

responding to a determinate charge diminishes rapidly during the first few seconds, and then varies almost as the terms of a feebly convergent geometrical progression. The law of variation varies with the substance, and is not always the same for disks of the same substance. The values of the specific inductive capacity obtained after as short a charge as possible are different for substances which are apparently identical, but are always sensibly the same disk.

BOOK-REVIEWS.

The Law of Equivalents in its Relation to Political and Social Ethics. By EDWARD PAYSON. Boston and New York, Houghton, Mifflin, & Co. 12°. \$2.

THE title of this book is forbidding, and as inappropriate as it is forbidding. The author's 'Law of Equivalents,' which he announces in such a formal manner, is nothing but the familiar truth that if we wish to attain any end, no matter what, we must use the means appropriate to that end; and that if we use the wrong means, we shall not attain the end, even with the greatest exertions. The truth is one of great practical importance; but its announcement in such a form, and as if it was a new discovery, is not fitted to attract the reader. The author's style, too, though generally clear, is too dithyrambic for a philosophical work, passages like the following being not infrequent: "Family—the very word itself is redolent of sweetness. It is a holy, yea, a wholly divine word. It fairly outtops every other word in the language. It is not so much an apothegm as a treatise, not so much a treatise as a text, not so much a text as a sermon, not so much a sermon as a poem," with much more of the same sort. The defects of style are aggravated by the too frequent use of interrogative sentences where declaratory ones would be more appropriate. But when these deductions are made, there is much in the book that is good, and may prove useful. Mr. Payson's special concern is moral improvement; and he insists that men are prone, and Americans especially so, to use the wrong means for this purpose; as, for instance, when they try to make men good by legislation, or to make them learned by simply establishing libraries and schoolhouses. In such cases, he says, we do not offer nature the right equivalent, we do not use the right means to reach the desired end. He rightly insists, also, on the importance of time as a condition of moral and intellectual improvement, reminding us that such improvement must necessarily be slow, and that changes in the beliefs and practices of a nation can only take place when the progress of events has prepared the way. He finds in the American people a tendency to look for some great spiritual movement as wonderful in its way as the great material advance of the past hundred years, and resulting in the regeneration of society; and he maintains that such expectations are unwarranted. Mr. Payson's views are in the main in accord with those of most judicious thinkers; but his work would have been more interesting and more useful if it had been written in a soberer and more philosophical style.

Lectures on Geography. By Lieut.-Gen. R. STRACHEY. London and New York, Macmillan. 12°. \$1.25.

THE University of Cambridge, about a year ago, accepted the proposal of the Royal Geographical Society to provide a lecturer on geography with the aid of funds to be supplied by that society. As an introduction to the lectures on this science, new to the Cambridge University, the council of the society was requested to arrange a course of lectures illustrative of the general character and scope of the instruction in geography suitable for a university course. In compliance with this request, a course of four lectures was delivered by Gen. R. Strachey, president of the Royal Geographical Society, which have now been published in the form of a book. Strachey designates as the aim of geographical science, to investigate and delineate the various features of the earth; to study the distribution of land and sea, the configuration and relief of the surface, position on the globe, and so forth,—facts which determine the existing conditions of various parts of the earth, or which indicate former conditions; and to ascertain the relations that exist between those features and all that is observed on the earth. On account of this point of view, the book is especially valuable. Since the importance of physical geography has become recognized, the

tendency has been to underestimate the value of topography, in the same way in which systematic botany and zoölogy became neglected when biology became the favorite study. Strachey first discusses the astronomical relations of the earth, its form and magnitude, and the history of its measurement. Appended to this is a chapter on map-making, in which he dwells upon Tissot's projections, the principles of which are unfortunately not yet sufficiently known either in England or in America. After a brief historical sketch of the development of our geographical knowledge, he passes to a brief review of physical geography and to considering the relations of vegetable and animal life to terrestrial features. He concludes with some remarks on the influence of geographical conditions on man. The book is clearly written, and we hope it will be widely read, as the author, by his terse and interesting treatment of the subject, impresses the reader with the importance of disseminating and promoting the science of geography.

Les Formes du Terrain. By G. DE LA NOË. Paris, Imprimerie Nationale. 4°.

LIEUT.-COL. D. DE LA NOË, of the geographical service of the French army, has prepared, with the collaboration of M. Emm. de Margerie, an elaborate treatise on the forms of the ground. It is of both geological and geographical interest. Under the first heading we should place the argument for the derivation of land-relief by sub-aerial denudation, the evidence for the origin of valleys by stream-erosion essentially independent of fractures, and other discussion of processes; under the latter heading we should include the description of plateaus, valleys, and other topographic elements, in connection with the conditions of their origin and development. The deductive considerations are fully supplemented with illustrations in a large volume of plates, many of which are reproductions of excellent topographic maps, chiefly of French localities. The relation of the activity of streams to their controlling base-level receives much more explicit attention than is common with European authors, and the sections in which this large problem is discussed are very profitable reading. The same may be said of the explanation of cross-valleys such as occur in the Jura Mountains. They are shown to traverse the anticlinal ridges where the structural arch, if complete, would be lowest. The list of authors quoted is remarkably full, and American writers receive a large share of notice.

Leibniz's New Essays concerning the Human Understanding. By JOHN DEWEY. Chicago, S. C. Griggs & Co. 16°. \$1.25.

THIS work is the latest issue in the series of 'German Philosophical Classics for English Readers,' now publishing under the editorship of Prof. G. S. Morris. The plan of the series does not contemplate the complete exposition of any philosopher's views, but only of some one of his masterpieces. This plan has some advantages, but also some disadvantages; and these latter are specially prominent in the case of Leibniz, whose mental activity was so multifarious. He was by no means a mere philosopher, and even in philosophy the 'New Essays' present but a small portion of his views. Professor Dewey has seen this, and endeavors, so far as his space permits, to remedy it. He remarks that "Leibniz, like every great man, absorbed into himself the various thoughts of his time, and in absorbing transformed them. He brought into a focus of brilliancy the diffused lights of truth shining here and there. He summed up in a pregnant and comprehensive category the scattered principles of his age." Some of us will regard this encomium as a little extravagant, yet, at all events, it shows what Leibniz attempted to do, and hence Professor Dewey has found it necessary to enlarge his plan a little, and give some account of those doctrines of his author not presented in the 'New Essays.' He has, we think, given too much attention to the theories of monads, and pre-established harmony, which are products of imagination rather than of reason; while, on the other hand, he has taken no notice of Leibniz's attempt to reconcile Infinite Goodness with the existence of evil. In dealing with the 'New Essays' themselves, which were written in reply to Locke, Professor Dewey has to present the views of both philosophers to a considerable extent; and in doing so he clearly reveals his own philosophical standpoint. He is a disciple of Kant and Hegel, and looks upon Leibniz as their forerunner, while Locke's work is in his eyes little

better than a tissue of falsehood. Some of us who have a higher opinion of Locke may think that Professor Dewey has not always presented the English philosopher's views correctly, though we are sure he has not done him any intentional injustice. He shows, too, a strong desire to connect the views of Leibniz with his own, and, in trying to do this, sometimes gives an interpretation that seems a little strained. But, if due allowance is made for the author's philosophical standpoint, the reader will obtain from this book a pretty good idea of most of Leibniz's doctrines in their relation to those of Locke on the one hand, and of the later German thinkers on the other. This series of expositions will, we think, be very useful in giving to purely English readers a more intimate acquaintance with the products of German thought.

First French Course. By C. A. CHARDENAL. Boston, Allyn & Bacon. 16°.

AFTER a brief introduction on the phonetics of French, the author proceeds at once to give a systematic series of exercises on the elements and syntax of the language, keeping throughout in view the practical end to teach the pupil thoroughly the use of the French language. The French-English and English-French exercises are well selected, and the lessons so arranged that the most general and most fundamental laws of the French language are given first, after which details are taught. In an appendix a tabulated review of forms and rules is given, and the book concludes with a brief series of extracts, to which a vocabulary is added.

Teachers' Manual Series. Nos. 7, 8, 9, 10. New York and Chicago, E. L. Kellogg & Co. 15 cents each.

THE last four numbers of this series, which have recently been issued, contain material that will prove very suggestive to teachers. No. 7 is a reprint of Bishop Huntington's memorable address on 'Unconscious Teaching,' that was delivered many years ago, and at that time excited great interest. He justly emphasizes the fact that the teacher's character and behavior influence in a great degree the development of the pupil, and that the most careful attention should be paid to this fact. No. 8, written by James L. Hughes, is entitled 'How to keep Order;' and in this the author endeavors to show that keeping order is a necessary means of training the character of the pupil, as order teaches that conscious deviation from the right, and that conscious violation of any rule, is a wrong, no matter how important or unimportant the rule be. The latter half of the book is occupied by a discussion of mistakes of the teacher which promote disorder, and thus the best instruction as to how to keep order is given. In No. 9, by Rev. R. H. Quick, 'How to train the Memory,' the author gives the results of his experience, which are, that attention, arrangement, and association are the proper means of training the memory. No. 10 is a description of 'Froebel's Kindergarten Gifts,' by H. Hoffmann. These gifts are well known, and the author sets forth very clearly the best methods of using them for training the child's senses and power of observation.

Francis Bacon. By JOHN NICHOL. Part I. Bacon's Life. Philadelphia, Lippincott. 16°. \$1.25.

THE present sketch of Bacon's life belongs to the series of Philosophical Classics, edited by William Knight. The author has endeavored to record impartially the events which led so many writers to condemn the character of Bacon. He accepts neither the views held by Spedding, who is bent on believing the best, nor those of Abbott, who does not find any thing to commend in Bacon's career. His views agree with those propounded by Gardiner. The author rightly emphasizes the necessity of carefully considering the circumstances of the age in which Bacon lived, in forming an opinion of his actions. He dwells upon the fact that during his life he took the unpopular side of several questions, and thus proves that he was not so mean as to sacrifice every thing to the promotion of his own interest. The author's treatment of the trial of Essex is of special interest, and we think he has well succeeded in explaining how Bacon came to take a prominent part in those events, and that his actions were in accordance with views expressed in his letters to Essex. On the other hand, the author does not try to excuse his great faults and weaknesses. In a clear introduction, Bacon's age and surroundings are described, and next his life until the death of

Elizabeth is treated. His relation to James, his gradual rise and sudden downfall, form the following chapters of the book, which concludes with a sketch of his last years. The second volume will contain a *résumé* of his philosophy.

How to teach Manners in the School-room. By Mrs. JULIA M. DEWEY. (The Reading Circle Library, No. 7.) New York and Chicago, E. L. Kellogg & Co. 16°.

WE fully agree with the authoress of the present little volume, that the teacher ought to be careful to teach the pupils good manners, but we disagree in every other respect with her views. It seems that her prime object in teaching good manners is to make children contemplate in all their actions, "What will people say if they see me doing this or that?"—a principle that can hardly be considered as improving the moral standard of the pupils who are subjected to it. It is true, as the authoress says in the introduction, that true courtesy implies strict honor, self-possession, forbearance, and refined feeling; but these qualities will hardly be developed by such teaching as forms the greater part of Mrs. Dewey's suggestions. We cannot agree with principles similar to the following, which has been taken at random from the book (p. 55): "Why should our behavior on the street be good? Because many people see us there, and notice if it is not good."

A Quiz Manual of the Theory and Practice of Teaching. By ALBERT P. SOUTHWICK. New York and Chicago, E. L. Kellogg & Co. 16°.

IN a long series of questions the author places before the teacher many important problems regarding the method of teaching. The first part of the book contains questions, while the second contains answers to these questions. The subject is divided into numerous divisions, according to the subject of teaching; and a study of the work will prove a valuable incentive to improving the methods applied in teaching, as it suggests many ideas to the teacher, a great number of which he will accept, and use for the benefit of his pupils. In a general introduction the author treats of the general theory of education. This is followed by notes on the theory of teaching reading, arithmetic, natural history, language and grammar, composition, rhetoric, etymology, literature, and so on through the whole range of subjects taught in our schools. As an appendix, some notes on manual training are given.

NOTES AND NEWS.

THE editor and publisher of the *International Ethnographical Archive* have issued, on the occasion of the Seventh International Congress of Americanists, a supplement to their journal, entitled 'Contributions to the Ethnology of America.' This interesting pamphlet contains extracts from the journal, and one of the beautiful plates that are to accompany Stoll's account of the ethnology of Guatemala. The pamphlet contains one American and four German contributions. The journal continues to be one of the most magnificent scientific periodicals, and it bids fair to become one of the principal sources of information for the study of ethnology, more particularly for that of human inventions.

— At a meeting of the council of the Anthropological Society of Washington it was voted to continue the publication of the quarterly journal, *The American Anthropologist*. This journal publishes in full the most important papers read at the meetings of the society.

— In the publication in *Science* a few weeks ago (xii. No. 295) of the classification of soils, which formed a part of the annual report of Major Powell, director of the United States Geological Survey, one class was inadvertently omitted,—that of the playa soils; i.e., those formed by the wash of rains and the evaporation of intermittent bodies of water that have no overflow.

— The trustees of the Hoagland Laboratory, Brooklyn, announce the completion of the laboratory, and its equipment for work. Special facilities are offered to those who desire to prosecute original research. For this purpose private laboratories have been provided, and arrangements are now being made for the purchase of a library which shall contain all the literature necessary for reference in the departments of bacteriology, physiology, and pathology.