The book is emphatically an American book, and especially well adapted for American students.

A chapter is devoted to volcanoes, earthquakes, geysers; another to the general topography of the land. The relations of man to his environment, and the products of the rocks that are of leading economic importance, are also considered as fully as the space available will allow.

An important feature of the book, and one that places it in advance of all other similar treatises, is the free and one might say almost lavish use of photographs. While some of them are so much reduced and so poorly printed that they have lost their beauty, and are even obscure and of little value, yet the preference, in many instances, of photographs over sketches and wood engravings for text-book use is thoroughly demonstrated.

At the close of each chapter there is a short list of books which will aid the teacher in extending the subjects outlined in the text, and enable him to add fresh description and discussions from authoritative sources.

Now that a text-book of rational physical geography, designed for school-room use, is available, which presents the modern aspects of the subject as well, perhaps, as could be done in an elementary treatise, there is no longer an excuse for practically excluding this attractive and stimulating branch of nature study from our schools. It has frequently been stated that it is useless to attempt to teach physical geography in its modern dress, for the reason that properly trained teachers were not available. With Tarr's book in hand and works of reference available, there is no reason why many graduates of normal schools and colleges should not prepare themselves for this work. Without, however, a certain indescribable sympathy with nature, a deep appreciation of the beauties of form and color in a landscape, and a quenchless thirst to know how the numberless features of the land, sea and sky came to be what we find them, one need not expect great success as a teacher of physical geography. Given a love of nature and such a guide-book as Prof. Tarr has compiled, and the path leading to the commanding height from which the history of the earth's surface can be read as from a printed page may be readily reached.

Necessary adjuncts to a text-book of physical geography, are maps, especially of the region where the teacher is located, large-sized photographs or lantern views, globes, models, etc. These appliances, however, are of comparatively little use, unless, as expressed by Davis, 'the outsight is aided by the insight.'

In closing I wish to say, as has been stated in the report on a recent conference in geography, that the study of physical geography demands an advanced position in both school and college training, for the reason that it develops the power of observation, the powers of scientific imagination, and the power of reasoning.

Israel C. Russell.

The Great Frozen Land: Narrative of a winter journey across the Tundras and a sojourn among the Samoyads. By Frederick George Jackson. Macmillan & Co., New York. 1895.

In this pleasantly written and by no means over-scientific volume, the leader of the Jackson-Harmsworth Polar Expedition (now passing its second winter in the region of Franz Josef Land) gives the narrative of a long sledge-journey across the frozen lands of northern Russia, from the Yugor Strait to the Varanger Fjord—a journey undertaken primarily with a view of testing certain requirements of travel which might be found necessary in the more arduous Polarctic work for which the author had been preparing. The land-traverse compassed some twenty-five hundred miles across the Great and Little Tundras, and over a solitude, as stated in the prefatory remarks of Mr. Montefiore, 'through which no Englishman had ever passed; of which no sufficient map existed; whose table of river-labyrinths, ancient beaches and lost bays had never been told; of whose winter climate no account was to be discovered in the English tongue.' Just why these deficiencies in English knowledge and energy are so strongly emphasized does not appear clear, and it can, perhaps, hardly be said that Mr. Jackson's travels acquire importance through them alone.

There is much in this book to interest the general reader, and particularly acceptable are

the glimpses of cold nature which we obtain here and there scattered through the pages, and the inner vista into the natural life of those peculiar children of the north, the Samoyads. Mr. Jackson lived with them in cleanliness and dirt, in health and distemper, and behind pony and reindeer, and is, therefore, in a position to give a picture that is neither under-colored nor over-colored. Apart, however, from a general broad discription of both people and country there is little in the book to tax the mind of the inquiring scholar, and least that of the scientist. Zoölogical, botanical and geological data are exceedingly meagre, and, owing largely to the loss of the thermometer record-book for the months of December and January, there is little to add to meteorology. The lowest reading of the thermometer was found on December 5th,—36.°5 F. Mr. Arthur Montefiore, the editor of Mr. Jackson's journals, contributes a chapter on the Samoyad language, a series of translations on Samoyad folk-tales from Castrén's *Ethnologische Vorlesungen*, and an appendix on the 'object, method and equipments' of the Jackson-Harmsworth Polar Expedition.

The tone of the book, both as it is found in the main text and in the contributions of the editor, leads to a lingering suspicion that it is conceived too much in a spirit of enthusiasm to permit it everywhere to be followed as a safe guide. Thus, in the prefatory remarks the reader is led to believe that the journey was undertaken in the region of 'the Pole of Extreme Cold,' but between the minimum thermometric registry that has been above noted (–36°.5 F.) and the cold of Yakutsk and Verkshojansk, minus 75°–82° F. (or, according to report two years ago, –92°), there is a vast difference—the difference, in fact, between Minnesota and what is experienced by almost every Arctic expedition wintering in the far north. We are informed on page 160 that a journey of 700 versts (about 470 miles) was accomplished in seven and a-half days, on two sledges, 'one horse to each sledge,' and that at the end of the journey the horses 'trotted into Pinega apparently as fresh as paint.' To travel sixty miles a day for seven days in succession is certainly no ordinary feat for horses even of the Russian type, and many a carrier would be welcomed for this undertaking into the camps of the Russian or German military posts; but what dignity or honor would be conferred upon a Zirian who drove three reindeer, within a period of twenty-four hours, over a distance of 1200 versts (800 miles)! It is hardly to be wondered at that the team died on the following day (p. 74).

Almost the only fact of physiographic importance which is noted is the occurrence of raised beaches near the mouth of the Piatsoworyaha River, where the amphitheatre of an old bay extends backward a distance of some nine miles from the present seashore. "Step above step there ranged the old seabeaches, following the lines of the higher land immediately behind them, and girding with a terraced rampart the level basin of salt marsh into which the waves once rolled. * * * * * These old seabeaches, I may add, continued for many miles westward—notably that which is now six miles from the sea, and lies just to the east of the Pechora River—and most certainly would repay the attention of a geologist if he could visit them in summer" (p. 129).

Mr. Jackson is now working in an important field of exploration, and scientists, no less than geographers, cannot but wish him success in an undertaking which requires for its accomplishment a more than ordinary amount of courage and determination, and a knowledge of the kind which must be forced upon every traveler who attempts the long passage of the Great Frozen Land.

ANGELO HEILPRIN.

ACADEMY OF NATURAL SCIENCES,
PHILADELPHIA, January 11, 1896.

A Complete Geography. By ALEX. E. FRYE. Ginn & Co., Boston, Mass. 1895.

Since the publication, last year, of Frye's Primary Geography, the appearance of a larger book for grammar school use, promised by the same author, has been awaited with much interest. This book is now at hand. Its plan, like that of the Primary Geography, departs widely from the beaten track followed by most writers of school geographies. This has generally consisted of an introductory chapter on the earth's mathematical features, followed by a condensed review of physical geography, after