

Frank Buckland would have said, actually feed on the larvæ of a white butterfly which abounds in the pine-forests.

Some curious stories are related by Mr. Butler respecting Longicorn beetles, and *Sirex gigus* perforating sheets of lead. Many years ago, a tin canister was exhibited before the Entomological Society, through which a stag-beetle had gnawed its way, and the marks of its jaws were distinctly visible on the tin.

In his remarks on the bed-bug, which is almost invariably, if not always, apterous, Mr. Butler makes some general observations (p. 287) on the use of wings to insects. It may be mentioned that the late Mr. Wollaston has observed that most insects inhabiting the Atlantic Islands, are either strongly winged, or practically incapable of flight. The explanation which he gives is very curious and interesting. Insects living on small islands exposed to gales are very liable to be blown out to sea. Hence it is almost equally beneficial to them either to be gifted with such strong powers of flight that they can make their way back, in case of such an emergency, or else that they should never fly at all, and thus never run the risk of being blown away.

There are many interesting subjects touched upon in Mr. Butler's work, and much that would admit of further comment; but we have perhaps said enough to indicate its general scope and character. Should it reach a second edition, we think it might be made a little more comprehensive with advantage; for the subject is a very large one, and those who feel a real interest in it rarely find a book too long or too much detailed.

OUR BOOK SHELF.

Text-book of Biology. By H. G. Wells, B.Sc.Lond., F.Z.S., Lecturer in Biology at University Tutorial College. With an Introduction by G. B. Howes, F.L.S., F.Z.S., Assistant Professor of Zoology, Royal College of Science, London. Part II. Invertebrates and Plants. (London: W. B. Clive, University Correspondence College Press, 1893.)

IN dealing with a small number of Vertebrate types in Part I. of this book (see NATURE, vol. xlvii. 1893, p. 605), the author showed distinct capability and promise; but we feel that he would have done well to wait and work for a few years before publishing this second volume, which covers a larger field. As the types of plants and invertebrates treated of have already been described in so many text-books, the writer had, at any rate, the opportunity of getting his facts and deductions second hand and fairly correctly stated, even without an extensive acquaintance with biological science. There is, therefore, all the less excuse for the many errors and misstatements which occur in this volume, the preface to which would lead one to expect better things in this respect, as well as in the selection and arrangement of facts. Prof. Howes's introduction appeared in Part I.; and before inserting his name on the title-page of Part II. it would, we think, have been only just to have at least submitted the proofs to him. The book would certainly have gained by so doing.

Apart from the more serious faults, which are so numerous that it is not easy to give a short selection of them, awkward terms and misprints abound. Prof. Goebel would probably be surprised to hear that he had written a text-book on botanical "mythology" (p. 94)!

The illustrations are exceedingly crude, and are mostly

rough copies of well-known figures. It is, however, only fair to state that the author has purposely made them "as simple and diagrammatic as possible." W.N.P.

The New Technical Educator. Vol. ii. (London, Paris, and Melbourne: Cassell and Co., Ltd., 1893.)

IN a notice of vol. i. of this useful work we pointed out that it filled a want in our general technical literature, and that its contents were of a high order. The present volume is quite equal to its predecessor in this respect, and forms a continuation of all the subjects treated in the previous volume.

Under the heading of the "Steam Engine" we find an admirable series of chapters, by Mr. Archibald Sharp, on the subject of valve gear generally, particularly the diagrammatic treatment of the subject illustrative of the various movements of eccentrics, piston and valve. "Electrical Engineering" is also in good hands, being clearly treated by Mr. Edward A. O'Keefe. The many explanations and descriptions given are of a high order of merit. On the subject of "Cutting Tools" much useful information is to be found from the pen of Prof. R. H. Smith, who is an authority on this particular subject. The other subjects embraced in the volume, including practical mechanics, plumbing, photography, steel and iron, drawing for engineers and carpentry, are all well written and illustrated, forming a very useful collection of articles on technical subjects. It is to be regretted, however, that the various articles on different subjects continue in this volume to be mixed together, thus causing the reading of one subject to be a matter of frequent reference to the page of contents.

Heat, and the Principles of Thermodynamics. By Dr. C. H. Draper. (London: Blackie and Son, 1893.)

IN these days of innumerable books, it is often a difficult task to correctly appraise the value of a new work, and this is especially the case with books intended for use in classes. The only thing a reviewer can do is to judge whether the volume under his notice differs much from previous volumes on the same subject; and if the author shows no originality of treatment, it seems to us that his book could very well have been left unwritten. Viewing Dr. Draper's work in this light, we find as follows: (1) Much more attention is paid to the principles of thermodynamics than is usual in class-books of its kind; (2) the examples and exercises distributed throughout the book, and at the end, are more numerous than in most text-books of heat, and cover a wider range of examinations; (3) the mathematical section of the subject has not been shirked. Little more can be said. The book is as good as any of its class, and to the student who desires to read up for an examination in heat it should be very helpful.

LETTERS TO THE EDITOR.

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Systematic Nomenclature.

WITH reference to Prof. Newcomb's suggested nomenclature for radiant energy, which appeared in NATURE, November 30, p. 100, it seems advisable to be rather cautious in adopting new words, or rather terminations to words already more or less in use, for at the present time the student beginning the study of physical science is fairly bewildered with the various forms of words used under the present system, or rather want of system, in nomenclature.

If once for all some system of termination was settled upon