

of all ages will have been aroused; he will, no doubt, have drawn from the portraits in the book very vivid and characteristic conclusions as to the personal appearance of men like Klein, Fermat, and Gauss; and, being a lucky American boy, his interest will have carried him yet further to the biographies in the school library. If this is indeed his gain, it is no small acquisition. In most cases it is to be hoped that he will have learned to dispense with the irritating "Why?" which peppers the pages with the doubtful stimulus of a confession of weakness.

(3) Prof. Barnard's volume is very straightforward and is clearly written. The difficulties of beginners are not unknown to him, and in the selection and construction of examples he claims to have borne in mind the advantage of extensive numerical applications and the necessity of constant appeal to fundamental principles. From the outset he brings in the use of limits "as the only satisfactory way of defining such quantities as velocity and acceleration." The advantages of vector analysis are very much in the (Australian) air at the moment, so we have a chapter on the "merest beginnings" of the elements, which is to be regarded as giving "an alternative method of dealing with questions connected with parallelogram laws." The value of what may be called a merely incidental reference to the use of a powerful tool may be questioned. "O the little more and how much it is!" The direct treatment of simple harmonic motion as rectilinear motion under a given law of force is justified by the statement that "it has the advantage that the student is not led to imagine that some special circle has to be thought of in connection with the motion, as is so commonly the case in the common method." About one-fifth of the book is devoted to rigid dynamics. Altogether it is a very interesting endeavour to smooth the path of the beginner who is to continue his study of the subject when provided with the additional weapon afforded by the calculus. W. J. G.

OUR BOOKSHELF.

The Advanced Atlas of Physical and Political Geography. A New Series of Maps Specially Designed for Schools, Colleges, and Private Students. By Dr. J. G. Bartholomew. Pp. 96+31. (London: Oxford University Press, 1917.) Price 8s. 6d. net.

At last a British firm has supplied the atlas for which colleges and universities have been asking for years. For anything between school work and a general reference atlas it used to be necessary to go to Germany. The firm of Bartholomew has now produced something far better than a German atlas, and at a price that would be low even in peace-time. Both in its plan and in its execution the atlas is excellent and is deserving of all praise as the best atlas of its kind that has been published. There are ninety-six plates of

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maps, each plate $13\frac{1}{2}$ in. by $8\frac{1}{4}$ in., and a full index of names. Most plates contain plans and inset maps, and all are printed in colours. Every country is shown by an orographical map, which contains also political frontiers, railways, and a considerable number of names. A few countries have separate political maps in addition. All the orographical maps are layer-coloured in brown and green. There are, in addition, vegetation, rainfall, temperature, and population maps for each continent. The fineness of the workmanship and the excellence of the colour-printing are noteworthy and maintain the high reputation of the Edinburgh Geographical Institute. The geological map of Europe and the orographical maps of Ireland and of France with Belgium are three specially fine examples of cartography. Among other features of this atlas it should be noted that the projections of all the chief maps are given, and that there are two plates illustrating projections. The countries of Europe are shown on scales varying from 1:1,700,000 to 1:5,000,000, except Russia, which is on a somewhat small scale. It is an atlas that will do much to promote the very necessary extension of geographical teaching which must be the immediate concern of this country. R. N. R. B.

Food and Fitness: or Diet in Relation to Health. By James Long. Pp. ix+208. (London: Chapman and Hall, Ltd., 1917.) Price 5s. net.

THIS book possesses a topical interest at the present time, inasmuch as it deals particularly with vegetable foods, giving details of their energy-values and cost at pre-war prices. Although the author states that he is not a vegetarian, the purport of the book is an advocacy of vegetarian principles in diet. It is remarked that the knowledge displayed by owners of stock regarding the proper feeding of their animals is much more profound than that which applies to themselves, which is very true. An excellent chapter deals with the most economical foodstuffs, and the cereals and pulses easily take the first place. The author pleads with justice for an increase in vegetable foods and a decrease in animal ones as age advances and for economy, and the qualities and characters of the principal vegetables and fruits are described, together with suggestions on serving and cooking them.

A chapter on the selection of foods, including animal foods, gives many valuable hints, and another gives records of weights of food before and after cooking. Finally, some useful suggestions are given on sleep and how to attain it, and tables of energy-values of the principal foodstuffs per penny cost complete the volume. While the author's advocacy occasionally leads him to make statements which are not entirely correct, the book as a whole contains a great deal of sound and useful information, and the caterer and housewife who wish to economise will glean from it many valuable suggestions.