

vice-principal of the Hyderabad State Technical Institute, India—The Wardle Engineering Co., Ltd., 8 Princes Street, Storey's Gate, S.W.1 (Aug. 1). A woman professor of physiology at the Lady Hardinge Medical College, Delhi—The Honorary Secretary, U.K. Branch Dufferin Fund, care of Major-General J. B. Smith, India Office, Whitehall, S.W.1 (Aug. 3). Two junior assistants in the Highways Department of the Manchester Corporation—The City Engineer, Town Hall, Manchester (Aug. 3). A lecturer in agricultural chemistry at the South-Eastern Agricultural College, Wye—The Secretary, South-Eastern Agricultural College, Wye, Kent (Aug. 4). An assistant for research in the Textile Industries Department of the University of Leeds—The Registrar, University, Leeds (Aug. 13). An assistant naturalist in the Fisheries Department of the Ministry of Agriculture and Fisheries—The Secretary, Ministry of Agriculture and Fisheries, 10 Whitehall Place, S.W.1 (Aug. 13). An assistant lecturer in the department of education of King's College, London—The Secretary, King's College, Strand, W.C.2 (Aug. 17). An assistant analyst in the Government Analyst's Department, Trinidad—The Private Secretary (Appointments),

Colonial Office, 2 Richmond Terrace, Whitehall, S.W.1 (Aug. 20). An assistant in the Department of Physiology of London Hospital Medical College—The Dean, London Hospital Medical College, E.1 (Aug. 31). A professor of pathology in the University of Liverpool—The Registrar, University, Liverpool (Sept. 30). An engineer artificer for the Marine Department of the Government of the Gambia Colony—The Crown Agents for the Colonies, 4 Millbank, S.W.1, quoting M/839. A dietitian at St. Bartholomew's Hospital—The Clerk to the Governors, St. Bartholomew's Hospital, E.C.1. Lady graduate assistants at the Wool Research Association, Torridon, with knowledge (a) of economics, languages, or (b) physics or physical chemistry and languages—The Secretary, Wool Research Association, Torridon, Headingley, Leeds. Evening teachers of practical physics and chemistry for first-year students in the Engineering Department of the Croydon Polytechnic—The Principal, Central Polytechnic, Scarbrook Road, Croydon. A full-time graduate assistant, with works experience, to teach mechanical engineering subjects in the Darlington Technical College—The Chief Education Officer, Education Office, Darlington.

Our Astronomical Column.

RECENT SOLAR ACTIVITY.—Reference was made in NATURE of July 21 to the recent increase of sunspots. Another big spot has since made its appearance, and this with two others may be included in a list of naked-eye spots observed this year.

No.	Date on Disc.	Central Meridian Passage.	Latitude.	Max. Area.
3	June 22–July 5	June 28.9	19° S.	1/1200
4	July 6–July 18	July 12.4	8° N.	1/700
5	July 12–July 23	July 17.5	18° S.	1/700

Areas are expressed as the proportion of sun's hemisphere covered.

Group No. 3 was a single spot for the greater part of its transit. No. 4 was a pair of spots of which the leader was the larger at first, but later the follower predominated. No. 5 was a stream composed of a large spot followed by a compact cluster of smaller spots. The group grew rapidly from a few spots near the sun's east limb on July 12. On July 17 the entire length of the stream was 15° of longitude, or more than 100,000 miles.

PHOTOGRAPHY OF FAINT NEBULOSITIES.—The photography of faint nebulosities requires very great care if successful and trustworthy results, showing accurate detail uninfluenced by artificial nebulosities, are to be obtained. The technique of this work has been developed by Mr. F. E. Ross at the Yerkes Observatory, who is preparing a series of papers on the subject. The second paper of this series appears in the *Astrophysical Journal*, vol. 67, p. 281, in which the author describes his methods and the difficulties to be overcome. A 3-in. doublet of focal length 21 in. was used. Exposures of 2 hours reached the limiting magnitude for stars (15.4 mag.), beyond which it was not possible to obtain fainter stars by lengthening the exposure, though a definite gain in photographing nebulosities was obtainable. Earlier experimenters showed that it was possible to see more detail in original negatives than could be reproduced photographically, but improved methods of reproduction have now actually reversed this situation; it is interesting to find that Mr. Ross has been able to reproduce nebulosities (the genuineness of which was

confirmed) which could not be detected on the original negative. These results have been obtained by making intermediate prints on panchromatic plates, using a red filter in order to increase contrast, the transfer processes being four in number. Some very fine illustrations of nebulosities in Monoceros, Taurus, and Perseus obtained in this way are given and discussed in detail.

REPORTS OF THE CAMBRIDGE OBSERVATORIES.—The reports of both the Cambridge observatories have recently appeared. That under Prof. Eddington has been engaged on photographic determination of the proper motions of faint stars from plates taken at intervals of about twenty years. Dr. Knox Shaw has undertaken the study of the colour indices of the stars with the large refractor at the Radcliffe observatory.

A photo-electric photometer is being used on the Sheepshanks equatorial, a sodium cell being found to give the best results; magnitude 5.5 is the faintest that can be studied satisfactorily. Prof. J. J. Nassau and Mr. R. O. Redman have been studying the relation between absolute magnitude and spectral type, attacking the problem in several independent ways.

In the Solar Physics Observatory special studies have been made of the spectra of ϵ Andromedæ, P. Cygni, and Nova Pictoris. A period of about 24.6 days has been found for the first named; this is about a quarter of the main period 96.67 days found by R. H. Baker at Allegheny. Dr. Carroll has made several theoretical investigations on stellar spectra.

With the spectro-heliograph a diminution of solar activity was noted in the second half of 1927; the diminution in the areas of calcium flocculi, and the decline in the mean latitude of the groups to 15°, are taken to imply that the maximum was passed in 1927. Mr. Butler has studied the laws of progressive changes in the forms of flocculi. The observatory sent an expedition to Aal, Norway, for the eclipse of June 29, 1927; but clouds prevented any results being obtained.