

der," "the Emotive from the centre at the eyebrow," "the Mental from the centre at the wrist." This sort of thing is continued with amusing naïveté on every part of the body. But there is a point at which even Mr. Brown feels tempted to "draw the line." After noting that some of Descartes's pupils represented the master as teaching that "in expression, the eyebrow is Mental, the upper lid is 'Moral,' the lower lid is Vital," he, though with awe and trepidation, ventures to suggest that this may possibly be a case of blind adherence to "the universal formula." These are specimens of the quasi-scientific puerilities that make up the greater part of a book which, if condensed to a twenty-page essay and freed from all metaphysical jargon and efforts at cosmic generalization, would have been readable and suggestive.

The Functions of the Brain. By David Ferrier, M.D., LL.D., F.R.S. Second edition, rewritten and enlarged. G. P. Putnam's Sons. 1886.

THE first edition of Dr. Ferrier's work, noticed in the *Nation* of June 14, 1877, page 355, contained references to eighty-eight writers. That the second refers to two hundred and thirty-eight is evidence of the intense cerebral activity which has characterized the last decade. It may seem that this is sufficient reason for the increased bulk of the present volume; yet, while the additional illustrations are mostly welcome, and more space was undoubtedly needed for the presentation of the results of the author's own later experiments and reflections and for the discussion of controverted points—as, for example, "the visual area" and the question of "functional substitution"—much might have been compressed or even altogether omitted so as to keep the book at a convenient size. For neurophysiologists and most members of the medical profession, much of the anatomy is needless, particularly the elementary and practically repeated accounts of the fissures and gyres of monkeys and man on pages 235-240, 470-480; on the other hand, the details are inadequate to the needs of the laity, especially with the omission of the "Diagrammatic Summary" on page 290 of the first edition, which might have been easily made acceptable. It is equally difficult to account for the omission of the unique and instructive "Crowbar case," since it would seem to accord with the author's views respecting the inhibitory function of the prefrontal lobe. An even less commendable reduction is in the index, which was admirable in the first edition, but, excepting the names of writers, extremely defective in this. A well-known American clinician is not cited at all; another's careful contribution is hastily and unfairly said (page 293) to be "characterized by numerous gross inaccuracies;" and the volume is literally disfigured by contemptuous allusions to the opinions of a German neurologist whose works are commonly held in respect. There are, indeed, too many passages which might well convince the disinterested reader that the pursuit of experimental physiology does not insure appropriate methods, careful manipulation, accurate observation, logical deduction, scrupulous recognition of adverse results, or even courteous treatment of antagonists.

Mathematical Teaching, and its Modern Methods. By Truman Henry Safford. Boston: D. C. Heath & Co. 1887.

THIS little brochure, one of the earliest of a series of monographs on education, prepared, or to be prepared, by distinguished instructors for the use of the teaching profession, should be read and pondered by every professor and teacher of mathematics in the land. The author has two qualifications for writing on the subject which

are not often combined in one person: he is a skilled applier of mathematics in that branch of science where most extensively used, and he is a practical teacher of the subject. We might add a third qualification, that of a philosophic observer, able to analyze the current defects of teaching as shown in the work of his pupils, and to see how they should be cured.

What he tells us is already well known to all who have had to train graduates of our schools and colleges in the practical use of any branch of mathematics, whether arithmetic or the calculus. All our teaching of the subject is too abstract and unpractical. The very bias toward instructing the common boy in nothing but the useful, which we see so strongly developed in school boards, defeats its own object by leading to a system that cramps more than it enlarges the mental powers. The wearisome passage through a graded series of arithmetics in which the subject is taught over and over on the same plane, changed only by the introduction of more perplexing problems as the pupil advances, is not so conducive to an understanding of numbers as half the quantity of teaching might be when combined with elementary algebra and graphical representations of the principles involved.

The only fault we find with Prof. Safford's discussion is one which it is difficult to avoid in such a work—a lack of explicitness and point in showing how mathematics should be taught. The teacher who goes through the book will see well enough what is wrong in our present system, but we fear he will be perplexed in deciding how he is to correct the wrong. He will find many good words about Grube and his method, but how is he to find out who Grube is and what his method is? Some of our teachers think that a student of solid geometry ought not to use a material figure to represent the lines and planes he is reasoning about, because he ought to have all the necessary conceptions ready-made in his own mind. These teachers will find very wholesome instruction in the importance of "objectivity" in teaching, and the necessity of object lessons; but it hardly suffices to have the author suggest the use of the stereoscope, the walls of the class-room, the magic lantern, etc. We question whether Prof. Safford does not lay too much stress on teaching the facts of geometry, as though mere facts were any more fruitful here than in any other branch of knowledge. The greatest defect in all our mathematical teaching, so far as immediate results are concerned, is that it does not give the student a clear and ready conception of the numbers and magnitudes he is working with and talking about. Such expressions as "seven per cent.," "three-thirteenths," and "two right angles," are to him little more than meaningless phrases, which he knows how to use, but which do not represent any accurate quantitative conceptions in his own mind. What we want is a system of quickening such conceptions; and we cannot but wish our author had shown more explicitly how this is to be done.

A Tramp Trip. How to See Europe on Fifty Cents a Day. By Lee Meriwether. Harper & Bros. 1887.

THE author of this very interesting and instructive volume visited Europe apparently for the purpose of investigating at first hand the condition of the laboring people of the Continent, and has made a formal report to the United States Labor Bureau. In order to mingle with the people more directly and intimately, he made a large part of the journey on foot, or by water in the steerage, and lived as inexpensively as possible. In this narrative, which is always sprightly and alive, he tells the incidents of his tour from New York to Naples, thence north through Switzer-

land to South Germany, down the Danube to Constantinople, and north again through Russia to St. Petersburg, and by the Berlin and Amsterdam route to England. The bulk of the book is made up of his experiences in Italy, the Danubian provinces, and Russia; and, seeing these countries in so unusual a way, he naturally has a large number of adventures and strange incidents to relate. The object he had in view, however—the condition of the poor, the rate of wages and scale of daily subsistence—is always before his eyes; and he seems to have done his work very well. The chapters, consequently, afford an admirable illustration of Mr. Edward Atkinson's recent statistical articles, and are profitable reading in connection with them. What the state of the peasantry of Europe is, one knows well enough in general terms, but it is always a surprise to find the special features of it; and when they are set forth with such directness and plainness as they are here, it is an invigorating surprise. One could quote hundreds of facts, were it useful, from these pages; and could select particular characterizations—the Roman shepherd, the Bulgarian peasant, the Neapolitan foreman—admirably drawn without any literary art or philanthropic feeling to color the simple facts seen by a young American observer. The bearing of the tariff and of military expenses is constantly borne in mind also, so that the work is unfairly represented by its title, which does not give the right idea of the nature of the contents. As a book of mere travel it is very practical and readable. When the writer ventures on the ordinary tourist topics of museums and antiquities he is less successful, but such passages are few, and there is comparatively little of journalistic sensationalism. The actual life of the country and its prominent phases, seized in a rapid journey (for though on foot the writer made brief stops), are the substance. The description of the steerage passage down the Danube and the chapters on Constantinople are particularly vivid.

The book is, altogether, quite out of the range of and above ordinary volumes of travel, and will give a fair, comprehensive idea of the hard labor and miserable poverty of the European masses. To do this was worth all the trials and hardships of the plucky explorer, who seems to have enjoyed his uncomfortable days with a light heart. A comparative tariff table is affixed in an appendix, and, from the frequency with which the author ridicules the idea that a tariff makes high wages, it would appear that he hopes his observations will enforce the gospel of free trade. Certainly, protectionists will get no comfort from him or his facts.

BOOKS OF THE WEEK.

Alexander, A. W. Grant as a Soldier. St. Louis: The Author.
Channing, Ellery Grace. Dr. Channing's Note-Book. Passages from the Unpublished Manuscripts of William Ellery Channing. Selected by his granddaughter. Boston: Houghton, Mifflin & Co. \$1.
Clark, Rev. F. E. Young People's Prayer-Meetings in Theory and Practice. Funk & Wagnalls.
Creighton, Prof. M. A History of the Papacy during the Period of the Reformation. Vols. iii. and iv. The Italian Princes. 1404-1518. London: Longmans, Green & Co. \$4.
Dawson, R. C. James Hannington, First Bishop of Eastern Equatorial Africa. A History of his Life and Work. Author's Edition. A. D. F. Randolph. \$2.
Downey, E. In One Town: A Novel. D. Appleton & Co. 25 cents.
Field, G. W. Medico-Legal Guide for Doctors and Lawyers. Banks & Brothers.
Gordy, Prof. J. P. Fischer's History of Modern Philosophy: Descartes and his School. Edited by Noah Porter, D.D., LL.D. Charles Scribner's Sons. \$3.50.
Homans's Banker's Almanac and Register and Legal Directory for 1887. Homans Publishing Co. \$4.
Hunt, Prof. T. W. Representative English and Prose Writers. A. C. Armstrong & Son.
Lockyer, J. N. The Chemistry of the Sun. Macmillan & Co. \$4.50.
McCosh, Dr. J. Realistic Philosophy Defended in a Philosophic Series. In 2 vols. Vol. I. Expository: vol. II. Historical and Critical. Charles Scribner's Sons.
Mommson, P. The History of Rome. Translated by Prof. Wm. P. Dickson. The Provinces, from Caesar to Diocletian. 2 vols. With maps. Charles Scribner's Sons.
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