

climbing for its own sake. He leaves science for others, cares nothing for topography except as ministering to his pastime, and holds a plane-table in abhorrence. Thus between his book and Sir W. M. Conway's "Climbing in the Karakoram Himalayas," there is a great difference. Still this is common to both: a delight in the wild beauty and silent grandeur of the crags, pinnacles and snows of the higher peaks. There is, no doubt, a beauty in the Alps which all the world can see, as Ruskin has truly remarked; but there is another aspect, solemn, almost stern, yet with a strange, thrilling fascination, which he only can appreciate who has grasped their rocky ledges, or planted his ice-axe in their unsullied snows. Vain it is to rebuke Mr. Mummery for treating the mountains like greased poles. He retorts, unabashed, that the pole is slippery, not greasy, and that he enjoys trying to climb it. But he seeks not to vulgarise the mountains; he has no love for the crowd of tourists which now annually deluges the Alps, nothing but contempt for the cockney "mountaineer" who is hauled up a peak by his guides, like a bale of goods, or who makes an ascent simply because it is "the thing to do." Perhaps Mr. Mummery may sometimes carry daring beyond the verge of rashness. It is to be hoped that few readers of this book will be tempted to follow his example of making difficult ascents without guides; for such work requires not only gymnastic skill, but also knowledge and judgment, which very few amateurs can ever acquire. Still it is difficult to avoid sympathising with his love of a struggle—it is the spirit which has made England great, a spirit which is too often lacking in this age of molluscous sentimentality and invertebrate opportunism.

Mr. Mummery's book, as we have said, contains no science and hardly any geography, but those who love the story of a plucky scramble, clearly told in good pithy English, will be loth to lay it down. It is well illustrated, with a number of small sketches introduced into the text, and eleven full-page pictures from either drawings or photographs. One or two of these will repay study as fine examples of the forms of weathered crags. None is better than the photogravure of the lower peak of the Aiguille Grépon. Among the expeditions described are two ascents of the Matterhorn by unwonted routes, a passage of the Col du Lion and Col des Courtes, ascents of the Teufelsgrat (written by Mrs. Mummery), of the Aiguilles des Charmoz, Grépon, du Plan, Verte (also by two unwonted routes), and of the Dent du Requin. The chapters on the Caucasus describe some fine excursions, the chief of which is the first ascent of the Dychtau (17,054 feet) in 1888, a magnificent peak, called in the *Alpine Journal* of that date Koshtantau, for apparently this and a slightly lower summit to the east (climbed by another party in the following year) indulge in a distracting habit of exchanging names. In a concluding chapter Mr. Mummery discusses various moot points in Alpine craft, advocating a preference for "two on a rope" in difficult places, a preference which is not likely to pass unquestioned by some of his brother climbers. T. G. BONNEY.

*Dairy Bacteriology.* By Dr. Ed. von Freudenreich. Translated by J. R. Ainsworth Davis. (London: Methuen and Co., 1895.)

AN English translation of Dr. Freudenreich's little book appears very appropriately at the present juncture, when serious efforts are at length being made to raise the standard of our dairy produce by providing special courses of study for those engaged in its production. Although some of the peripatetic instruction on dairy-work instituted in various districts by local County Councils has not been attended with the success anticipated, yet there can be no doubt that systematic training in this direction is very urgently required. As the translator truly remarks: "Not only Denmark, but America, France, Germany, and Switzerland are far ahead of us

in these matters, and compete against home dairy products with only too much success, while Australia is rapidly becoming another serious rival." The information contained in "Dairy Bacteriology" as to the *scientific* origin of some of the troubles with which, in actual practice, the manufacturer of dairy produce is only too well acquainted, will doubtless be a revelation to many, whilst the instructions given for their successful elimination from the dairy, should at any rate impress the student with the hopelessness of attempting such delicate operations as are involved in dairy work without an adequate knowledge of the various parts played by bacteria in dairies.

The little volume is but an introduction to the subject, otherwise we should have been justified in expecting a better account of the milk-microbes which have been discovered; it is, however, written in an attractive manner, and the author has, moreover, succeeded in making it interesting and readable to the public generally, who as consumers are even more concerned than the manufacturers in the hygienic aspects of our dairy produce.

We note that an edition of this useful little manual has already appeared in French, Italian, and Hungarian, and it only remains for us to congratulate Prof. Davis upon the excellent manner in which he has translated it into English.

*Longmans' School Algebra.* By W. S. Beard and A. Telfer. Pp. 528. (London: Longmans, Green, and Co., 1895.)

SO far as abundance of examples goes, this book is in advance of other text-books of algebra. There are as many as 5200 examples in the book, 500 of which are collected as miscellaneous examples at the end. Teachers who like to have plenty of material upon which to exercise their pupils' minds, will find that this volume satisfies their requirements. It seems hardly necessary, however, to include in a school algebra such a very large number of examples; in our opinion, the volume would have been improved by omitting many of them, and amplifying the very scanty descriptive text.

*Fallacies of Race Theories as Applied to National Characteristics.* By the late W. D. Babington, M.A. Pp. 277. (London: Longmans, Green, and Co., 1895.)

MR. H. H. G. MACDONNELL prefaces these collected essays with a brief statement of the views expressed in them. The late author contended that the mental and moral characteristics of nations are mainly the result of environment, and are not derived from ancestors by heredity. The transmission of physical characteristics is not taken into consideration, and the treatment throughout is more historical than scientific.

*A Chapter on Birds.* By R. Bowdler Sharpe, LL.D., F.L.S. Pp. 124. (London: Society for Promoting Christian Knowledge, 1895.)

EIGHTEEN of our rare avian visitors, and their eggs, are brilliantly depicted by chromo-lithography in this attractive volume for lovers of birds. Dr. Sharpe's notes on the life-histories and natural relations of the different species, furnish instructive reading for young students of ornithology. Such a volume ought not, however, to be published without an index.

*Nature in Acadie.* By H. K. Swann. Pp. 74. (London: John Ball and Sons, 1895.)

FROM the observations of birds, insects, and other forms of life, made by the author while on a voyage to Nova Scotia, and diffusely recorded in this book, it is possible to find notes of interest to naturalists. A systematic list of the species of North American birds mentioned in the text, is given in an appendix.