

D. D'Emmerez de Charmoy, assistant director, has been appointed director of agriculture, Mauritius.

MESSRS. BERNARD QUARITCH, Ltd., 11 Grafton Street, W.1, have just issued an important catalogue (No. 424) of some 1800 works relating to science, mainly of zoological and geological interest. As is usual with lists circulated by this house, many rare items and long runs of serials are included. The catalogue is one that should interest collectors and librarians.

THE new catalogue of engineering and industrial instruments issued by Messrs. Negretti and Zambra is a well-illustrated quarto volume of 460 pages. It deals to a large extent with thermometers of all kinds, from spirit thermometers to electrical thermometers, suitable for near or distant stations, and gives a considerable amount of very useful information about the principles on which they work and the precautions necessary in setting them up and caring for them in use. Barometers, pressure gauges, tank gauges, hydrometers, and hygrometers receive similar treatment and a thumb index facilitates quick reference.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—Temporary assistant quantity surveyors under the Mines Department—The Under-Secretary for Mines, Establishment Branch, Mines Department, Dean Stanley Street, S.W.1 (April 18). An assistant bacteriologist for the city of Liverpool—The Town Clerk, Municipal Offices, Liverpool (April 22). A temporary assistant bacteriologist for research in fabric materials—The Secretary, Admiralty (C.E. Branch), Whitehall, S.W.1 (April 27). An education secretary for the borough

of Cambridge—The Town Clerk and Clerk to the Local Education Authority, The Guildhall, Cambridge (April 27). A chief assistant and two other assistants for the Scottish Society for Research in Plant-Breeding under the Society's scheme of research into virus disease of potatoes—The Secretary, Scottish Society for Research in Plant-Breeding, 3 George IV. Bridge, Edinburgh (April 30). A lecturer in education in the University of Sheffield—The Registrar, The University, Sheffield (April 30). A lecturer in mathematics at the Heriot-Watt College, Edinburgh—The Principal, Heriot-Watt College, Edinburgh (May 1). An assistant at the Commonwealth of Australia Solar Observatory, near Canberra—The High Commissioner for Australia, Australia House, Strand, W.C.2 (May 2). A junior technical officer at the Royal Aircraft Establishment, to assist in the experimental development of electrical equipment for use in aircraft—The Chief Superintendent, R.A. Establishment, South Farnborough, Hants (May 3). A principal of the Paisley Technical College—The Secretaries of the College, 3 County Place, Paisley (May 3). A demonstrator in physics, a demonstrator in zoology, and a demonstrator in inorganic and physical chemistry at Bedford College for Women—The Secretary, Bedford College for Women, Regent's Park, N.W.1 (May 4). A director of museums of the City of Liverpool—The Town Clerk, Municipal Offices, Liverpool (May 7). A professor of zoology in the Egyptian University, Cairo—The Dean of the Faculty of Science, Egyptian University, Cairo (May 19). A laboratory assistant at the College, Cheltenham—The Senior Science Master, The College, Cheltenham.

Our Astronomical Column.

THE APRIL METEORS.—These meteors are due on April 20 or 21, but the moon, being full on April 23, will be a bright object at the time and obscure small meteors. However, the shower occasionally exhibits brilliant objects, so that it may be well worth looking for though the character of its display this year cannot be definitely foretold. The period of revolution of its supposed parent comet was computed to be more than 400 years, but rich showers of Lyrids were witnessed in 1803, 1851, 1863, and other years, so that a short period apparently corresponds with some of the most abundant returns of the meteors. It is important to note the strength of the annual displays, so that the time of revolution of its more active returns may be determined. Its radiant is at $271^{\circ} + 33^{\circ}$ on the night of maximum, but the centre of radiation travels eastwards one degree per day.

THE NUCLEI OF PLANETARY NEBULÆ.—Mr. van Maanen deduced the trigonometrical parallaxes of a number of nuclei of planetary nebulæ from photographs taken at Mt. Wilson. He derived the mean parallax $0.012''$, and the mean absolute magnitude 8.1 for the nucleus. Mr. B. P. Gerasimovic notes in *Harvard Bulletin* No. 864 that such data as exist for the proper motions and radial velocities of the planetary nebulæ indicate a considerably greater mean distance than that found by van Maanen. He makes several different estimates of their mean distance; (1) by

their mean galactic latitude, which is assumed to be due to the sun's departure from the galactic plane, (2) by applying Oort's results on galactic rotation, (3) by using the analogy between the nebular nuclei and novæ, (4) by combining the proper motions found by van Maanen with the mean radial velocity of planetary nebulæ found at the Lick Observatory, which is 37 km./sec. The mean absolute magnitudes found by these methods are 4.3, 4.6, 4.0, 5.9 respectively: the weighted mean is 4.9, which is more than 3 magnitudes brighter than van Maanen's value; there is therefore good reason for thinking that his parallaxes for these objects are four times too large though no explanation of this error has been found.

THE ORBIT OF ETA CORONÆ.—*Astr. Nach.* 5615 contains an exhaustive study of the orbit of this star by E. Silbernegel, who has devoted himself for some years to the re-determination of the orbits of binaries. The duplicity was discovered in 1781 by Sir W. Herschel, and as the period is less than 42 years, $3\frac{1}{2}$ revolutions have been completed since then. About 500 observations are employed, and the personal equations of the observers are determined. The following is the final orbit:

T	1892.385	n	8.6490°
Ω	23.717°	a	0.907"
i	59.025		
ω	219.907	Period	41.623 y.
e	0.2763		