

Practical Geography for Schools. By ALFRED HUGHES. Oxford, Clarendon Pr. 12°. (New York, Macmillan, 60 cents.)

THE present volume, which is the first part of a geography for schools, has for its object, not the explanation of geographical phenomena, for such is not given in any instance. The data of geography are considered as given and as explained, and they are used for the purposes of teaching geometrical drawing, arithmetic, and the elementary ideas of geometry. By this method the author hopes to impress the data of ordinary descriptive geography, by constant use, upon the mind of the pupil. The book deals only with mathematical geography, and many examples are given for computing distances between two places, differences of time, altitudes of the sun and of stars. As for these purposes the latitudes and longitudes of places must be known, the pupil will acquire by practice a considerable amount of knowledge in this line. But, although this may be true, we cannot recommend the author's methods. We assume that the book is not intended for teaching geography, as it does not try to prove any of the facts that are mentioned in it. The geographical problems of mathematical geography are far too difficult for boys. The author recognizes this fact, and claims as an advantage for his methods, that little or no mathematical knowledge is necessary before children can master all the methods explained in his work. But this advantage is reached only by an extreme laxity of definitions, and by applying wrong geometrical proofs: therefore the pupil will have to unlearn at a later stage the greater part of what has been taught to him according to the plan of the book. Here is an example. One of the very first chapters of the book teaches how to draw lines of latitude and longitude suitable for a map of any part of the earth's surface. First it is said, without an attempt at explanation, that it is impossible on a flat piece of paper to draw correctly lines that themselves exist on the round surface of the earth. Then a rough approximation to a rectangular projection in which the real length of the parallels is preserved, is described as the only method of projecting maps, without any further explanation than that the parallels and the central meridian have their real lengths; while it is not shown that the meridians and angles are greatly distorted. In computing distances, the author assumes, adding a brief remark that it is not quite correct, that the distance along the parallel of latitude is the distance between two places. All through the book this looseness prevails. If we agree that the teaching of geometry should train the faculty of logical reasoning, we must object to the methods advocated in this book. From the standpoint of the geographer, there is nothing in it that might not be attained just as satisfactorily by other methods which discard these unnecessary mathematical considerations, that are beyond the grasp of children of that age for which the book is intended.

A Laboratory Manual of Chemistry. By OSCAR OLDBERG and JOHN H. LONG. Chicago, W. T. Keener. 8°. \$3.50.

THIS manual is intended for students of pharmacy and medicine, and presents a well-chosen course of experiments, the object of which is to give acquaintance with the properties of the more common elements, and to show the syntheses of the more important chemical compounds and pharmaceutical preparations. A short course in qualitative analysis, special examples of quantitative methods, modes of assay of a few important drugs (notably the alkaloids), and a sketch of the chemical and microscopical examination of urine, constitute important features of the work. In the directions for compounding, quantities are usually expressed in proportionate parts, but occasionally absolute weights and measures are employed. When such is the case, it is a pleasure to note that it is the metric system of which use is made. The pharmaceutical and chemical names appear side by side.

The work is well arranged, and admirably adapted to the use of the class of students for whom it is especially intended.

Skeleton Notes upon Inorganic Chemistry. Part I. Non-Metallic Elements. By P. DE P. RICKETTS and S. H. RUSSELL. New York, Wiley. 8°. \$1.50.

IN the words of the authors, "It is not intended that this work shall take the place of a text-book, and the authors claim no originality beyond the general arrangement. Much matter has been pur-

posely omitted for the student to supply in his own way. It is believed that by employing these 'Skeleton Notes' as a framework upon which to build, the beginner will be aided in following lectures, and learn to study chemistry in a systematic manner."

The plan of placing in the hands of students an outline of lecture-notes in order that attention may be given more fully to the general argument and demonstrations of the lecturer, presents many advantages, and has not wanted recognition these many years. That such a scheme may be useful to the fullest extent, it would seem to be the case that the order of topics in the notes should follow the order of discussion in the lecture, and that this should be a rational one. In this skeleton the chemical elements are taken up in the alphabetical sequence of the initial letters of their names,—an arrangement which certainly is not suggestive of existing relationships, nor likely to aid in the realization of the hope that the beginner may "learn to study chemistry in a systematic manner." The notes under individual heads are brief and orderly, in general, though occasionally inexact.

The value of such a book must depend, as a matter of course, upon the use made of it by lecturer and student.

Weather: a Popular Exposition of the Nature of Weather-Changes from Day to Day. By Hon. RALPH ABERCROMBY. New York, Appleton.

THIS volume considers only the practical questions involved, and is an excellent popular work, easily understood, and maintaining great interest in its perusal.

The first three chapters are elementary, and treat of weather prognostics which may be made from 'clouds,' 'audibility,' 'visibility,' 'whirling dust,' etc., without the aid of instruments. In the advanced portion our author takes up the question of weather-maps (Chapter IV.); meteograms, or records of single instruments at a station (V.); squalls, thunder-storms, and non-isobaric rain (VIII.); whirlwinds and tornadoes (IX.); diurnal variation of weather (XI.); types and spells of weather (XIII.); weather-forecasts (XIV. and XV.). These chapters are especially interesting, and deal with their subjects in a lucid and comprehensive manner.

Our author has taken advanced ground on many questions, and does not fear to admit our want of a good explanation of phenomena. No less than twenty-nine times does he profess this, and in almost all these cases there have been theoretical explanations given by others. An important principle is enunciated at p. 50,— "diurnal changes modify but do not alter intrinsic quality of weather,"—and this view is maintained in many places with great force and good proof. Our author, while cutting loose from many erroneous views, yet clings to some to which we must take serious exception. On p. 117 we are told that the clouds indicate great cold in front of storms; yet at p. 139 the usual view is given, that, owing to heat, the pressure in the upper layers is augmented near a cyclone; and this latter view is again stated on p. 232. As a matter of fact, later researches have shown that this hypothetical rise in pressure is almost nothing. If we take barometer readings at Mount Washington, for example, during the passage of a cyclone, and reduce them to sea-level, we shall find the fall in pressure at the base only .04" or .05" less than at the summit.

On p. 126 we read, "To this ascensional movement (in cyclones) undoubtedly must be attributed the rain and cloud which we find there,—rain near the centre, where the ascensional impulse is strongest; cloud round the outside, where the uptake is less strong." And yet repeatedly our author refers to "non-isobaric rain," or rain remote from just this hypothetical uptake. There is hardly a worse fallacy in meteorology; and, moreover, no valid proof has ever been advanced of this uptake. There has been a rather good reason for the endurance of this theory in Europe, for there, in the temperate regions, rain falls largely near a cyclone-centre; in this country, however, most of the rain is far in advance of the storm-centre. Probably ninety per cent of our rain may be fairly considered 'non-isobaric.' On p. 221, Tyndall's theory that water-vapor absorbs the quality of heat radiated from the ground is accepted; and yet it is quite well known and received to-day, that this was refuted by Magnus, who showed that it was only the condensed vapor in the shape of water-droplets, and not the vapor, that produced the effect. On p. 253 the theory is

accepted that there is a most violent rush of air from under rain-drops in a squall. Computation has shown that this cause for the observed wind is purely imaginary, and the air-motion caused by the heaviest possible rainfall is entirely inappreciable. In seeking for an explanation of changes of pressure-distribution, our author, at p. 389, suggests as a cause, "the general circulation of the atmosphere from the hot equator to the cold poles." This statement is hardly borne out by the observations of air-currents.

On the whole, the book is a most admirable and practical exposition of weather-changes, and will repay careful perusal by all interested in the weather and the progress of meteorology.

A Study of the Histological Characters of the Periosteum and Peridental Membrane. By G. V. BLACK. Chicago, W. T. Keener. 8°.

THE contents of this volume appeared in serial form in the *Dental Review*. They include a thorough study of the peridental membrane and its tissue elements, and also of the periosteum, which is so closely related to it. Very little has been written on the subject of the peridental membrane, and until recently there has been very little interest in the subject among dental specialists. Within a short time, however, attention has been directed toward this membrane and its structure, and a great and wide-spread interest has been awakened. There are several reasons for this, among which the following may be mentioned: there is a greater and a more general interest felt now than ever before in the correction of irregularities of the teeth, in which changes in this membrane, and the relation of the parts which it unites, are brought about; and then, too, there is a greater interest manifested by the masses of the dental profession in the retention of pulpless teeth, and roots which have lost their crowns, and which are dependent upon the continued health of the peridental membrane under modified conditions. Another reason which the author advances for the renewed interest in the subject is the revival, under varied forms, of the ancient methods of replanting and transplanting teeth, the success of which is supposed to be dependent, in whole or in part, upon the reconstruction of the peridental membrane, in its re-attachment to the teeth. Dr. Black has made a thorough, and, as it seems to us, an exhaustive study of the subject from an histological standpoint. The illustrations, of which there are sixty-seven, are admirably drawn, and reproduced in a most satisfactory manner. For dentists and those who desire the latest researches into the histology of the periosteum and peridental membrane, this book is invaluable.

The Mind of the Child. Part I. The Senses and the Will. By W. PREYER. Tr. by H. W. Brown. (International Educational Series, Vol. VII.). New York, Appleton. 12°. \$1.50.

DR. HARRIS is performing a useful service in the editing of the series of which this work is a volume, and nowhere more so than in the publication of this issue. The work itself is well known, and it will be sufficient to say that it is the very careful and detailed record of the development of Professor Preyer's own child, corroborated by observations from the literature of the topic. The growth of the powers of the senses are studied, and the results controlled by experimental methods. The gradual control of the muscles as the organ of the will is no less carefully pictured, and the work has long been recognized as the most complete contribution to the growing science of 'infant psychology.' The American edition is presented under the most favorable auspices. It is prefaced by an introduction from the pen of Professor Stanley Hall, in which he points out the great educational significance of the work, and demonstrates the practicability of this kind of work in the normal school by a reference to the system in vogue in the Worcester school, of which Mr. E. H. Russel is the principal. Here part of the course in psychology consists in gathering observations of child-life under various rubrics, and studying from this material the psychology of the child-mind. Not only is a valuable material thus gained, but the students are taught to see the meaning of what they are apt to let pass unnoticed, and to enter more intelligently and sympathetically into the thought-habits of the young pupil. The system has been an entire success, many of the normal-school graduates taking such original observations of children as the bases of their graduat-

ing theses. The work is creditably translated from the second German edition, and is a very essential contribution to the further spread of useful educational ideas. This is only the first part of Professor Preyer's work. The translation of the second part will soon be ready, and will be anxiously waited for.

Der Tierische Magnetismus (Hypnotismus) und seine Genese. Von JOH. G. SALLIS. Leipzig, 1887. 8°.

De la Suggestion et de ses Applications à la Pédagogie. Par Dr. EDGAR BÉRILLON. Paris, 1888. 8°.

THESE pamphlets are but samples illustrative of the wide-spread interest in the study of hypnotism, that forms so notable a feature of the scientific activity of France, and, to a far less extent, of other European countries. The first of these essays is devoted largely to the historical aspects of the subject; and, in addition to the usual account of Mesmer and his successors, the author brings into connection with hypnotism many of the pseudo-sciences of former centuries, and thus surrounds the history of mesmerism with a suggestive philosophical interpretation. A second leading point in the essay is in the form of a warning as to the dangers of hypnotism, urging that it is a purely technical acquisition, to be used only by experts, and that, above all, is it unsuited for public exhibition by money-making adventurers. The practices of the latter should everywhere (as they have been in many European countries) be forbidden by law. This feeling that Dr. Sallis so forcibly expresses is gaining wider and wider sympathy; and it seems necessary, for the maintenance of the good name that this young science has with difficulty acquired, that it should be placed entirely in the hands of reliable scientists.

Dr. Bérillon's essay contains what at first sight is an alarming proposition: it is nothing less than 'hypnotic moralization.' Unruly, vicious, or lazy children are to be put into the hypnotic condition, and then to have impressed upon them the reformation of their faults. In support of the good that can be thus accomplished, cases are cited in which bad habits of a very perverse type were cured, children backward and sluggish were aroused to a more normal activity, and the benefits thus brought about were shown to be quite permanent. Such a proposition naturally and properly arouses an objection, not only because such an interference with the normal development of the child seems unwarranted, but because we do not as yet know enough of the after-effects of hypnotization to make such an application of what must be a semi-morbid state justifiable. On the other hand, it must be remembered that Dr. Bérillon recommends this treatment only for cases in which ordinary educational means fail, and that it is only to be practised with the consent of the parents and by a skilled physician. He reminds us, too, that many of our reformatory methods interfere with the child's moral freedom, and are equally artificial. We have simply become accustomed to them. He claims, that, if carefully applied, the danger of harmful results is practically *nil*, and has succeeded in gaining the indorsement of several prominent physicians and educators to his plan. It is of course wrong to measure the utility of a project by its liability to abuse; but the abuse is an important factor, and it is at least an open question whether the varied abuses to which the practice here proposed is evidently open does not seriously interfere with its general adoption. The author has at least succeeded in convincing many capable of forming an opinion, that his project is worth a serious consideration.

NOTES AND NEWS.

THE sixteenth annual meeting of the American Public Health Association will be held at Milwaukee, Wis., Nov. 20-23, 1888. The executive committee have selected the following topics for consideration at the meeting: the pollution of water-supplies; the disposal of refuse matter of cities; animal diseases dangerous to man; maritime quarantine, and regulations for the control of contagious and infectious diseases, and their mutual relations. The topics given indicate the subjects which it is desired to consider, yet they are not to be regarded as the exclusive topics of the meeting. Mr. Henry Lomb of Rochester, N.Y., now well known as the originator of the 'Lomb Prize Essays,' offers, through the association, two prizes for the current year, on the following subject: 'Practical Sanitary and