

the Rugby College of Technology and Arts, with good chemistry qualifications and subsidiary physics—The Organiser of Further Education in Rugby, 61 Clifton Road, Rugby (July 4). A lecturer in agricultural zoology at the University College of the South West of England, Exeter (for work jointly with the Seale Hayne Agricultural College, Newton Abbot)—The Registrar, University College, Exeter (July 4). An assistant lecturer in zoology at the University of Birmingham—The Secretary, The University, Edmund Street, Birmingham (July 5). A reader in *materia medica* and therapeutics at the University of Manchester—The Registrar, The University, Manchester (July 7). A technical officer at the Royal Aircraft Establishment, South Farnborough, for design and experimental work in connexion with electrical equipment for use on aircraft—Chief Superintendent (No. A 282), Royal Aircraft Establishment, South Farnborough, Hants (July 14). Candidates for not less than two vacancies for geologists on the Geological Survey of Great Britain—The Director, Geological Survey and Museum, 28 Jermyn Street, S.W.1 (July 14). A non-established

draughtsman in the Ministry of Agriculture and Fisheries—The Secretary, Civil Service Commission, Burlington Gardens, W.1 (July 26). A senior lecturer in physics and applied mathematics at the Huguenot University College, Wellington, C.P., South Africa—The Registrar, Huguenot University College, Wellington, C.P., South Africa (Aug. 31). A professor of mathematics at the University College, Pietermaritzburg—The Registrar, Natal University College, Pietermaritzburg, Natal (Nov. 1). A zoological laboratory steward at University College, Hull—The Secretary, University College, Hull. A full-time science master at the Technical Institute, Tunbridge Wells—Dr. J. Lister, Technical Institute, Tunbridge Wells. Three junior assistants at the Directorate of Ballistics Research, Woolwich—The Chief Superintendent, Research Department, Woolwich, S.E.18. A capable research chemist or physicist in a research laboratory in London—Box No. 71, c/o NATURE Office, St. Martin's Street, W.C.2. A junior assistant at the Directorate of Metallurgical Research, Woolwich—The Chief Superintendent, Research Department, Woolwich, S.E.18.

### Our Astronomical Column.

METEORS AND SKJELLERUP'S COMET.—Mr W. F. Denning writes: "The only nights favourable at Bristol for the observations of meteors, possibly connected with Skjellerup's comet, of last December, were June 10 and 11, which provided two excellent opportunities. The cometary orbit, however, approaches the earth's path to the nearest point on about June 7-8, so that this date had passed before the weather permitted suitable watching of the skies. Very few meteors were seen on June 10 and 11, and two only, out of about twelve observed, were directed from the region in which the cometary radiant was placed. There may have occurred a shower on preceding nights, but no information has come to hand with details of successful results, and I fear that none were obtained."

"Four fairly bright meteors were observed at Bristol, and as they may have been recorded elsewhere, I give their apparent paths:—

	G.M.T.	Mag.	From	To
June 10	11.5	1	313° + 69°	23° + 70°
" "	12.5	Jupiter	325 + 56½	334 + 52
June 11	11.27	Jupiter	243 - 19	234 - 8
" "	12.10	Jupiter	310 + 32½	308 + 31

The first two were observed by me; the others by an assistant. The radiants of the meteors were probably 251° - 25°, 310° + 62°, 251° - 25°, and 314° + 34°."

COLOUR PHOTOGRAPHY OF THE MOON.—Mr. F. J. Hargreaves, Director of the Photographic section of the B.A.A., was one of the first to obtain successful colour photographs of the moon; these were exhibited at a meeting of the B.A.A. some two years ago, and led to the conclusion that the colour of the greater part of the moon's surface resembles that of a weathered stone wall of a light brown or yellowish tint.

Mr. Hargreaves contributes an article on his photographic methods to the March number of the *Taylor-Hobson Outlook*, illustrated by two photographs; one is of the moon (not coloured) taken with a 6½-inch mirror and an equivalent focal length of 25 feet; the exposure was 2 seconds; a large amount of detail is visible both in the dark and brighter regions. The other is of the Andromeda nebula, exposure 1½ hours, focal length 20 inches; a good deal of detail is visible,

the dark spaces between the whorls of the spiral being plainly discernible. It is noted that the picture of the farther edge of the nebula is some thirty thousand years older than that of the nearer edge.

These pictures are the more creditable in that the mounting of the equatorial is of the simplest character and almost entirely home-made. It will be remembered that the comet Grigg-Skjellerup at its return last year was first detected on Mr. Hargreaves's plates, although the huge instruments at the Yerkes and Bergedorf Observatories were already engaged in the search.

THE DISTANCES OF THE SPIRAL NEBULÆ.—An article by R. Hess in *Astr. Nach.*, 5561, brings out an interesting point regarding Dr. Hubble's estimates of the distances of the spirals. Hubble began by tabulating the apparent and absolute magnitudes of seven objects, including the Andromeda nebula, the two Magellanic clouds, and M 33. He thus deduced the average absolute magnitude of a spiral nebula as - 15.0; he used - 15.2 in deducing the distances of the fainter spirals from their apparent magnitudes. Mr. Hess points out, however, that in our star system there is a correlation between apparent and absolute magnitude; this feature also appears among the seven objects used for getting the scale; those with fainter apparent magnitude have also fainter absolute magnitude. Thus it is unsafe to use the value - 15.2 derived from bright spirals as the correct mean to take for much fainter ones.

Mr. Hess admits that the material is insufficient to obtain the law of correlation, but he has made a preliminary attempt. He gives the following example of its application. Dr. Hubble estimated the distance of spirals of apparent magnitude 16.7 (which need an exposure of an hour with the Mt. Wilson 60-inch reflector) as 80 million light years. Hess's correlation law would reduce this to ten million light years, which would make the distribution of spirals in space some 500 times as dense as Hubble's value. No claim of accuracy is made for the correlation law deduced by Hess, but he seems to be correct in indicating the need for assuming such a law, which would lead to an appreciable diminution of Hubble's estimates for the fainter spirals.