Mr. Stuart-Wortley discourses with authority on how to shoot—slaughter?—this tame "Byrd of singular beauty," when driven in bevies slowly and with not a little persuasion just sufficiently far away to "home," on being flushed, at a proper altitude over the guns, which are thickly stationed in hiding to rain a murderous hail on them. The shooting of the wild-bred bird is, however, nobler sport. "Nothing strikes one more in Norfolk," says Mr. Stuart-Wortley, "especially in the heath district, than the prevalence of pheasants everywhere . . . and it adds greatly to the charm of a partridge drive when it is varied by a few rocketing pheasants out of the belt you are standing by, or when they rise high off the heath and come over with the partridges, and quite as fast. . . . The late October days in Norfolk and Suffolk, especially where there is heath, are among the most fascinating to be got in England."

Mr. Innes-Shand plays on our salivary glands by extolling the excellence of the bird "when she is in the dish," roast and with bread-sauce, and in many a fascinating style besides that "sublimest form of art . . . the *faisan à la Sainte-Alliance*." Altogether "The Pheasant" is, as remarked above, a delightful *compagnon de voyage*, and will be found in many a portmanteau in the late October days. The ten well-produced full-page plates add much to the attractiveness of the volume.

OUR BOOK SHELF.

The Elements of Botany. By Francis Darwin, M.A., M.B., F.R.S., Fellow of Christ's College, Cambridge, and Reader of Botany in the University. (Cambridge: University Press, 1895.)

IN this little book the elements of botany are presented in a more refreshing form than is too often the case. The author has chosen to emphasise certain principles and phenomena of morphological or of physiological importance, rather than to crowd his pages with vast numbers of facts. Various plants are requisitioned to serve as illustrations of the different subjects under treatment; and thus the student will certainly acquire a clearer and more general conception of what, for instance, a flowering plant is, and how it lives, than would have been possible had only one example been selected as a type, even though this had been far more exhaustively dealt with.

There are some matters, however, in which it may be doubted whether the method of treatment adopted will commend itself equally to most botanists. Thus, although Mr. Darwin says that he advisedly puts the doctrine of alternation of generations into the background, many will doubtless regret his decision. It is true that without the introduction of a few more intermediate types, the question would possess, as the author says, but little interest for the elementary student. But in view of the great importance, both of the facts and of the comparisons based upon them, one cannot help wishing that the general bearings of the question could have been indicated somewhat more fully.

A second matter is the employment of the term *bark* in the popular, as opposed to its more technical, sense. Botanists have come to attach a special and restricted meaning to the term; and though it is no doubt highly improper to pirate English words, still this is done in every technical department, and thus, in spite of its admitted inconvenience to the beginner, we think the balance of advantage is in favour of the retention of the appropriated word in its restricted significance.

But these are cases in which there is room for difference of opinion; there will be none at all on the question as to the merits of Mr. Darwin's book considered as a whole. It is an admirable work which both teacher and student will cordially and deservedly welcome.

The Book of British Hawk-Moths, a Popular and Practical Handbook for Lepidopterists. By W. J. Lucas. With illustrations from Nature by the Author. (London: L. Upcott Gill, 1895.)

THERE is a great flood of books on the larger and more showy British *Lepidoptera* issuing from the press at the present time; but so long as the information which they contain is fairly accurate, and they place on record a portion of the floating information derived from periodicals or personal observation, we do not see that the fact is to be regretted. At least it is a sign that an intelligent interest in entomology is now taken by a large number of persons who are not entomologists or collectors themselves; for we do not believe that there is a sufficiently large number of entomologists to buy up the large editions of popular books which are now offered to them; they must appeal to a considerable number of outsiders as well.

The book before us is restricted to a very small group of British moths, the *Sphingidæ* proper, numbering only seventeen species, several of which are possibly only casual visitors rather than permanent residents. Consequently, the author has been able to treat of the subject in considerable detail, though a good deal of the introductory part of the book deals with the collecting and preserving of *Lepidoptera*, rather from a general point of view, than as specially applicable to *Sphingidæ*. The illustrations consist of folding plain plates, representing the larva, pupa, and imago of each species, the earlier stages, when not observed by the author himself, being usually copied from Buckler's work on larvæ. There are also occasional woodcuts in the text. The letterpress is pleasantly, though sometimes hastily, written, and is fairly complete and up to date; and most of the illustrations are good. On the last plate, the names of the two bee hawk-moths appear to have been reversed, probably by a printer's error. The information given is, we believe, accurate; but every entomologist will be able to supplement it according to his own experience. Thus, it might have been stated that *Smerinthus tiliæ* (the lime hawk-moth) is one of the commonest of the *Sphingidæ* in the suburbs of London. *Sphinx pinastri* (the pine hawk-moth) is mentioned as sometimes found at rest on the trunks of pine trees. So it is; but it will also rest on other trees, and on the continent it is often found resting on the trunks of the poplars which often fringe the roads in the neighbourhood of pine forests.

W. F. K.

Biology Notes. Vol. i. Edited by David Houston, F.L.S. Pp. 290. (Chelmsford: Technical Laboratories, 1895.)

THIS volume is a collection of bulletins published monthly by the Technical Instruction Committee of the Essex County Council, as an aid to the teaching of biology. It contains information bearing upon the applications of biology to the industrial pursuits of the county, and notes of interest to biological students. Among the subjects of short articles are ergot and its physiological effects, bracken poisoning of cattle, biological aspects of dairying, injurious insects, diseases of cultivated plants, zoology on the Essex coast, and spraying experiments; and there are also included in the volume several detailed syllabuses of courses of practical instruction in vegetable and animal biology. The "Notes" are well illustrated, and must be of great assistance to the students in the classes controlled by the Essex County Council. Other County Councils would do well to issue monthly bulletins of the kind collected in this volume.