'law' evolved from the discoverer's own consciousness it would be hard to find. As the author points out, the consequence would be that in two neighbouring glaciers, such as the Hintereis and the Mittelberg, flowing in almost the same direction, we should have to assume a difference of some 250 mètres in the névé-line, merely because the valley in which one lies is more favourable to the development of a long 'tongue' than is the case with the other. As a matter of fact, Dr. Richter considers it established that the division of a glacier into 'Firnfeld' and 'tongue' does not correspond exactly with the limit between 'Sammel-' and 'Schmelzgebiet'—i.e., we suppose, that true ice exists above the point at which the 'tongue' is developed. This would certainly seem to agree with one's ordinary observation. Further, that for glaciers which descend into the main valley (Thalgletscher) the ratio of the areas of 'Schmelz-' and 'Sammelgebiet' may be taken as approximately 1 : 3, so that by finding the 'isohypsic' line at which the area of the glacier is divided in these proportions, we may arrive, within very small limits of error, at the snow-line for the region; the results so obtained agreeing pretty closely with those given by other methods.

The greater part of the book is occupied with a study, executed with thorough German patience, of the characteristics of every glacier belonging to the groups which lie wholly or in part in Austrian territory. It is illustrated with many sections, and contains full maps of two or three portions of groups presenting any special points of interest. We

notice that Dr. Richter departs from the usual estimate in putting the Gepatsch glacier second only among those of the Eastern Alps. According to him it is exceeded in length by the Pasterze when the measurements from the head to the end are taken along the 'air-line'; while, if it be taken along the surface of the ice, the Gepatsch, which starts from a greater height, has a slight predominance. In area, according to Dr. Richter's figures, the Pasterze is the larger, in almost the proportion of 4 : 3; but we suspect some error here. Certainly a comparison of the respective areas as laid down in the Generalstabskarte does not indicate a difference of this extent. However, there can be no question as to the superiority of the Pasterze in point of beauty.

Both these great glaciers, like all others, have lost much of their bulk in the last thirty years. In the case of the Gepatsch, which is the more steeply inclined, there has been a considerable shortening; while the more level Pasterze has lost chiefly in thickness. We are somewhat surprised to find that the total lowering of the surface in these and six other large glaciers which Dr. Richter names does not amount, when spread over the whole area, to more than about $23\frac{1}{2}$ feet. This of course implies an enormous total diminution of the bulk of ice; but anyone who has ever noticed the immense height of the old 'high-ice mark' above the present surface of any of these glaciers—the Pasterze, for instance, as seen from the Glocknerhaus—would have been quite prepared to hear that it was five times the amount. It would appear that the shrinkage is almost confined to the lower and outer parts of the glaciers—that is, it is due, not to a diminished supply of snow, but to a more rapid rate of melting. Dr. Richter is as far as any of his predecessors from being able to throw any light on the ultimate cause of this phenomenon; he can only suggest that 'glaciers are highly sensitive to the most insignificant fluctuations of climate, and by their periods of advance and retreat indicate variations in temperature and rainfall so slight as to be hardly noticeable in meteorological observations.' At any rate, all lovers of Alpine scenery may take comfort in the thought that a new period of advance seems to be setting in.

A. J. BUTLER.

The Alpine Portfolio. Edited by Oscar Eckenstein and August Lorria—*The Pennine Alps from the Simplon to the Great St. Bernard.* (London: Published by the Editors, 62 Basinghall Street, E.C. 100 photographs and descriptive letterpress in 4to. pp. 34. Price to subscribers, 5*l.* 5*s.*; on Japanese plate paper, 26*l.* 5*s.*)

This splendid collection of photographs marks a new departure in the history of the illustration of the ice and snow regions. Hitherto the number of points from which high mountain views have been taken, and the results published, was comparatively limited; certain aspects of certain peaks were again and again produced, while other aspects—perhaps not less striking, though far less known—were wholly or partially neglected. Again, when collections of high mountain photographs were issued in a separate volume, only the most wonderful or the most popular views were given, so that these collections were characterised by a remarkable sameness, the chief difference being in the degree of success attained in reproducing these few chosen views.

Mr. Eckenstein and Herr Lorria have, however, struck out quite a new line in their remarkable set of photographs, which we sincerely hope may meet with such success as to warrant them in turning their energies to other mountain districts. Their plan is to supply climbers (for it is to them the work chiefly appeals) with a photographic monograph, if we may be allowed the expression, of each of the great peaks included in the range between the Simplon and the Great St Bernard—* a series of views representing it from every possible side, which thus gives an even more exact idea of its topography than the best map ever published. It is obvious that the adoption of this scheme is open to the commonplace criticism that some of the views reproduced are not particularly striking or interesting; but this is a reproach which should rather be addressed to Mother Nature herself than to those who reproduce her various aspects. Thus the plan of the book is not merely (as has hitherto been the case) to offer to the world a set of views of the most magnificent or picturesque aspects of the Higher Alps, but to furnish a set of views giving *all* aspects of the great peaks in the selected district. Such an aim could not be achieved by bringing together the published photographs of professionals, and hence the editors have appealed—and not in vain—to the rapidly increasing class of amateur photographers, who have placed at their disposal a great number of unpublished views taken from unusual points, so that the completeness of the collection is one of its most remarkable features. All the best known amateur photographers have lent their aid, and it is a graceful compliment on the part of the editors to dedicate their work to the most accomplished of all Alpine photographers, Mr. W. F. Donkin, whose sad death is an irreparable loss, at once to his friends and to those who only knew him through his marvellously delicate photographs. But of course so many comparatively untrained persons have attained very different degrees of success, and this accounts for the fact that some of the views in this volume are distinctly poorer than others. An additional reason of this phenomenon is, no doubt, that the views required to complete the monograph of any one peak are not always of recent date, and have not originally been permanently secured by any of the processes which have of late made so rapid and continuous an advance towards perfection.

Thus the two most obvious objections to this work—the want of picturesqueness in the case of certain views, and the technical defects of certain others, added to the different scales of the negatives—bring out better than anything else its real aim and its great merits. It is a treasure for climbers rather than for artists or professional photographers, and as such we cannot sufficiently express our gratitude for it to the editors, who have spent enormous pains and trouble on their enterprise. It is also valuable for scientific purposes, because the precise condition of the glaciers in certain years is now preserved for ever,

* It is not quite accurate to exclude from the term 'Pennine Alps' the district of Mont Blanc, but this may be excused, for it was probably impossible to find any other general name for the range between the Simplon and the Great St. Bernard.

while its purely topographical value is perhaps even greater than its 'climbing' or its scientific value. The views are 100 in number, reproduced in heliotype, and printed in absolutely permanent ink. Each is printed on thick cardboard, and bears a number referring to the separately printed volume of letterpress in which the names of the photographers and the date at which the view was taken are given, besides a full, if somewhat dry, catalogue of all the peaks, passes, and glaciers seen in that view, the heights (in mètres) being taken from the great Swiss and the new Italian maps (the latter, however, is on a scale of $\frac{1}{1000000}$, not $\frac{1}{500000}$ as stated). A useful table for converting mètres into feet is also supplied, but it is to be regretted that the editors did not lay before their readers some account (however compressed) of the climbing history of the district included in their work. The photographs and letterpress are enclosed in a strong red cloth case.

The space at our disposal does not allow us to speak in detail of the several views, nor is it altogether necessary to do so, for it may be confidently assumed that many of our readers will have already seen the work. But at the risk of seeming to pass over many pictures of great merit, we cannot refrain from specifying as those which seem to us the very pick of the lot, numbers 39 and 42 (both by Signor Sella), 54 and 63 (by Mr. Donkin), and 88 (by M. Kurz). Mr. Eckenstein and Herr Lorria are to be heartily congratulated on the success of their bold and admirably executed undertaking.

Hints to Travellers: Scientific and General. Edited for the Council of the Royal Geographical Society by Douglas W. Freshfield and Captain W. J. L. Wharton. Sixth edition, revised and enlarged. (London: Published by the Royal Geographical Society. Crown 8vo. pp. 430. 6s.)

A mountaineer is often a traveller, though a traveller is less commonly a mountaineer. Yet of recent years mountaineering has become more and more recognised as not merely a delightful pastime, but a handmaid of geographical science and a useful branch of travel. Hence mountaineers will not be surprised to find that in the sixth edition of the R. G. S.'s standard 'Hints,' their own special department is often mentioned, so that the work contains many useful hints for them as well as for travellers on the plains. The name of one of the joint-editors, who was formerly editor of the 'Alpine Journal,' and is actually one of the hon. secretaries of the R. G. S., is a sufficient guarantee that these hints are both valuable and practical.

Despite the modesty of the preface, this edition is to a very large extent a new work. It contains 430 pages, as against the 296 of the fifth edition, each section having been thoroughly revised, and in every case added to, by the highest authorities. Two new chapters are added—'Preliminary Hints,' by Mr. Freshfield, and 'Industry and Commerce,' by Mr. J. S. Keltie, librarian of the R. G. S. A very full index replaces the old table of contents, and two maps of the northern and southern constellations are substituted for the 'Isochronic Passage Chart.' But the rounded corners of the binding have, rather to our regret, given way to the ordinary shape, though a very handy measuring ruler, marked in

inches (6) and centimètres (15·4), is printed on the outer cover of the new edition.

The work contains chapters on outfit, medical hints, surveying and astronomical observations, photography, meteorology, geology, natural history, and anthropology, besides the two new ones already mentioned. Mr. Freshfield's hints on mountain travel are admirably clear and helpful, but unluckily fill only a couple of pages, an amount of space which, by the time the next edition is published, the R. G. S. will, we hope, largely increase. 'Icecraft, like seamanship, must be learnt,' is a terse maxim which is too often neglected in practice. We notice, too, that Mr. Freshfield favours the plan of choosing a succession of centres in mountain districts and working from them, rather than staying in one district all the time, or rushing straight from point to point. In the chapter on surveying, &c., nine new tables have been added, among them tables for the conversion of mètres into feet, of kilomètres into miles, and kilogrammes into pounds, whilst No. xxiii. gives the length of time occupied by the post from London to all the principal places on the face of the earth—a most curious and valuable document. Mr. Donkin's chapter on 'Photography' has been rewritten and brought up to date by Captain Abney, while 'Preliminary Hints' contain much that will be valuable to the mountaineer. For example, the following passage sums up what is one of the chief obstacles in the exploration of an unknown mountain district:—'A summit, unless exceptionally conspicuous, has frequently no name apart from the chain or block to which it belongs, or the pass nearest it. A chain or block will get a name from the pasturage on its slope; or it will be called after the valley at its base; or, more frequently, from the valley on the other side reached by crossing it. In the latter case it is obvious that it will probably have two names. As a rule a name given to a *massif*, or group, should be applied to its highest point. For that it is vertical, and not lateral, extension that differentiates mountains, that their essential feature is their height, and that their individuality resides in their highest point, are very modern refinements.' We are glad to find that the R. G. S. holds out the hand of friendship, and not the finger of scorn, towards mountaineers, and it may in return reap no inconsiderable benefit. Certainly the new edition of 'Hints' will do much to help climbers to become geographers as well.

The Adventures of Mr. John Timothy Homespun in Switzerland. Stolen from the French of Tartaron de Tareascon, aux Alpes. [By Frances Anne Kemble.] (London: Bentley. 8vo. pp. 65.)

All readers of the 'Alpine Journal' know, or ought to know, their 'Tartarin sur les Alpes,' but we cannot give the same recommendation in favour of its English adaptation. Most of the main incidents of the original are borrowed bodily, but much spoiled by the transfer. The new Tartarin is a terrible Cockney, 'Louis des Montagnes' is a very shadowy Bompard, and the love story introduced is very absurd. The narrative is thrown into a dramatic form, with four acts and many scenes, and much wearisome dialogue, and its general character may be guessed from the wretched attempt at humour shown by the inten-

tional misspelling on the title-page. The authoress has not succeeded in depicting even a typical British Tartarin, a character who is no more unknown in North Britain than in South France.

Guida delle Alpi Occidentali. Da A. E. Martelli e L. Vaccarone. Vol. ii. Alpi Graie e Pennini; Part i. (Turin, 1889. Small 8vo. pp. clv. 275. 5 francs.)

In the 'Alpine Journal' for last May (pp. 335-8) I gave an account of the first volume of the entirely recast second edition of this most valuable guide to the Alps of Piedmont. Towards the end of July the second portion made its appearance, but as the authors found that the materials at their disposal were even more copious than they had anticipated they have wisely divided their second volume into two handy parts, one of which is now issued and the other promised for 1890. (With the latter will be given five coloured maps on a scale of $\frac{1}{100000}$.) The first part describes the three valleys of Lanzo—Viù, Ala, and Grande—as well as the three of the Canavese—Orco, Soana, and Chiusella. The second will describe *all* the lateral glens of the Val d'Aosta, from Cogne to Gressoney, as well as the upper parts of the Sesia and the Ossola valleys and of the Biella district. In other words, the first part includes the frontier chain from the Roche Melon to the Punta di Galisia, as well as the great southern ridge of the Grand Paradis group; while the second will take in the Italian side of the main chain from the Galisia to the Gries Pass—that is, roughly speaking, the Italian slope of the Mont Blanc and Monte Rosa groups, with various minor ranges. I must, however, say that it seems to me that this second part, covering such an enormous extent of country, will have to be followed by a third, unless (which would be very much to be regretted) the descriptions are ruthlessly shortened.

Speaking with all respect for the great knowledge of the authors, I cannot help expressing my opinion that a less logical division would have been far more convenient for those who will use this excellent work. At present the bit of the Paradis district between the Grand Paradis itself and the Punta Lavina appears in part i., while the rest of that district will appear many pages off and quite isolated, as belonging to one of the lateral glens of the Aosta valley. It would have been far more convenient, I think, to have tacked on to the Lanzo valleys the descriptions of the deep-cut glens between the Val Savaranche and the Little St. Bernard (the Val de Rhêmes and the Val Grisanche), while reserving the Val Savaranche and Val d'Orco (with its side glens to the north) for part ii., so that the *whole* of the Grand Paradis group might have been described continuously and in one section.

Again, in the book as it now stands there is a certain amount of rather useless repetition, for the passes leading from one valley to another, and many peaks, are sometimes described *twice*—once in the section devoted to each valley. It is true that the second description is often shorter than the first, but in many cases a full description once for all, to which a simple reference back in other sections might have been made, would have met the necessities of the case. As before the passes and

peaks are grouped together in successive divisions of the same section.

So much for the general arrangement of the book. I must now speak of the text of this first part of vol. ii.

Nearly 150 preliminary pages are taken up with two important subjects. The first of these is the bibliography of, the second the list of first ascents made in, the Graian and Pennine Alps, serving thus as the introduction to both parts of vol. ii. The former section is pretty nearly exhaustive, and shows most extensive knowledge of Alpine literature. Mr. Dent's 'Above the Snow-Line,' Professor Tyndall's 'Hours of Exercise in the Alps,' and the first series of 'Peaks, Passes, and Glaciers' (French translation) have by some mistake found their way into the Graian bit instead of the Pennine bit, to which they properly belong. On the other hand, the second series of the latter work is completely ignored in the Graian section. In the Pennine bit two at least of the articles in 'Peaks, Passes, and Glaciers' (each of which is generally indicated with care) have been omitted—Mr. Davies' 'First Ascent of the Dom' and Mr. Ames' 'Laquinhorn'—while Professor Forbes' smaller work of 1855 is quoted in preference to the larger one ('Travels in the Alps of Savoy,' 1843), of which the former is a mere extract. Mr. Whymper's book is quoted in the 1880 edition only. Only one of C. M. Engelhardt's works (that of 1852) is mentioned, and Desor's 'Excursions et Séjours sur les Glaciers' is omitted. But these are comparatively trifling omissions, and the bibliography as a whole is a monument of industry and exactness, though there are a number of small misprints in the names of certain foreign persons and places.

The table of first ascents is full and accurate, if I may be allowed to say so after having revised it in proof; but, as in the case of vol. i., I regret that a slightly different method of arrangement was not adopted. The authors too should be more careful in seeing that *all* the routes mentioned in the table are rightly described in the text and *vice versa*. This is not always the case, for Mr. Yeld's Col de Cerru * appears all right in the table, but is described in the text only as a way up the Punta di Galisia; and this is by no means the only instance. Signor Corra's descent of the entire W. wall of the Eastern Levanna † is omitted both in the table and in the text.

Of the text itself I can speak in the highest terms as regards its fulness, its accuracy, and its extreme value. In particular the matter contained in Signor Vaccarone's 'Bollettino' articles on the ridges at the head of the Val Grande is here carefully sorted out and rendered available for travellers. I wish that Signor Vaccarone had gone behind the figures given on the Italian map to the various points on the complicated ridge between the Passo del Collerin and the Piccola Ciamarella, for they are certainly wrong, possibly misprints. The ridge itself is quite accurately described, save that the descent, on the French side, from the Col de Chalanson has not yet been effected,

* *Alpine Journal*, vol. ix. p. 100.

† See M. Levasseur's *Les Alpes*, p. 116.

by reason of dangerous overhanging séracs, so that it would have been wiser to mention this fact. But this is a mere nothing to set against the vast amount of valuable and detailed information concerning little-known ranges to be found in this work, which promises very well for the second part, since the ranges round the Italian valleys of Rhêmes, Grisanche, and Valpellina, excepting of course certain great peaks, have received as yet but a small part of the attention they merit.

A very full and useful index is added to this part, and shows that the authors have spared no pains or trouble in drawing up their most elaborate and remarkable description of the Piedmontese Alps from the Col de Tenda to the Gries Pass. Their work will always remain a great monument of Alpine enterprise and research, and the Turin section of the Italian Alpine Club has done well in undertaking its publication.

W. A. B. COOLIDGE.

Guide du Touriste en Savoie. Par Alfred Weissen. (Geneva: H. Georg. Small 8vo. pp. 388. 5 francs.)

The chief merit of this odd little work is that it describes both departments into which Savoy is now divided, and which are generally cut asunder by guide-book makers. Its scheme is not ill conceived, but the manner in which it has been worked out cannot be commended. The book is divided into three sections, which respectively describe the approaches to Savoy from Switzerland, from France, and from Italy, together with the particular Savoyard valleys which lie near these three frontiers. We are thus made to realise that Savoy occupies the position of a 'buffer' on a small scale, as Switzerland does on a larger one. The pagination is continuous, but the numbering of the routes is very inconveniently begun over again in each section. M. Weissen announces on his title page that he is 'membre du Club Alpin' (understand most probably 'Français,' perhaps 'Suisse'), and in his preface thanks the presidents of the different sections of the 'Club Alpin des deux départements.' But this must not be taken to imply that his guide is meant for mountaineers, for, as indeed the title page shows, it is primarily intended for 'touristes' So far as the ice and snow region is concerned, M. Weissen says but little. At Chamonix Mont Blanc, the Dôme and the Aiguille du Goûter, the Buet, and the Jardin are the only 'courses extraordinaires' even hinted at. The glacier passes leading over to Chamonix from Italy are (save the Géant) barely alluded to, while those from Italy to the Maurienne and the Tarentaise are indeed enumerated, but described shortly, vaguely, and often not correctly, though each is said to exceed the other in point of danger and difficulty. The mere mistakes in the text generally are numerous and serious. The unfortunate statement that from the Col de Balme 'les splendides montagnes de l'Oberland berlinois' are to be seen is indeed corrected in the Errata; but the Col de l'Infernet is mixed up with the Col de l'Agnelin, as is the Col de Martignare with the Col Lombard, for the route to each of these four passes on the Dauphiné side is absolutely and entirely distinct. We are told that the Pointe de Ronce is 'environnée des glaciers de Tignes,' though the peak overhangs the Mont Cenis and the village

is far away across a broad valley and behind a dense mass of mountains. The accounts of the Col d'Ambin and the Col de Collerin are blood-freezing, though really they are not more difficult than the St. Théodule. The Pointe du Vallonet and the Pointe de la Glière are no longer virgin, for they were climbed some years ago and accounts of the climbs published. Nor is the author more fortunate when describing highroads and well-known mule tracks, for in one passage he tells us that it takes '10 hours' to go from Bramans to Modane, though the distance is really under 11 kilomètres, or nearly 7 miles, while in another we are informed that a 'marcheur exercé' will go from Modane to Bourg St. Maurice in one day by the Col d'Isèran, though the distance between those two places is made out to be no less than 189 kilomètres, or 117½ miles, for Modane is 93 kilomètres from Lanslebourg! It is only necessary to add that from Modane to Lanslebourg by the great Mont Cenis road is only 26 kilomètres, and that thence to Bourg St. Maurice is, according to M. Weissen himself in his wiser moments, 66 more, or 92 in all (57½ miles); but in either case we are curious to hear in what time M. Weissen himself has traversed this distance. Possibly the descriptions of the lower passes and rambles in the Chablais and Faucigny may be useful to tourists, but enough has been said to show that for mountaineers the book is worse than useless.

We regret to learn that the French Government declined to allow M. Weissen to publish extracts from the 'Carte Vicinale' (1880), but when he says that the map he adopted finally (that of A. Perrin, of Chambéry), though 'inférieure aux précédentes, est toutefois assez bonne et exacte,' we beg respectfully to differ from him. The six small maps are nearly illegible and are quite useless for the pedestrian. The large map (1880) is perhaps rather clearer, but unblushingly announces the existence of the 'Mont Isèran, 4,046 mètres,' a gross error which shows that it must have been made thirty years ago; though we hasten to say that it is an error of which there is no trace in the text itself.

At the end of the book there is a convenient alphabetical table of the passes mentioned, with the names of the places from one to another of which they lead, references to the pages on which descriptions of each pass will be found, with heights and times required to cross them, but the estimate of the difficulty of each is often very far from the mark. There are also tables of the hours of departure of the 'diligences' traversing Savoy, and of the steamers on the Lac d'Annecy.

The book as a whole is well-meant, and shows a certain amount of industry in the author, but its mistakes, of which we have given a few specimens, may not improbably hinder it from attaining a second edition, though it is proudly announced on the title page that this is the 'première édition.'