

in the influence they exercise on the thought and memory of him who compiles them, yet it is impossible to ignore the fact that, in these days of many examinations, there is a persistent demand for works of the class. It is well, therefore, that books of the kind should be prepared with reasonable intelligence, and with such care against the propagation of glaring and misleading errors as the author of this work has certainly shown. It would undoubtedly be better that the *teachers* should prepare their own lecture-notes, with illustrations derived from personal reading and study; and no less desirable is it that the *taught* should make such notes of the facts referred to in illustration of the lessons given them, as to be able to recall to their minds the arguments of the teacher, and the principles which he has aimed at enforcing. For teachers and students who are incapable of following this very obvious and desirable method, however, notes and tables of the kind before us certainly have their use. Mr. Gwynnell's book is happily free from the gross absurdities and mistakes so common in many of the books prepared with the avowed aim of meeting the wants of those preparing for examination; and, for those who must have a crutch, we may admit that this is a very excellent one of its kind. We have noticed a few unfortunate errors, such as the statement that granitite contains pink orthoclase, and that graphic granite consists of "quartz and felspar arranged in lines like writing." The pretty geological map of Great Britain forming the frontispiece, too, which has been adopted from a work that appeared a good many years ago, exhibits nearly the whole of the Scottish Highlands as consisting of Lower Silurian rocks. On the whole, however, the book has the merit of being accurate and up to date, and the author is entitled to the praise of having very carefully selected, arranged, and verified the mass of miscellaneous information which he has brought together.

La Période Glaciare: Étudie principalement en France et en Suisse. Par A. Falsan. (Paris: Felix Alcan, 1889.)

THIS volume, which is the most recent addition to the collection of the "International Scientific Series," published in the French language, contains a most admirable *résumé* of facts and opinions bearing upon the Glacial period, as illustrated in France and Switzerland. The author shows a very extensive acquaintance with the immense body of literature dealing with glacial questions, by English, American, German, and Scandinavian geologists; and very fairly and temperately discusses the bearings of the numerous theories that have been put forward upon the facts observed in France. As the references to original memoirs are very full and complete, the work cannot fail to be of much value to glacialists and geologists in general, while it admirably fulfils its main object, that of giving an accurate and popular account of the current knowledge and opinion of geologists upon glacial questions, especially adapted to the want of French readers.

Even when compelled to express his dissent from extreme views upon such questions as the recurrence of glacial periods in past geological times, the influence of glaciers in excavating lake basins, and the existence of man in Tertiary times, M. Falsan clearly states the grounds on which conclusions different from his own have been arrived at by other authors. In his presentation of the arguments for and against the various glacial theories, his moderation and his fairness are alike conspicuous.

The author of this book has taken an active part in the important work of preserving the most conspicuous of the fine boulders scattered over France; and numerous sketches of these boulders, with many interesting details concerning them, find a place in these pages. Two plates, a map showing the former extension of the French glaciers, and

a series of sections illustrating the former dimensions of the Rhone Glacier, accompany the work; but the other engravings are wanting in the beauty and finish so often found in books published in France. The very full table of contents does not compensate for the total absence of an index to the book.

Physiological Diagrams. With an Index. By G. Davies. (Edinburgh and London: W. and A. K. Johnston, 1889.)

THESE diagrams are designed for use in schools, and to "supply the teacher with a means (by teaching the pupils to draw from them) of impressing the form and organs of the different parts of the body on the pupils' minds." There are nine in all (each 22 × 30) printed in black upon cardboard, with eyelet holes for hanging purposes. The parts are represented in hard outline, each being numbered, in accordance with a series of explanatory reproductions in miniature, which accompany the "text." The whole production is most feeble. It is only when the author relies upon standard works that his diagrams are tolerable, and his only really useful sheet (No. 1) is a copy. Seeing that much better wall diagrams have long been before the public, we are at a loss to see any *raison d'être* for these poor apologies. We are told that "the principal object of these drawings is to facilitate the teaching of physiology in schools." So much the worse for the schools! We cannot congratulate either author or publishers upon their venture. The day is past in which anything in outline will pass current for an atlas; and pictorial aids to the teaching of elementary physiology, to be of any service, must be produced by competent authorities.

Woolwich Mathematical Papers, 1880-88. Edited by E. J. Brooksmith, B.A., LL.M. (London: Macmillan and Co., 1889.)

In this book we have a collection of the various papers in mathematics prepared during the last eight years to test the knowledge of candidates for admission into the Royal Military Academy. The subjects are: geometry, arithmetic, algebra, plane trigonometry, statics, and dynamics. The volume will prove most useful to those who intend entering for these examinations, and will also be of service to many teachers in our public and private schools. The answers to the examples in the various papers are collected together at the end.

LETTERS TO THE EDITOR.

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Head Growth in Students at the University of Cambridge.

UNDER the above heading there appeared in NATURE, vol. xxxviii, p. 14, an article in which certain very weighty conclusions are drawn from grounds which I hope to show are quite inadequate. These conclusions are as follow:—

(1) Although it is pretty well ascertained that in the masses of the population the brain ceases to grow after the age of 19, or even earlier, it is by no means so with University students.

(2) That men who obtain high honours have had considerably larger brains than others at the age of 19.

(3) That they have larger brains than others, but not to the same extent, at the age of 25; in fact, their predominance is by that time diminished to one-half of what it was.

(4) Consequently "high honour" men are presumably, as a class, both more precocious and more gifted throughout than others.

These conclusions were deduced from measurements taken in the following way. The maximum length, width, and height (above a specified plane) of the head are taken in inches and decimals of an inch. Since the quantities lie between 5 and 8