## OUR BOOK SHELF

## Studies from the Physiological Laboratory in the University of Cambridge. Edited by the Trinity Prælector in Physiology. Part III. (Cambridge: Printed at the University Press, 1877.)

THIS volume of 165 pages, together with numerous elaborate plates—the largest of the Cambridge Biological "Studies" yet published—is a most pleasing indication of a vigorous spirit of research in a body which has by many been thought to be solely educational. It is not, indeed, the number of the memoirs and papers here collected, but their quality, which makes them worthy of the university whose name they bear on the title-page. In quantity they are far from commensurate with the latent means and opportunities of the colleges and University of Cambridge, but in their thoroughness and dignity they display a spirit which would do honour to They represent a new feature in the any university. history of biological science in this country, viz., the recognised official charge of biological research in high places, where it has been too long neglected. The Biological and Physiological School of Cambridge is a rare and valuable "sport" in the offspring of an organism of decided conservative tendencies: may we not hope that, ere long, Oxford will give birth to a similar healthy monster?

All the papers of this volume have been published before in the *fournal of Anatomy and Physiology*, or elsewhere; but we are not the less glad, on that account, to see the present collection. If the cause of scientific research were more secure in England than it is, the publication of special collections of memoirs of the various schools might be held to be an unnecessary luxury, or even—since rivalry may become ungenerous—a positively dangerous habit. Under our present conditions, however, it is not only pleasant to be reminded now and again of the various centres of organised research among us, but it materially strengthens the hands of English scientific workers to invest the different growing schools with somewhat of a personal and individual interest.

The volume contains physiological and anatomical papers, chiefly in zoology, but also in botany. Dr. Michael Foster and Mr. Dew-Smith contribute a most interesting paper on the effects of the constant current on the heart, which is a continuation of the work they did on the reaction of the snail's heart to electrical currents. Mr. J. N. Langley has a paper on the action of pilocarpin on the submaxillary gland of the dog. Mr. Gaskell reprints one of his papers on the vaso-motor nerves of striated muscles. Mr. F. M. Balfour contributes an important section of his now published monograph on the development of elasmobranch fishes, viz., the development of their spinal nerves; as well as a paper on the spinal nerves of amphioxus. Mr. Marshall follows with a paper on the development of the nerves in birds. Mr. Bullar has a paper, with plates, on the generative organs of parasitic isopoda; Mr. Bridge one on the cranial oste-ology of *Amia calva*, also admirably illustrated; and Mr. Sidney Vines a short communication on the digestive ferment of nepenthes.

# The American Quarterly Microscopical Journal, containing the Transactions of the New York Microscopical Society. Edited by Romyn Hitchcock. Vol. I., No. 1. October. (New York: Hitchcock and Hall, 1878.)

COMMENCING, as this new journal does, on the lines of our own *Quarterly Fournal of Microscopical Science*, and somewhat under the like auspices, we trust it may have the same worthy career, and be equally well thought of. The first number is beautifully printed on excellent paper, and contains some eighty-two pages belonging to the journal proper, while the *Transactions* of the New York Microscopical Society extend to some sixteen pages more. The six plates, on their part, are good, but not up to the same standard of execution as the letterpress, and fall a good deal below those that generally appear in our own microscopical journal. The chief contents of this part are—I. On the Sting of the Honey Bee, by J. D. Hyatt. Plates I. and II. 2. Description of some New Species of Diatoms, by H. L. Smith. Plate III. 3. Observations on several Forms of Saprolegniaceæ, by F. B. Hine. Plates IV. to VI. Only the first part of this paper is given, and the list of works referred to by the author is given at the end of the paper, so perhaps it may be premature to suggest that English writers on this subject are not altogether wanting, as he would seem to think; but has he not Dr. Lindstedt's Synopsis, and does not this refer to such? 4. The Oil Immersion Lenses of Zeiss compared with the Objectives of Spencer and Sons, by H. L. Smith. 5. On the Microscopical Examination of Fibers (fibres?), by W. H. Seaman. 6. Emigration in Passive Hyperæmia, by W. T. Belfield. 7. On a New Device for Dark-field Illumination, by W. Leighton. Among the shorter articles we may mention one reprinted, with full acknowledgment, on the Spore Formation in the Mesocarpeæ, from our own columns, and an account of the National Microscopical. Congress held last August at Indianapolis, Indiana.

### 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. No notice is taken of anonymous communications.

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

#### Locusts and Sun-Spots

As the locust (*Edipoda migratoria*, or *Acridium perigrinum*?) is a frequent and occasionally aggravating accompaniment of drought and famine, it cannot but be interesting to notice that periodical incursions of this insect into the temperate zone are apparently regulated in some way by the terrestrial meteorological abnormalities which accompany the varying phases of the sun-spots.

Dr. F. G. Hahn, in his treatise "Ueber die Beziehungen der Sonnenfleckenperiode zu meteorologischen Erscheinungen," atfer remarking that locusts will probably only visit the temperate regions in great numbers during unusually hot and dry years (on account of the brood), and abandon them again in wet and cold years, shows, from a list furnished by Dr. W. Köppen, of Hamburg, embracing the period 1800-1862, that in Europe they begin coming about the epoch of minimum sun-spot, paying annual visits from thence up to the epoch of maximum sun-spot, after which they disappear altogether until the next following epoch of sun-spot minimum.

In the following table I give Dr. Hahn's dates for their visitations in Europe, with some additional ones on the authority of M. Camille Flammarion, and Mr. Walford of the Statistical Society, which include other regions of the north temperate zone. I also give the corresponding sun-spot epochs in each case, according to Wolf. The capital letters in parentheses attached to the dates, indicate the authorities respectively alluded to above.

Locusts.	SUN-SPOTS.	
Date of Visitation in Temperate Zone.	Min.	Max.
1613 (F)	1610.8	1615.0
1690 (F)	1689.5	1693.0
1748 <sup>1</sup> -1749 (F)	17450	1750'3
1800 annually up to $1806(H)$	1798'3	1804'2
1811 ,, , 1816 (H)	1810.6	1816.4
1820 ,, , 1829(H)	1823'3	1829.9
1832 (F) 1834 (F) 1837 annually up to 1839 (H)	1833.9	1837.2
1844 annually up to 1848 (H)	1843.5	1848.1
1855	1856 0	1860.1
1866 (F) 1868 (W)	1867.2	1870.6
1874 annually up to 1878 (W)	. 1877(?)	

<sup>1</sup> See Gentleman's Magazine for July, 1748, pp. 331 and 414.