

*fifteen out of the sixteen lots the failure is higher among the abnormal than among the normal plants.*

The material is classified in only the alternative categories, normal and abnormal, or typical and atypical—of which the latter is highly complex, comprising many different morphological variations in their permutations. Possibly, some types among the atypical show a lower mortality than the typical seedlings. When materials are ample I hope to determine approximately the selective value of each of the chief types of variation, both alone and in various combinations. In the meantime, the data given here may serve to record another case of the quantitative demonstration of a selective death rate.

J. ARTHUR HARRIS

CARNEGIE INSTITUTION OF WASHINGTON

#### THE DOMAIN OF COMPUTATIONAL ASTRONOMY

TO THE EDITOR OF SCIENCE: In the light of Professor Campbell's criticism (SCIENCE, October 25) it is to be regretted that I did not state explicitly that the domain of computational astronomy is much larger than that of the determination of orbits. This is so obviously true that it did not occur to me that my remarks could be misinterpreted. Let me amend, therefore, with the statement that Buchholz's Klinkerfues's "Theoretische Astronomie" belongs in the general field of computational astronomy.

My remark that the computational field might perhaps be called the bookkeeping, or auditing, department of astronomy may have been "unfortunate." Since it incurred the criticism of Professor Campbell I feel quite certain it was. But there is nothing in his communication which leads me to doubt its essential accuracy.

This classification of "theoretical astronomy," which was made only in the interest of exactness, clearly does not imply any disrespect for computation which is of great value not only in astronomy but in many other subjects.

W. D. MACMILLAN

UNIVERSITY OF CHICAGO,

October 25, 1912

#### SCIENTIFIC BOOKS

*Gould and Pyle's Cyclopaedia of Practical Medicine and Surgery*, with particular reference to diagnosis and treatment. Second edition, revised and enlarged by R. J. E. SCOTT, M.D., with six hundred and fifty-three illustrations. Philadelphia, P. Blakiston's Son & Co. Royal 8vo. 1912.

In our times the medical sciences make such rapid advances that medical text-books and encyclopedic works are soon out of date. It was therefore a happy idea and a meritorious work of Dr. Scott to revise and republish Gould and Pyle's valuable "Cyclopaedia," which first appeared in 1900. The new edition retains the excellent features of the first and new ones have been added. The list of contributors is a guaranty of the sterling value of the book.

The work is in size and arrangement of contents very much like those eminently practical encyclopedias of Forbes (1833), Todd (1835), Tweedie (1840), Quain (1882), which differed notably from the huge German and French works of a similar character, like those of Eulenburg (1886-89) and Dechambre (1864-89), in that they condensed a very large amount of knowledge in one or two volumes. What the general practitioner wants is not a cumbersome work of reference of twenty or thirty volumes, where he has to wade through a lengthy and exhaustive exposition of a subject, but a concise presentation of the salient facts, which he can take in in a few minutes. Such a book is the one before us. It is the only medical reference book of its kind in America and it may truly be said that it fills a much needed want.

On examining the book the reader is at once struck at the large amount of knowledge compressed in such a small space. It is, indeed, the comparatively small size of the book which gives it a great advantage over similar works. The writers have succeeded in giving the essential and important points of the various subjects in the most concise form. Titles like cerebrospinal meningitis, heart-disease, infant feeding, malarial fever,

nephritis, tumors of the spinal cord, examination of urine, are presented in a most effective manner. Equally well handled are the surgical subjects. Especially worthy of mention are the titles aneurysm, gunshot wounds, hernia, surgery of the intestines, neck and stomach.

Diagnosis forms a valuable part of the work. Besides the portions on diagnosis under the various diseases such general titles as physical diagnosis of the abdomen, examination of the blood, examination of the chest and heart, pain, are presented in a concise and most interesting manner. The same observation applies to the portions which give the treatment of the various diseases.

Among the specialties the eye is especially skilfully treated. The titles cataract, cornea, glaucoma, lenses, trachoma, deserve special mention.

The work contains the latest discoveries in medicine. We find in it an account of Bier's hyperemic treatment, Brill's disease, hook-worm disease, immunity, opsonines, pellagra, serum therapy. The title syphilis contains the latest additions to our knowledge of this disease; it gives a clear and concise exposition of the Wassermann reaction and of the new treatment with salvarsan.

And now we come to the defects; they are few. Some subjects are perhaps too lengthily treated, as for instance, climatology, constipation, life assurance, the latter title taking up more than six pages, which is out of proportion to the general concision of the work. We miss some titles like adalin, decompression of the brain, intratracheal insufflation, vestibular nystagmus, pantopon and a few others. But all in all the work is as complete as can be expected. The few defects are easily outweighed by the many merits the work possesses.

A number of tables of the arteries, muscles, nerves, poisons, reflexes, tumors, etc., form a valuable addition. There are 653 illustrations, those on anatomy and surgery being especially good. On the whole it may be said of this work that its defects are few, its merits many

and the general practitioner will find it a valuable aid in the daily routine of his work.

A. ALLEMANN

ARMY MEDICAL MUSEUM

*Genera Insectorum*, 122me Fascicule. Dermaptera. By MALCOLM BURR, D.Sc. Brussels, Wytsman. December 15, 1911. Pp. 112, 9 plates.

Since De Borman in 1900 gave to the world in "Das Thierreich" his "Monograph of the Dermaptera," the number of species known to science has been doubled and the number of genera erected by various authors has been quadrupled. In 1910 Dr. Malcolm Burr published a volume upon the Dermaptera of India, Burmah and Ceylon, which was issued as one of the volumes of "The Fauna of British India" which is being printed under the auspices of the Indian government. At the time of its appearance that work was noticed by the present writer in the columns of SCIENCE. The work before us is an advance upon the former treatise in so far forth as it endeavors to outline the classification of the dermapterous fauna of the world, giving the characters of the various genera, lists of the known species, and their synonymy.

The author recognizes three suborders. The first, the Arixenina, is parasitic, and thus far is known by but one genus and species, *Arixenia esau*, described by Dr. Karl Jordan in 1909. This curious insect has the eyes only feebly developed, is apterous, and inhabits the pouch of the Javan bat *Cheiromeles torquatus* Horsfield. The second suborder, the *Hemimerina*, is likewise represented by a single genus and species. It is also parasitic, living on the widely distributed African rodent, *Cricetomys gambianus* Waterhouse. It is viviparous, apterous and totally blind. The third suborder comprises the Forficulina, or ear-wigs proper, which are oviparous, have fully developed eyes, are either winged or apterous, and have the cerci developed into horny forceps. None of them are parasitic. In the latter suborder the author recognizes three super-families, the Protodermaptera.