

IMPERIAL Chemical Industries, the great chemical merger formed by the amalgamation of Brunner Mond and Co., Ltd., Nobel Industries, Ltd., the United Alkali Co., Ltd., and the British Dyestuffs Corporation, Ltd., under the chairmanship of Sir Alfred Mond, is to make its first appearance to the public at the British Industries Fair organised by the Department of Overseas Trade at the White City, London, on Feb. 21–Mar. 4, where it will have the largest individual exhibit in the Chemical Section of the Fair. The main object of the exhibit is to make an expression of Imperial Chemical Industries' individuality as one group. It will be Imperial in its significance as showing the wide influence of the company in British commercial affairs. It will be practical in the sense that the man in the street will be able to visualise its numerous activities, and it will be scientific in the sense that the buyer of chemical goods will at once see the intimate relationship which exists between the products made in the factories

belonging to the respective component parts of this great organisation.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A junior technical officer at an Admiralty Experimental Establishment—The Secretary of the Admiralty (C.E. Branch), Whitehall, S.W.1 (Jan. 20). An assistant analyst in the Scientific Research and Experimental Department of the Admiralty—The Secretary to the Admiralty (C.E. Branch), The Admiralty, Whitehall, S.W.1 (Jan. 31). Two demonstrators in agricultural botany in the Department of Botany of the University of Leeds—The Registrar, The University, Leeds (Jan. 31). A director of the laboratories of the Clinical Research Association, Ltd.—The Secretary, Watergate House, York Buildings, Adelphi, W.C.2 (Jan. 31). A professor of anatomy in the University College of South Wales and Monmouthshire—The Registrar, University College, Cardiff (Feb. 26).

Our Astronomical Column.

RECENT SUNSPOT AND MAGNETIC DISTURBANCE.—Several observers noted a spot on the sun's disc seen with the naked eye through the morning mist on Jan. 8. The spot was not an unusually large one, but it is of interest on account of the frequent changes which took place within the stream (of which the leader was the naked-eye object), and also its probable connexion with a magnetic disturbance recorded at Greenwich on Jan. 7 and 8. The most noticeable feature shown by the chief spot was a very bright tongue or 'bridge' which crossed the umbra from south to north on Jan. 3–8. On Jan. 7 this 'bridge' appeared to separate the whole spot nearly completely into two portions. The magnetic disturbance, of moderate intensity, commenced about noon on Jan. 7 and died out at 3 hr. on the following day. The greatest deviation of the declination magnet from its normal position was about $0^{\circ}.5$. The table of important spots for 1927 is continued as follows:

No.	Date on Disc.	Central Meridian Passage.	Latitude.	Area.
2	Jan. 2-14	Jan. 8.5	13° S.	1/1100 of sun's hemisphere.

As regards the sun's general activity, Mr. A. M. Newbegin writes, "Prominences continue active numerically, and metallic outbursts are occurring with much greater frequency, but the big displays of great prominences have not begun yet."

WEATHER CONDITIONS IN NORWAY FOR THE ECLIPSE OF JUNE 29, 1927.—*Cracow Observatory Circ.*, No. 22, contains a useful note by K. Kordylewski and Z. Eckstein giving cloud-measures for various points in Scandinavia based on many years' observations (32 in some cases). The best conditions are found on the railway from Bergen to Oslo, and at Gällivare in northern Sweden. The cloud-ratio in these regions varies from 5 to 6, 10 being complete cloudiness. Finse has the best ratio, 5.0, and an average of 8 clear days per month. Vardö, in the extreme north of Norway, has the high cloud ratio 7.3, and 3 clear days per month. The experience of the 1896 eclipse in this region was not encouraging.

A NEW PHOTOGRAPHIC STAR CATALOGUE.—The catalogues brought out by the *Astronomische Gesellschaft*, which cover the sky from 81° N. decl. to con-

siderable S. decl., are known to all astronomers. It has now been determined (*Astr. Nach.* No. 5469) to form new photographic catalogues of the region from the North Pole to S. decl. 5° . The plan will be that adopted by Prof. Schlesinger of taking plates $5^{\circ} \times 5^{\circ}$ on a scale of 1 mm. to 100". The objectives will be 4-lens combinations by Zeiss with aperture 206 mm. Pulkovo will photograph the region 90° to 70° N. decl., the remainder being divided between Bergedorf and Bonn. Each observatory will measure its own plates, but the reduction of star places will be done at a single observatory. The re-observation of reference stars is being undertaken by six observatories. The work will begin in 1928, and it is hoped to finish it in three years.

THE DISTRIBUTION OF INTENSITY IN STELLAR ABSORPTION LINES.—An interesting account of pioneer work in this subject by Miss Payne and Dr. Shapley appears in the *Proceedings of the American Academy of Arts and Sciences* (vol. 61, No. 10) under the above title. A considerable amount of theoretical work has been done on the structure of absorption lines, and practical observations of this kind (which have hitherto been scanty) are of considerable importance. The spectra examined by the authors were all taken with the 16-inch refractor at Harvard, using two objective prisms and a range of different rectangular apertures. These spectra were analysed by a Moll thermo-electric microphotometer, and the intensities, as shown by the photographic tracings, were measured from reference lines (recorded on each tracing) representing 'darkness' and 'clear film.' A line representing the continuous background of the spectrum was drawn in each case by hand across the absorption line tracings, and the intensity drop from continuous background to line was measured graphically for various lines in the spectra of eleven stars. The principal object of this paper is to discuss the method of working and accuracy of the results obtainable. Some results of interest appear, however, even from these preliminary measures of eleven stars. In particular it may be mentioned that, even at the centres of the strong absorption lines of hydrogen and calcium, there is some residual light, of intensity averaging about twenty-five per cent, of the background light.