SCIENCE.

ideas and sensations in our minds. This theory Mr. Case holds to be contradicted by physical science, which reveals to us certain objects, such as the waves of light, for instance, which are not and never can be objects of sense, but which are nevertheless known to exist. He takes up the works of the leading idealists, and makes an elaborate criticism of their views and of the arguments by which they sought to support them ; and this part of his work contains much interesting and useful matter. He rightly regards Descartes as the real founder of idealism, because he assumed that the immediate objects of knowledge are ideas, although he endeavored to reach a knowledge of the external world by inference. This fundamental assumption of Descartes, which has been repeated by every idealist since, is justly treated by Mr. Case as a begging of the whole question ; and the passages in which he criticises it are the best in the book. He does not confine his strictures to this one point, however, but deals also with Hume's theory of belief and association, Kant's doctrine of necessary truths, and other topics more or less nearly related to the idealistic view. Some of his remarks, especially on the subjects of induction and necessary truth, seem to us quite as doubtful as those he criticises; but the whole of this portion of his work is well worthy of attention.

Mr. Case has not confined himself, however, to criticism, but has presented a theory of his own in place of the one he criticises; and with regard to this we are obliged to dissent from him. Rejecting idealism as he does, he equally rejects the natural realism of the Scottish school, and maintains that the object of sense-perception is neither an idea nor a body outside of us, but an affection of our nervous system. "The sensible object," he says, "is the nervous system itself sensibly affected. The hot felt is the tactile nerves heated, the white seen is the optic nerves so colored " (p. 24). And again: "I perceive my nervous system, not so far as it is nervous structure moving, but so far as it is sensibly affected in different parts, the optic nerve so far as it is visibly white, the gustatory nerve so far as it is sweet to taste, and so on" (p. 151). Now, we think most people will deny this assertion outright. This reviewer, certainly, is not conscious of perceiving his own nerves sensibly affected, and it was only by studying anatomy that he learned that he had nerves. Besides, what does Mr. Case mean by calling the nervous system, as he repeatedly does, an "internal" object? "Internal," with reference to this question, means " in the mind;" and "external," " out of the mind;" and therefore my own nervous system is just as truly an external object as is the farthest star that I can see. For these reasons we cannot think that Mr. Case has solved the problem of perception.

## The Development of the Intellect. By W. PREYER. Tr. by H. W. Brown. New York, Appleton. 12°.

SOME weeks ago we referred, on its appearance, to the first portion of Mr. Brown's translation of Preyer's great work, "Die Seele des Kindes," and expressed our gratification that it satisfactorily presented to the English reader the results of the Jena physiologist's researches in the field of child-psychology.

The second part, which is before us, is equally well done, and it fully sustains the reputation of the International Education Series, of which it forms Volume IX. A conspectus of Professor Preyer's results, prepared by the translator, greatly increases the value of the book to the average teacher and to the ordinary reader.

The author sees in the power of language and its development the safest and best guide to the tracing of intellectual development, and he traces the growth of this power with great caution and fulness of knowledge. We cannot in this brief space attempt to condense the argument of the book : we must be satisfied to repeat substantially what we said of "The Senses and the Will:" it is a safe companion for any teacher in her study of the unfolding of a child's mental power, and a stimulus to further research and investigation.

## Political History since 1815. By CHARLES H. LEVERMORE and DAVIS R. DEWEY. Boston, W. J. Schofield. 8°. \$1.25.

THIS book is an abstract of lectures delivered in the Massachusetts Institute of Technology: hence it is hardly adapted for reading, but it will serve admirably as a guide to historical students, and also to refresh the memory of those who have studied. It

covers the political history of the whole world since the fall of Napoleon, with the exception of the United States, the history of our own country evidently being a separate study in the institute. The selection and arrangement of topics in the book seem excellent; and we are particularly pleased with the small attention given to military affairs, which in some books called histories overshadow every thing else. The opening lecture treats of the various races, governments, and religions of the world; and the remainder of the work presents the recent history of the various nations separately, beginning with England and her empire, and ending with the African continent. The dates of important events are given, and some statistical matter is introduced. A bibliography of the subject is given, and special authorities are cited on all important points. The book is well and carefully printed, and must, we should think, be very useful to students of the field it covers.

## Shall We Teach Geology? By ALEXANDER WINCHELL. Chicago, S. C. Griggs & Co. 12°. \$1.

IN this work Professor Winchell sets forth the claims of his favorite science to a more prominent place than it now holds in general education. He first inquires what education is, and comes to the conclusion that it includes both the training of the faculties and the acquisition of useful knowledge. He has an excellent chapter on the faculties themselves; and, while admitting that some of them are better developed by literature or mathematics, he insists that no study will develop them as a whole better than geology. Like most physical scientists, he is severe on the study of languages, especially of Greek and Latin; and, so far as the mere languages themselves are concerned, we incline to agree with him. But language is the medium of literature; and Professor Winchell seems to show an inadequate appreciation of literature, and of the moral and intellectual culture that it gives. But the principal defect of his work is its ignoring of the mental and social sciences. He seems hardly aware of their existence; for he mentions none of them but history, and mentions history only to slight it, declaring that it trains no faculty but verbal memory. His disparagement of history is peculiarly unfortunate, for history is to the evolution of man what geology is to the evolution of the earth and its flora and fauna; and it is surely as important for us to know how man has come to be what he is as to know how the earth's crust has come to be what it is. To this reviewer it seems that the most important study at the present day is that of man, his nature, his duties, and his history; and if this is so, it is hardly possible to give geology so much attention as Professor Winchell desires: for he is not satisfied with a year's study or so, but would have the subject taken up in the primary schools, and pursued every year as long as the student attends school. When we consider that geology is only one science out of fifteen or twenty, and when we further consider the importance of literature and the need of learning foreign languages early in life, it is evident that we cannot give so much time to geology alone. Nevertheless, we are glad to see the claims of the science so well presented, and we hope Professor Winchell's book will be read by educators everywhere.

## A Historical Geography of the British Colonies. By C. P. LUCAS. Vol. I. Oxford, Clarendon Pr. 12°. \$1.25.

WE noticed some time ago the little volume introductory to this work, and we are now glad to receive the first volume of the work itself. It contains a little less than two hundred pages, and treats of the European dependencies of Great Britain, and the minor dependencies in Asia and the Indian Ocean. In preparing the work, Mr. Lucas has had the assistance of various persons connected with the governments of the colonies in question, and the portions relating to Malta and Cyprus have been mainly written by one of his associates in the Colonial Office. The work has been prepared with care, and contains a large amount of information in comparatively small space. Each dependency is treated separately, while at the same time their relations to each other and to the home government, and their importance to the empire, are duly pointed out. The history of each is briefly recorded, and sometimes, as in the case of Malta and Cyprus, it makes interesting reading, Then the main geographical features are described, and an account is given