department. Dr. Vogel's chief difficulty has been to keep the book within reasonable limits while bringing it up to date, but he has not been wholly successful in this. By a slight further enlargement of the book he might without difficulty have very much increased its value. A description of the diffraction spectroscope should have been given in the section on spectroscopes; Prof. Hale's work in photographing prominences and faculæ should have been introduced; the chapter on Mars is very much behind the times; and some details should certainly have been given of the international scheme for photographically charting the stars.

Dr. Vogel has considerably altered the arrangement of the chapter on comets and meteors, and this alteration has led to the curious result that the same woodcut appears as Figs. 152 and 165. The chapter on stellar astronomy is also recast, the editor's own latest classification of star spectra being given to the exclusion of all others. The section on variable stars has also been entirely rewritten. These chapters would have been much improved by an account of recent discoveries as to the resemblances between comets, nebulæ, and stars, and of the theory that variable stars are formed of revolving swarms of meteorites. The classification of star spectra which recognises an ascending and descending temperature should have been given, and recent work and theories on temporary stars certainly deserved attention. The bibliography given in the first edition has been omitted in the second, as being too much for the general reader, and insufficient for the student of science. The excellent series of biographical notices in the appendix has been carefully extended to 1891, and completely rearranged. Dr. Vogel has adopted the admirable plan of arranging these notices chronologically in order of death, instead of birth, probably on the grounds that all work is largely the result of previous discoveries, and that the later years of a man's life are usually his best and most productive. A series of excellent tables and a full index complete the volume.

The general appearance of the book has been much improved by the use of new woodcuts for the illustrations, and by the substitution of two excellent photographs of nebulæ (those of Orion and Andromeda) for the very unsatisfactory star charts of the earlier edition.

A. T.

The Hemiptera Heteroptera of the British Islands. By Edward Saunders, F.L.S. (London: L. Reeve and Co., 1892.)

IT is now nearly thirty years since Douglas and Scott first made the study of the British Hemiptera Heteroptera possible to ordinary students by the publication of a description of these insects in a volume issued by the Ray Society. The difficulties were then very great, for purely insular ideas in entomology were prevalent, and our hemipterous insects had not been sufficiently compared with continental species. Douglas and Scott did all that was possible at that time and produced a good work that has held the ground as the best published authority on the subject. Very much, however, has been done since that period, and restricted specialists in entomology, as in most other branches of natural science, have exercised unlimited time and patience in studying the classificatory problems of a single family or even of a large genus. Hence in a monograph of to-day the standard of advanced classification and descriptive facility is considerably raised from that which dominated the writings of the earlier authors. Mr. Saunders has not only aimed at this perfection, but has sought to place in the hands of the British student and collector a thoroughly trustworthy handbook by which he may understand and identify his collection, and in this we think the author has altogether succeeded. We must not look for bibliographical references or synonymical notes, the names of the describers of families, genera, and species being only indicated, while the habitats of the species are confined to such localities in the British Islands as are recorded by collectors; and this is perhaps all that can be expected in a local monograph. It is therefore in no spirit of criticism we express a regret that in all faunistic writings the complete recorded distribution of the species is not given. Thus even the purely British collector would not be the worse for learning that *Zicrona cærulea*, to be found in the suburbs of London, is not only widely distributed throughout the Palæarctic region, but is also found in Continental India and in the Malay Peninsula and Archipelago; or that *Ischnorhynchus resedæ*, to be taken even at Hampstead, is common throughout Europe and Siberia, and is also neither scarce in North nor in Central America.

We welcome Mr. Saunders's book as a distinct and valuable addition to our insular entomological literature. We also notice that an illustrated edition is advertised, but on the quality of the plates we are compelled to be silent, as the publishers have only forwarded us a plain copy.

W. L. D.

Physical Education. By Frederick Treves, F.R.C.S. (London: J. and A. Churchill, 1892.)

THIS essay is reprinted from the "Treatise on Hygiene" by various authors, edited by Stevenson and Murphy, the first volume of which we recently reviewed (NATURE, vol. xlvi. p. 609). It well deserves to be issued separately, for the author has mastered his subject thoroughly, and sets forth his ideas in a plain, straightforward style which will be cordially appreciated by readers who are especially interested in athletics. Mr. Treves is quite as strongly conscious of the evils which may spring from excessive or unsuitable physical exercise as of those which may result from physical exercise being neglected or underrated, so that there is a welcome tone of perfect impartiality in all he has to say about the various ways in which efforts are made to promote health by the use of the muscles. The volume may be confidently recommended to all who desire to understand the conditions under which physical exercise is most likely to be of service.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

The Geology of the North-west Highlands.

IN the kindly review of my work by Prof. de Lapparent, which appeared in NATURE of 5th inst., there are one or two inaccuracies which I would at once have corrected had I not shrunk from drawing attention, even for purposes of rectification, to an article which I felt to be too eulogistic. Lest, however, my silence be misinterpreted, there is one point on which I wish to say a few words. Prof. de Lapparent, when alluding to the solution of the problem of the geological structure of the North-west Highlands, makes no reference to the distinguished part taken in that subject by Prof. Lapworth. But every one who has followed the progress of geology in recent years is familiar with his work. For myself, I have had no personal share in the discovery. Like most geologists I had accepted the views of Sir Roderick Murchison, and I held to them, until, after the Geological Survey was for the first time extended to Sutherland in 1883–84, I was finally convinced that they were untenable by the brilliant mapping of my colleagues, Messrs. Peach and Horne, who, following Prof. Lapworth's lead, share with him in the glory of one of the greatest achievements of field geology in recent times. My recantation was published in NATURE of November 13, 1884, and the whole history of the investigation of the North-west Highlands up to Prof. Lapworth's latest paper

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