BOOK-REVIEWS.

Logic; or, The Morphology of Knowledge. By BERNARD BOSANQUET. 2 vols. Oxford, Clarendon Pr. 8°. (New York, Macmillan, $5.25.)

THIS work is an attempt to reconstruct the science of logic. The author is attached to the German school of philosophy, and acknowledges his obligations to Kant, Lotze, and Hegel. The work is divided into two parts, the first and larger part treating of judgment; the second, of inference. Mr. Bosanquet holds that the function of the intellect is always the same, whether in conception, judgment, or reasoning, and consequently that the common logic, which treats these as distinct forms of thought, is all wrong. Judgment he regards as the fundamental form of thought, the other so-called forms being either varieties of this or included in it. He recognizes the difference between judgment and inference, and defines the former as the immediate reference of an idea to reality, while in the latter this reference to reality is made mediately. One consequence of this theory of the intellectual functions is, that the author does not clearly distinguish the different parts of his subject, and treats some of them insufficiently. Thus, he holds that conception takes place only in an act of judgment; and hence he gives but little attention to conception as such, and leaves us in great doubt as to what his views of it are. Some other topics, too, that fill a large space in the common treatises, receive but scant notice in this work. The syllogism, for instance, is not treated systematically until the last chapter but one, and then it is rather discussed and criticised than elucidated. On the other hand, some subjects are introduced, such as the nature of infinity, which are not usually treated in logical works.

It will be seen, therefore, that Mr. Bosanquet's work differs quite largely from what he calls 'the traditional logic.' What is the real value of his theories we shall not undertake in this brief review to say, though they do not appear to us so original as the form and phraseology in which they are expressed might appear to indicate. But the work is suggestive, both as a whole and in special passages, and will doubtless give rise to much discussion. The contribution of an individual thinker to any branch of philosophy often consists, not in the discovery of new principles, but in the adoption of a new point of view; and this merit the treatise before us unquestionably has.

But, whatever may be the ultimate verdict on Mr. Bosanquet's theories, it is impossible not to condemn his style, which is one of the most obscure in English literature. Take, for instance, the following sentence at the beginning of the chapter on modality: "Modality, if it exists at all, is simply the degree in which individual judgments participate in the certainty of that permanent and all-embracing judgment by which the individual intelligence sustains those qualifications of the real which for it constitute reality." This is an extreme case; but there are many other passages scattered through the work that are not much more intelligible. Moreover, the author uses some phrases, such as 'really real,' and 'the ideal fabric of reality,' which to our mind convey no meaning at all. If the new logic is to become popular, it will have to express itself in plainer terms than these.

Sound, Light, and Heat. By MARK R. WRIGHT. London and New York, Longmans, Green, & Co. 12°. 80 cents.

THIS text-book by the head master of the Higher Grade School, Gateshead, a manufacturing town in the county of Durham, England, is one that will prove very suggestive to the teacher of elementary physics in our schools and colleges. It is written in a somewhat categorical style, and might prove wearisome in the classroom; but wherever it is possible to have this book at hand while performing the readily carried out experiments, it will surely prove a valuable guide. In addition to the numerous experiments, which the author deems it essential should be performed, numerous examples are introduced, the author's belief being that "science has been slow in following arithmetic in this matter." The object is to induce the student to gain by experiment, always recognizing the limitations set to the accuracy of his work, such results as he may be able to use in the solution of the problems set. The experiments demand no very large supply of apparatus, descriptions of that used being given either with the text or in the appendix. Little space is given to theoretical considerations, "a beginner's time being best spent in examining the facts of science," which facts are set down, as said above, in possibly too categorical fashion to please all.

The Spirit of Beauty. Essays Scientific and Æsthetic. By HENRY W. PARKER. New York, John B. Alden. 12°.

THE intelligent reader will wonder that the same author had written the first and the last essays in this work, so great is the difference between them in their real scientific conception. The first three chapters, making more than half the volume, have some scientific interest and value; rather, however, as criticism than as a contribution to the subject. They discuss the evolution of the beautiful, mind in animals, and the moral in nature. The author is a naturalist, and is quite familiar with the facts and views of Darwin, Spencer, and Haeckel; and whatever restrictions he may make upon them, he has made as a man who has studied the subject from the inside. But the important criticism to pass upon his strictures of evolution is, that it is the complaint of a mind which has not the courage to reconcile itself with the new environment which that doctrine has created. It is an illustration of that wide and revolutionary influence upon human thought which Darwinism will exercise, when, like the theory of gravitation, it has penetrated the lower intellectual strata of life. The observation of facts in the organic and inorganic worlds is good; the appreciation of the realistic tendencies of science is clear enough; but the reflection of sentiments and beliefs from an earlier period fortifies the judgment against taking in the full scope of the conclusions of the scientific spirit. Every thing is admitted, and even asserted as undeniable fact, except the one thing needed to give these chapters a strictly scientific value. The bias of preconceived opinions comes in to intrude views that are irrelevant, as well as doubtful and unimportant. Yet we could heartily recommend this part of the author's work to amateurs who want some criticism and interpretation along with their facts, and who wish to move cautiously amid the bewildering maze of phenomena presented in the study of animal life. The scientist will derive less benefit from it, but he will not find it without value.

It is in the last two essays, on the rainbow and life transfigured, that the most singular part of the work presents itself. It is allegory and mysticism, — the antipodes of science. They are conceived after the manner of Drummond's 'Natural Law in the Spiritual World.' They are worth noting as illustrations of that peculiar psychological constitution which is partly due to the education and prevailing beliefs before Darwinism appeared, and partly to that persistent tendency in many minds to mistake a feeling for a fact, a subjective experience for an objective reality. They may do to suggest æsthetic ideas; but it is as great a mistake to pursue the emotions aroused by beautiful analogies as if they were facts, as it is to look at poetry as science. Both science and art are the losers by it. We believe the book would be of more value without these chapters. It would certainly exercise a greater influence upon the scientifically disposed mind. The author should not have made the attempt to combine æsthetics and science in his discussion. The analysis and classification of phenomena, and the investigation of causes, are an encumbrance to æsthetics, because art is content with the relations of things, and is not interested in their explanation. Ruskin would not have committed this error; and the author is an admirer of that great art-critic.

How to study Geography. By FRANCIS W. PARKER. Englewood, Ill., The Author. 12°.

FOR a number of years the attention of geographers has been directed to improving the methods of teaching geography. This movement originated in Germany. Since the rapid growth of the science of geography, the necessity has been felt of including it in the course of studies of the universities. Towards 1870 professors of geography were appointed at various universities, and at present it is taught at all the great German universities. Most of the students who studied geography became, in course of time, teachers at higher schools; and thus a class of educationists, well versed in the science of geography, grew up, and to these we owe the fun-

damental reform of the methods of teaching geography. Most of the scientists who were appointed professors were originally not well acquainted with the needs of the Gymnasium and of other higher schools. They were so much engrossed by their subject as to be too exacting in their demands upon the pupil. These excessive demands, however, found their corrective when their students became experienced teachers. Thus the methods of teaching geography, after about twenty years of discussion, have been established on a firm and sound basis.

While material progress was thus being made in Germany, England and America had not even made the slightest attempt to bring about the much-needed improvement in the teaching of geography. A few years ago the attention of the Royal Geographical Society was called to this subject, and a thorough study of the methods used on the continent, particularly in Germany, was published. Here, also, the movement began among scientists, not among teachers; and therefore we observe again that too much was asked for. Since that time the movement has reached the schools, and innumerable attempts have been made to find a 'royal road' to the knowledge of geography. We may divide these into two classes: the first embracing suggestions of geographers or geologists; the second, those of teachers. While among the first class we find highly suggestive books which show that geography might be made the foundation of teaching natural science, they are deficient in not being written by experienced teachers. The second class shows the sad lack of trained teachers of geography, and the necessity that a reform of the teaching of geography must begin with training teachers.

Recently a number of valuable books have been published in England, but in America little has been done. Text-book after text-book and map after map are being published, but the new ones are in no way superior to the preceding ones. Since Guyot imported Ritter's ideas of geography into this country, the study has continued to move on this line, wherever it was more than mere memorizing of names. That geography which has recently developed in Europe has not reached our continent; the tendency here being to cultivate all the sciences contiguous to geography, while the complex geographical phenomenon does not attract the attention of the American scientist.

It seems to us that Parker's book marks a new step in the development of geography in our country. It is the first time that a leading educationist tries to solve the question how to study geography, and gives it its proper place in the course of study. Although not a geographer himself, and although a number of his statements are not in correspondence with the views held by geographers nowadays, he has a true conception of the ultimate aim of geography. "The study of geography, elementary and scientific, cultivates systematically the faculty of imagination, and the products of this faculty arouse and develop at every step emotions of beauty that culminate in the emotion of grandeur. The mentally pictured hill is 'a thing of beauty,' which, in time, towers up into the grand image of the lofty mountain. The lake is the inception of a picture of 'old ocean's solitary waste.' Gradually, under skilful teaching, hills, mountains, and plains, oceans and continents, are united in one sublime image of the round world. Life-bearing and life-giving, it stands out before the exalted imagination." This view is fundamental in giving geography its proper place in school and in life. It is not the sole object of geography to analyze observations, and thus to train the mental power of the child, although it is well adapted to this purpose: its more important function is to train the imagination and the power of feeling, to bring home the grand truth of the unity of nature.

This being the concept of the book, Parker omits physiography, which is the favorite subject of many writers of school-geographies, altogether, and defines geography as purely and simply a description of the earth's surface; and the primary purpose of teaching geography, to develop in the pupil's mind a concept corresponding to the earth's surface.

The book opens with a general introduction on the aim and scope of teaching geography. This is followed by a chapter intended to aid teachers in laying out their plans for teaching. The third part is an outline of a course of study of elementary geography, which is followed by very interesting directions and suggestions. The rest of the book is taken up by notes on the course of study. We do not intend to enter into the details of this plan, but confine ourselves to a few remarks. Parker's directions on the use of maps ought to be read and borne in mind by every teacher. There are very few persons who are able to interpret a map; and teachers ought to bear in mind constantly the fact that the map only represents part of the earth's surface, and that its object in teaching is exclusively to convey the concept corresponding to the country it represents. In order to reach this end, Parker strongly advocates moulding and the use of relief-maps, although he is aware of the serious objections raised to this method. Until better school-maps are provided, it will be impossible to dispense with this means of teaching.

The course of study which he recommends begins, of course, with systematic observations of nature, of the surroundings of the child. Thus the concepts of the natural features and elements of land and water are gained; and, these once obtained, he rightly turns at once to considering the widest generalizations, the continents, and works the detail into their general outline. It may seem doubtful whether his widest generalizations, slopes and river-basins, are the best from a geographical point of view. He considers the continents as formed of a short and long slope, and next subdivides the slopes and adds the necessary detail. This method fails in the case of Africa, and seems undesirable in teaching the geography of North America and Asia and their large plateaus. But Parker himself does not consider the course suggested in his book as final. There will probably be much discussion regarding detail, and on the important question, 'In how far, if the principal generalizations are derived from form, should the origin and development of that form be considered?' But a careful study of this important book will not fail to exert a most wholesome influence upon the progress of geography in our schools, and it may be that it will open the road to that science of geography which has so far hardly any representatives in America.

The History of Protective Tariff Laws. By R. W. THOMPSON. Chicago, R. S. Peale & Co.

THIS book is not to be taken seriously as a history of the tariff. Of independent or original historical investigation there is hardly a trace. There is nowhere any reference to the author's source of information; nor, indeed, is this necessary for the sort of information he gives. We are told in the volume chiefly about the opinions which various statesmen have held at one time or another on the tariff, — the sort of historical knowledge which can be got readily enough by glancing through files of presidential messages and of the congressional debates. Even this information, whose value is dubious enough at best, is distorted and worthless. One would imagine, from Mr. Thompson's quotations and copious Italics, that all the statesmen we ever had were the stiffest of protectionists. Of other information there is very little. Various tariff acts are described in the vaguest way, so that the reader is unable to guess what the general range of duties under them was, still less what was the duty on any particular article. There is no pretence of investigation of economic history, of the development of protected industries, of the difficult and perhaps insoluble problem as to the effect of protective duties on general prosperity.

In fact, Mr. Thompson writes, not a history, but a voluminous campaign pamphlet. That he has a strong bias (to put it mildly) for protection, is not inconsistent with his doing good historical work, even though not the best. But he has done no such work, and the student of history will turn over his chapters with a sigh of disappointment. Nor will the book appeal to those who want solid and serious argument on the tariff controversy. The reasoning is of the most watery sort, and consists chiefly of vague paragraphs on industrial independence, the home market, the disastrous effects of importing more than we export, the designs of England, and what not. Only those who want campaign thunder would find any thing to their purpose; and they are not the sort to wade through 526 pages, when they can get their thunder in compact form, and gratis, from campaign committees. Mr. Thompson's history belongs to that class of books by public men which are bought for their title and their large print by respectable philistine families, and repose unread on scanty book-shelves.