

THE Secretary of the Department of Scientific and Industrial Research informs us that he understands from the Spanish Ambassador in London, that the National Association of Olive Growers of Spain have extended until Oct. 31, 1928, the period for acceptance of entries for the international competition for oil analysis organised by that Association. Particulars of the competition will be found in NATURE of June 2, p. 880.

THE appointments to scientific and technical departments made by the Secretary of State for the Colonies during the month of July include two agricultural officers, Mr. A. H. Savile, and Mr. N. V. Rounce, to Tanganyika Territory; one government veterinary surgeon, Mr. J. F. Timoney, to the Straits Settlements, and one veterinary officer, Mr. H. A. Hay-Barclay, to the Agricultural Department of Kenya; an assistant cotton botanist, Mr. H. R. Hosking, to Uganda; a plant breeder, Mr. E. R. Guest, to Iraq; an entomologist, Mr. R. W. E. Tucker, to Barbados; and a produce inspector, Mr. H. G. Pudney, to the Agricultural Department of Nigeria.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A full-time assistant for the engineering department of the West Hartlepool Technical College—The Secretary, Education Offices, West Hartlepool (Aug. 20). An assistant lecturer in the department of zoology of the University of Leeds—The Registrar, The University, Leeds (Aug. 27). A woman demonstrator and assistant lecturer in the department of chemistry of the Royal Holloway College—The Principal, Royal Holloway College, Englefield Green, Surrey (Aug. 30). An air-

craft and engine inspector under the Government of India—The Secretary to the High Commissioner for India, General Department, 42 Grosvenor-gardens, S.W.1 (Sept. 1). The Maybury (part-time) professorship of highway engineering at the City and Guilds College—The Academic Registrar, University of London, S.W.7 (Sept. 11). A general secretary of the Society of Chemical Industry who shall also have the position of general manager of the society's affairs—The President, Society of Chemical Industry, Central House, Finsbury Square, E.C.2 (Oct. 11). A Macleay bacteriologist of the Linnean Society of New South Wales—The Secretary, Linnean Society of New South Wales, 16 College Street, Sydney, N.S.W. (Nov. 30). A science master, with special qualifications in chemistry and qualifications in metallurgy desirable, at the Scunthorpe Modern School and Technical School—H. S. McIntosh, 14 Wells-street, Scunthorpe, Lincs. A petroleum chemist for Silvertown Lubricants, Ltd.—The Chief Chemist, Silvertown Lubricants Limited, Silvertown, E.16. A lecturer to deal with farm engineering and estate management subjects at the Harper Adams Agricultural College—The Principal, Harper Adams Agricultural College, Newport, Shropshire. A junior assistant for a Government establishment—The Commandant, Experimental Station, Porton, Wilts. A junior chemical assistant in the Laboratories of the Research Association of British Flour-Millers—The Director of Research, Research Association of British Flour-Millers, St. Albans. Two junior assistants under the directorate of Ballistics Research of the Research Department, Woolwich—The Chief Superintendent, Research Department, Woolwich, S.E.18.

### Our Astronomical Column.

THE SPECTRUM OF MIRA CETI.—In 1924 the maximum magnitude reached by Mira was exceptionally low, and on that occasion some new bands hitherto unknown in stellar spectra were noticed in its spectrum by Dr. A. H. Joy. The origin of these bands is discussed in the *Monthly Notices of the Royal Astronomical Society* for June by Mr. F. E. Baxandall, who attributes them to aluminium oxide. They were treated by Dr. Joy as wide, bright lines, and he gave the wave-length measurements of their centres. By correcting these wave-lengths to the junction of the bright and dark regions, Baxandall has produced evidence which appears to be conclusive that the origin is to be found in aluminium oxide. Some enlarged spectra of Mira, accompanied by laboratory spectra of aluminium oxide as comparisons, show striking agreements of stellar bands with those of aluminium. A further examination of other spectra of Mira shows that aluminium oxide bands are probably normally present, and that all recorded bands other than those of titanium oxide may be attributed to this source.

INTERSTELLAR CALCIUM.—The problem of 'stationary' calcium lines in stellar spectra still presents difficulties in the way of an adequate explanation;

but the recent work of Dr. Otto Struve has helped considerably to reduce these difficulties. In a paper in the *Astrophysical Journal*, vol. 67, p. 353, Dr. Struve gives the results of intensity measures of non-stellar Ca lines in 2056 stars (mostly of early spectral type). He finds that there is a marked increase in the intensity of the detached [K] line for fainter stars and for earlier spectral types, though there is no evidence of any such relation with luminosity. After a thorough examination of the data for possible sources of error, he shows that the intensity of the detached Ca lines is a function of the distance. This is in accordance with Prof. Eddington's theory of a large calcium cloud diffused throughout space (as opposed to localised clouds)—a theory which is becoming increasingly favoured. In explanation of the objection that detached Ca lines have not been found in stars of type later than B3, Dr. Struve suggests the comparative nearness of most of the late-type stars examined and the difficulty of distinguishing a blend of the true stellar line with the detached line. In the case of Novæ, which are usually admitted to be of very small parallax and in which the radial velocities are so great as to separate these two components with ease, the detached Ca has been found to be of great strength.