

A GLANCE through the new edition of the catalogue of physiological instruments manufactured by the Cambridge Scientific Instrument Company shows the importance of a knowledge of physics to physiologists and biologists, for without an acquaintance with physical principles it would be impossible to design or use many of the instruments described. Special attention may be called to the completeness of the list as regards recording drums and motors, apparatus for blood analysis, and anthropometric apparatus.

SEVERAL important papers appear in volume x. of the *Bulletin* of the American Museum of Natural History, just received from New York. Among the subjects dealt with are: Mexican birds; native tribes of Mexico; new mammals from Western Mexico and Lower California; complete skeletons of *Teleoceras fossiger* and *Coryphodon radians*, with notes upon the locomotion of these animals; extinct Camelidæ of North America and some associated forms; evolution of the amblypoda, revision of the species of *Euchlœ* inhabiting America; the Chickarees, or North American red squirrels; vertebrate fauna of the Hudson Highlands; and the Bombycine Moths, found within fifty miles of New York City.

A THIRD edition, revised and enlarged, of Prof. J. Arthur Thomson's "Outlines of Zoology" has been published by Mr. Young J. Pentland, Edinburgh. The volume, which contains more than eight hundred pages and 332 illustrations, is an inspiring text-book which students of zoology may use in the lecture-room, museum, and laboratory.—The seventh edition of "A Treatise on Practical Chemistry and Qualitative Analysis," by Prof. Frank Clowes, has been published by Messrs. J. and A. Churchill. The new edition of this successful volume has undergone a thorough revision, and some additions have been made. The organic portion of the book will now meet the needs of many medical students.—Messrs. A. and C. Black have published a second edition of Mr. C. M. Aikman's instructive little book on "Milk: its Nature and Composition." The volume provides students of agricultural science with a capital manual on the chemistry and bacteriology of milk, butter, and cheese.

MESSRS. WILLIAMS AND NORGATE'S latest *Book Circular* (Scientific Series, No. 71, May) contains a number of useful descriptive notes on recent and forthcoming scientific books, as well as the usual particulars. Among the announcements, we notice the following:—A new monthly periodical devoted to biological sciences is announced from Italy. The title will be "Revista di Scienze Biologiche," and it will be edited by Enrico Morselli.—The third edition of Beilstein's "Handbuch der organischen Chemie" is now fast approaching its completion, and the final part of the fourth volume will probably be published in the course of the coming summer. The first volume, consisting of 1586 pages, was published in 1893; the second volume, of 2211 pages, in 1896; and the third, of 1020 pages, in 1897.—The new edition of Richter's "Lexikon der Kohlenstoffverbindungen," which is at present in the press, will contain over 60,000 formulæ. The whole of the 56,000 formulæ which appear in Beilstein's Handbook will be indexed in the work, so that reference from it to Beilstein will be easy.—"Chimie végétale et agricole" is the title of a work by M. Berthelot which is in the press, and will be issued very shortly. It will be in four volumes.—The first volume of a fourth revised and enlarged edition of Dr. G. Lunge's "Chemisch-Technische Untersuchungsmethoden" is in the press, and will be published very shortly. The work will be complete in three volumes.—"Die Einrichtungen zur Erzeugung von Röntgenstrahlen und ihr Gebrauch" is the title of a work by Dr. B. Donatti which is in the press, and will be issued very shortly.—Towards the end of this month, the fourth and final volume of Prof. P.

Duhem's "Traité élémentaire de mécanique chimique fondée sur la Thermodynamique" will be issued. The following is a list of its contents: "Les melanges doubles. Statique chimique générale des systèmes hétérogènes." The volume will also contain a complete index.

THE additions to the Zoological Society's Gardens during the past week include two Green Monkeys (*Cercopithecus callitrichus*, ♂ ♀) from West Africa, presented respectively by Mr. J. B. Robinson and Mr. H. Gifford; a Yellow-whiskered Lemur (*Lemur xanthomystax*, ♂) from Madagascar, presented by Mr. C. B. Ayerst and Miss Mary F. Ayerst; a Common Duckler (*Cephalophus grinnii*, ♂), a Banded Ichneumon (*Crossarchus fasciatus*) from South Africa, presented by Mr. W. Champion; a Cinereous Vulture (*Vultur monachus*), South European, presented by H.G. the Duchess of Marlborough; a Black Kite (*Milvus migrans*), European, presented by Mr. G. H. Walker; a Chilian Sea Eagle (*Geranoaetus melanoleucus*), captured off Cape Horn, presented by Captain Bate; six Derbian Zonures (*Zonurus giganteus*) from South Africa, presented by Mr. W. L. Slater; two Common Snakes (*Tropidonotus natrix*) British, presented by Mr. E. Haig; a Chimpanzee (*Anthropithecus troglodytes*, ♀) from West Africa, deposited.

OUR ASTRONOMICAL COLUMN.

NEW STAR IN SAGITTARIUS.—The *Astrophysical Journal* for April 1899 (vol. ix.) contains a reproduction of a photograph of the spectrum of this star taken at Harvard College Observatory, together with a picture of a chart plate showing the position of the star on April 29, 1898, when its magnitude was 8.4.

The photograph of the spectrum shows the changes in the spectrum by a comparison of its appearance on April 19 and April 21, 1898. The first shows H β , H γ , H δ , H ϵ , H ζ , H η , and possibly H θ , as bright lines. A broad band at λ 4643 is also bright, with several other narrow bright bands. These are probably coincident with corresponding lines in spectrum of Nova Aurigæ. The plate taken on the later date shows several important changes, chiefly the appearance of a narrow bright line at λ 5005, possibly coinciding with the chief nebular line at λ 5007.

COMET 1899 a (SWIFT).—

Ephemeris for 12h. Berlin Mean Time.					
1899.	R.A.			Decl.	Br.
	h.	m.	s.		
May 25	...	20 48 31	...	+ 54 41' 8"	... 1.77
26	...	20 26 33	...	55 47' 5"	
27	...	20 3 7	...	56 38' 4"	... 1.71
28	...	19 38 21	...	57 11' 4"	
29	...	19 12 56	...	57 26' 1"	... 1.61
30	...	18 47 26	...	57 20' 2"	
31	...	18 22 26	...	56 55' 6"	... 1.49
June 1	...	17 58 35	...	+ 56 13' 1"	

The comet is now moving very rapidly in R.A., and becoming more favourably situated for observation. During the week it passes in a north-westerly direction through Cygnus into Draco. On the 25th it will be about 10° due north of α Cygni, and on June 1 4° north of γ Draconis. It reaches its maximum northern declination on the 29th. Although its brightness has been steadily declining, it is still easily visible to the unaided eye when its position has been ascertained.

THE REGISTRATION OF OPTICIANS.

OBSERVERS of the undercurrents of scientific progress in this country cannot have failed to note during the past twelve months a very remarkable movement at work amongst the opticians, especially amongst the younger men in the optical trades. An intelligent scientific study of the principles of optics has hitherto never been required of the optician, who from the first day of his apprenticeship might grow up in the business entirely untrained in everything save the mere buying and sell-