

count of the superstitious dread of the Russian sailors, which was produced by the knowledge that he had at least one of these 'rag dolls' on board of their vessel.

He cites the Eskimo as observers of this form of worship, but as far as they are concerned it is hardly possible that such is the case. They believe in spirits, but have not personified or individualized them in the shape of idols. The opportunities to investigate such characteristics are getting more and more rare each year, and it is a pity that any are missed.

The author has evidently not learned one of the essentials of a good explorer, and that is the ability to take things as they come. There is a sort of spirit of sad reluctance in the statement, "For breakfast we warmed our last night's lamp, pulled the wick out, and then ate the grease with black bread. It was not a *recherché* meal, but it was economical." There are instances all through the book of an evident feeling of dislike, or perhaps unrest, under the circumstances, which is hardly consonant with the best work. One is almost constrained to say that no one should venture into the field as a naturalist who is not willing to deny himself, in all matters of private convenience, for the sake of the object in view. Nothing is more apt to betray a man so quickly as an expression of his likes and dislikes.

It is to be regretted that their vessel, the Saxon, was allowed to run away with the dredges, alcohol and bottles for their work; since through this neglect they were deprived of the chance of bringing back a much larger amount of material.

There is much enjoyable reading to be found between the covers of this volume, more, perhaps, than is usually the case in books of travel. The formula for finding one's pathway after the fashion of the Cree Indian, upon pages 123 and 124, is not to be recommended to the average traveller who has strayed from his bearings. It is only the keen observer of little things who can 'shut his eyes,' think over the trail of some hours past, locate a given object and then proceed straight to it. Ordinary mortals had much better stick to their compasses, and not try to imitate the power of a genius, or even attempt to do what they have seen those who undoubtedly

possessed a large knowledge of the country do with comparative ease. The reviewer has often been through such experiences, and at first they seemed marvelous evidences of power, but later information dispelled much of the haze of glory which enveloped them. Still, we can all thank the writer for a good story well told.

A single word should be said upon the character of the illustrations. They are uniformly of a high character, and much taste has been shown in their selection. They are an ornament to the book as well as a help to the reader, and their execution is in almost every instance a credit to the designer. Of the maps, that of the island, and that showing the distribution of the ice fields about the island, are noteworthy. They are a valuable addition to our knowledge of this part of the globe, which now serves only to support the few families, who are in reality the Samoyede partners of the Russian traders from the district of Archangel.

The book is most cordially recommended to all lovers of books of travel.

WILLIAM LIBBEY, JR.

Major James Rennell and the Rise of Modern English Geography. By CLEMENTS R. MARKHAM, President of the Royal Geographical and of the Hakluyt Societies. New York, Macmillan. 1895. The Century Science Series. Pp. 232. \$1.25.

Rennell is pronounced, on the excellent authority of Markham, to be 'the first great English geographer.' He early gained an outdoor experience in a seven-year service as a midshipman in the navy, and then in 1764 was to his surprise appointed Surveyor General of Bengal at the youthful age of twenty-one. He returned to England in 1777 and resided there until his death in 1830. After completing his Bengal Atlas he turned from field surveying and became a deep student of geography, ancient and modern, of lands and of seas. It is noted that he was 'depressed by the aspect of public affairs and the wretched mismanagement of the American Revolutionary War.' It was in his later years, while a neighbor and associate of Sir Joseph Banks, that the element of attractive personality and invigorating companionship appears strongly in this biography

as in the lives of so many English men of science. Brought together in the world's metropolis, we read not so much of isolated reflections in the quiet study as of familiar intercourse in the brotherhood of congenial tastes. After the death of Banks, in 1820, Rennell was the acknowledged head of English geographers. Travellers and explorers came to him with their rough work, projects were submitted for his opinion, reports were sent to him from all parts of the world. The Raleigh Club was formed in 1827, 'for the attainment at a moderate expense, of an agreeable, friendly and rational society, formed by persons who had visited all parts of the world.' After Rennell's death the formation of a Geographical Society to supply his place became a necessity, and thus largely from his impulse was founded what has become the greatest force in geography to-day. Exploration rather than explanation was then naturally the direction of earth study; and it is chiefly in this division of geography that the English still follow their leader. W. M. D.

Oeuvres ophtalmologiques de Thomas Young, traduites et annotées par M. TSCHERNING, précédées du portrait de Young, de son éloge par François Arago et d'une préface par EMILE JAVAL. Publication faite aux frais de la Fondation Carlsberg. Copenhague, Høst et Son. 1894. 80 pp. x+248.

Among the great men who have inaugurated important epochs in science there are two classes; the first, writing with a fertile imagination and extraordinary capacity for work, have developed one or more kindred ideas and have achieved results of great perfection; the second class, while endowed with imagination no less, or perhaps even more powerful, have, in the absence of persistent, concentrated effort, followed the caprices of an intellectual curiosity which led in divers directions, and the works of their genius which have been preserved are consequently less perfect both in form and substance. Their writings are often intricate and obscure; but this very complexity not infrequently invests them with a peculiar charm for the thinker.

The most distinguished of the first type of mind was Isaac Newton; the most remarkable

of the second type was Thomas Young. Newton turned all the efforts of his genius toward mathematics and physics. To facts carefully observed he applied the powerful aid of the calculus and gave one of the finest examples of the fecundity of the mathematical method. The works of Laplace, Ampère, Cauchy and, in a certain measure, those of Fresnel are the product of a similar spirit. Works of this class are usually crowned with recognition and honors during the lifetime of their authors; for sooner or later, by the force of logic, they are able to rise above the never-failing hostile coalitions of mental inertia and the vanity of mediocrity in power. The same good fortune, however, is not the part of such works as those of Thomas Young. Mathematician, physicist, naturalist, physician, philologist and engineer, he has left profound traces of his originality in each of these domains; yet in not one of them was his genius recognized by his contemporaries. Endowed with extraordinary intuitive power, he was able to assimilate with marvellous rapidity the most varied kinds of knowledge, the consequence of which marks all his writings with a conciseness of language and exposition which, for the ordinary student accustomed to long and minute reasoning, gives to them an obscurity oftentimes discouraging.

The complications of Nature are infinite, and never in her manifold manifestations does she take into account the categories among which our intelligence is forced to divide itself up both in methods and reasoning. There is not a phenomenon in the animate world which has not its characteristics at once physico-chemical and mathematical; and the stating of biological problems in the form of problems in physics accessible to mathematical calculation is always attended with great difficulty. Young treated biological problems, especially those of ophthalmology, in this spirit, which was not then, and is not now, that of the medical profession. As a natural result he was not understood by his confrères, or was understood only sufficiently to be considered their adversary; an attitude by no means calculated to enhance his scientific popularity. He had besides the honor of being able to furnish an elegant interpretation of the curious phenomenon of the coloration of soap-bub-