

psychology as the study of the functional needs of the central nervous system. His book exhibits great psychological learning, but is marred, I believe, by an ineradicable inconsistency of principle. He does not seem to have definitely made up his mind whether the processes of mental life are truly teleological (as he verbally asserts) or purely mechanical (as he frequently implies). Thus he exalts the significance of habit, or, as he calls it, "organised reaction," and minimises that of pleasure, pain and volition in determining action to a degree which leaves it a mystery how a new purposive reaction ever gets established.

A. E. T.

*Heredity and Social Progress.* By Simon N. Patten, University of Pennsylvania. Pp. i+214. (New York: the Macmillan Company; London: Macmillan and Co., Ltd., 1903.) Price 5s. net.

Useful as analogy may be for purposes of illustration, it forms a precarious basis for scientific argument. Dr. Patten's book exemplifies the danger of attempting to formulate general laws on the strength of more or less superficial resemblances between phenomena belonging to diverse natural conditions. Such first-sight correspondences may legitimately be employed in the way of suggesting or indicating an underlying law, but in the absence of verification by comparison with all related facts, they are incapable of carrying an induction beyond its preliminary stages. These principles, which would seem to be sufficiently obvious, are practically ignored in the present work, which accordingly, in spite of some clever reasoning, is vitiated throughout by its faulty method. The author's premises being unsound from the outset, his arguments cease to be of interest except as exercises of logical ingenuity. A few examples will show the kind of biological doctrine to which Dr. Patten asks our assent. It is not such as to justify confidence in either his facts or his method. "The germ cell. . . has, therefore, the conditions of consciousness and more readily may be assumed to be the seat of consciousness than any other part of the body. In fact, by a process of exclusion it would seem to be the only possible seat of consciousness." "The nerve, in its effort to emit its sex products, presses against the skin and partially breaks through. The skin hardens over the injured part and the tooth results, which holds the nerve in." "The brain . . . is a sex organ that never attains its elementary functions." "The play of the emotions is sufficient to account for the reduction and disappearance of organs." It will be seen that the author is not to be taken seriously. His book is simply a monument of misapplied ingenuity.

*The Educational Systems of Great Britain and Ireland.* By Graham Balfour, M.A. Second edition. Pp. xxxi + 307. (Oxford: Clarendon Press, 1903.) Price 7s. 6d. net.

THE first edition of Mr. Balfour's book was published five years ago, and since that time events of the greatest importance have taken place in English and Irish education. The consequence is that the present issue differs in many respects from the previous one. To students of education the volume is already well known, at least by name, and in its enlarged form it should prove of great assistance to members of the new education authorities being formed in all parts of the country as a consequence of the passing of the Education Act, 1902.

The education of the British Isles is considered under the three headings—elementary, secondary, and higher, but, as Mr. Balfour says, this is likely to be increasingly difficult, as the three grades are becoming parts of that organic educational whole which it is essential to

form in this country. There is one direction in which the value of the book might be much enhanced, and that is in showing what has been done in this country by private effort for higher education. No educationist has yet instituted an exhaustive comparison between the extent of private munificence in aid of higher education in this country and in the United States, though a beginning was made in NATURE (No. 1750). Such a comparison would do much to quicken public interest in higher education. The book may be recommended to all who wish to obtain an accurate and comprehensive idea of the present state of education in the British Isles.

A. T. S.

*Alpine Flora.* By D. J. Hoffman, translated by E. S. Barton. Pp. xii + 112. (London: Longmans, Green and Co., 1903.) Price 7s. 6d. net.

It is a notable fact that many travellers who have little or no knowledge of their native flowers often become keenly interested in the flora of the Alpine regions, and the reason is not far to seek, for the attraction lies in the richness of colour and lavish abundance which characterise the flowers growing on the mountains. There is therefore a demand for a book, with illustrations, preferably coloured, and written in fairly simple language, which will enable the amateur or novice to name his botanical specimens. Such is mainly the object of the present book, originally written in German and translated for the benefit of English travellers. It is naturally a difficult matter to decide which flowers to represent in a small book of moderate price, the limitations of which are imposed by the cost of production of coloured plates, and the selection is on the whole judicious. There are a few plants, such as *Hacquetia epipactis*, *Lilium carnolicum*, which are not found, or rarely so, in Switzerland and the Tyrol, which might have been excluded in favour of others of more common occurrence. The colour contrasts are good, excepting for a weakness in the tone of the pinks, and a similarity of blue in the gentians. Mrs. Gepp has introduced more precise terms in the English edition, which add to its scientific value, and yet should not offer any difficulty to the amateur, since a glossary is provided. The book may advantageously be used with Gremli's "Flora für die Schweiz," and will be a material help to those botanists who have not previously visited the European Alpine ranges.

*Arnold's Country-Side Readers.* Book i., pp. 144; price 10d. Book ii., pp. 176; price 1s. Book iii., pp. 214; price 1s. 2d. Book iv., pp. 236; price 1s. 4d. (London: Edward Arnold, n.d.)

*Arnold's Seaside Reader.* Pp. 264. (Same Publisher.) Price 1s. 6d.

THE title of the first four of these reading books for schools suggests that the reading lesson should be utilised to give the pupil some knowledge of the natural objects of the country at the same time that he is learning to read, and there is much to be said for such a plan. An examination of the contents of the volumes shows that much interesting information about common plants and animals is placed before the young learner; but there is so bewildering a medley of fairy tale with descriptive natural history that the boys and girls who are set to learn from the books will scarcely be able to decide where fancies end and facts begin. The same diversity of contents characterises the "Seaside Reader"; instructive lessons on fishes and other sea animals are interspersed with accounts of naval battles and biographical sketches of naval heroes. On the whole it would be wiser in such books to exclude the fairy tales and historical chapters; there is romance enough about natural science without other aid being necessary. The books are well printed and attractively illustrated.