

NEWS and VIEWS

A Big Sunspot

A BIG group of spots, brought into view by the sun's rotation on February 14, has crossed the sun's disk and will pass out of sight on February 27. In northern latitude 11° , the centre of this complex group crossed the central meridian on February 20.2 U.T. At the time of this notification (February 18), the area covered by the spots was nearly 3,000 millionths of the sun's hemisphere, or about seventy times the cross-section area of the earth. This group will probably not have been exceeded in size since 1947 (the peak year of the present eleven-year sunspot cycle), when the outstanding group had an area nearly double that of the present one. Judging from size alone, the present group is quite likely to be associated with geomagnetic and ionospheric disturbance, the most likely times being February 18-24.

Planets and Sunspots

K. G. MELDAHL, who has produced some previous works on tidal forces in the sun's corona due to planets, Part I in an English edition in 1938 (see *Nature*, 144, 726; 1939), has now published Part 2 (Berlinste Forlag, Copenhagen). This consists mainly of six figures showing the relative magnitude, heliocentric direction, continual recurrence, and the period of 308.52 years of the tidal force, printed on a single roll. The calculations cover 498 years—from 1663 to 2160—and the close agreements between the regions of the years 1843 and 2152, shown in Fig. 2, confirm this period of 308.52 years. It is shown that there are a period of about 0.97 year and another of about 5.56 years, or multiples of both (the latter being half the average sunspot period), permeating the whole of the field. The same planets are dealt with as on previous occasions, namely, Mercury, Venus, Earth, Jupiter and Saturn; and it is claimed that the connexion between the tidal period and the observed average sunspot periods has been established by the ever-recurring and interacting periods of 5.56, 11.12, etc., years. It is hoped that careful observations will be carried out on the interaction between the auroras and tidal forces and their directions; Figs. 3 and 4 show this and explain the prediction in 1937 for the great auroras in 1938, afterwards verified, and also for somewhat similar conditions during January and February 1950. While this note was in course of preparation, there has been a remarkable fulfilment of these last predictions. Exceptional auroras observed in Denmark were responsible for some alarm among the fire brigades, which took them at first for large fires. In addition, Dr. Meldahl has been observing auroras in Fredrikstad, Norway, from the middle of January until the middle of February, and from all the evidence it seems that his theory deserves much more consideration than it has previously received.

Atomic Physics at the Science Museum, London

A MODEL of the first atomic pile at Harwell, the Graphite Low-Energy Experimental Pile (G.L.E.E.P.), has been lent to the Science Museum, South Kensington, London, S.W.7, by the Ministry of Supply and is now on exhibition on the second floor of the Museum. This pile went into operation in August 1947 and has been used for making radioactive isotopes, for measuring the properties of atomic nuclei, and for testing the nuclear properties of

materials used in pile construction. Among neighbouring exhibits at the Science Museum are other pieces of apparatus which have played a notable part in the development of atomic physics, including Aston's original mass-spectrograph of 1919 with which atomic masses were first accurately compared, and part of Cockcroft and Walton's original apparatus with which artificial nuclear disintegration by purely electrical means was first achieved in 1932.

In a recently re-opened gallery on the top floor of the Museum further exhibits relating to modern physics may be seen. Several models illustrate the structure of atoms and molecules, while another, larger group of exhibits shows the development of electron physics. Included among them are many working models and illuminated diagrams to demonstrate principle; one shows the various controls of a cathode-ray tube and their function; another demonstrates the response of photocells of different types to variations in the intensity and colour of the light falling upon them. Historical development is covered by the exhibition of original apparatus in the usual sequence; there are also exhibits, which can be worked by the visitor, designed to show the principles of historic experiments such as those of J. J. Thomson which led to the discovery of the electron.

Ciphering of Organic Structural Formulæ

THE Commission on Codification, Ciphering, and Punched Card Techniques, set up by the International Union of Pure and Applied Chemistry, has issued a list of attributes to be considered in judging systems for ciphering organic structural formulæ, and invites all persons who may have developed ciphering systems to submit them to the Commission. The following points should be considered: (1) simplicity of usage; (2) ease of printing and typewriting; (3) conciseness; (4) recognizability; (5) ability to generate a unique organic chemical nomenclature; (6) compatibility with accepted practices of inorganic chemical notation; (7) generation of an unambiguous and useful enumeration pattern; (8) ease of manipulation by machine methods, for example, punched cards; (9) exhibition of association (descriptiveness); (10) ability to deal with partial indeterminants. Those submitting ciphering systems will be given an opportunity of proposing additions to the above points. Detailed descriptions of new systems should be sent before March 1, 1950, to the acting secretary of the Commission, J. W. Perry, Room 20-E-215, Massachusetts Institute of Technology, Cambridge 39, Mass. In order to ensure that nothing is overlooked in subsequent testing, those submitting systems will be asked to demonstrate the application of their systems by a list of compounds compiled by taking the first four entries on every hundredth page of Beilstein. At present four systems, none of them in completely developed form, have come to the attention of the Commission.

British Institute of Management

IN his chairman's address to the British Institute of Management at its second annual general meeting, Sir Charles Renold stated that although the Institute only opened its doors in a temporary office on September 1, 1947, good progress has been made in selecting staff and finding accommodation, in spite of unexpected difficulties. Arrangements have been completed for a seven-year lease of a block of buildings on the other side of Hill Street,