

department of metallurgy, including pure science, of Constantine Technical College, Middlesbrough—The Director of Education, Education Offices, Middlesbrough (Dec. 31). A lecturer in zoology in the Egyptian University, Faculty of Science—The Dean of the Faculty of Science, Egyptian University, Cairo (Jan. 1). A physiologist at the Experimental and Research Station, Cheshunt, for the investigation of virus diseases of plants—The Director, Experimental and Research Station, Cheshunt, Herts (Jan. 31). A full-time teacher of engineering at the Verdin Technical School, Northwich—The Director of Education, Dept. "C," County Education Offices, City Road, Chester. An assistant in the mechanical engineering section of the engineering department of the Halifax

Municipal Technical College—The Principal, Municipal Technical College, Halifax. A master to teach workshop practice (particularly metal-work) and either engineering or building trades subjects at the Sheerness Technical Institute and Junior Technical School—The Principal, Technical Institute and Junior Technical School, Sheerness. A man with teaching experience in physics, chemistry, and mechanics, at Cordwainers Technical College—The Principal, Cordwainers Technical College, St. John's Lane, E.C.1.

ERRATUM.—In the letter "Elastic Constants of Single-crystal Aluminium Wire" in NATURE of Oct. 27, p. 650, line 14, for "tenths of a gram" read "tens of grams."

### Our Astronomical Column.

USE OF THE 24-HOUR DAY.—About forty years ago an effort was made to assimilate the astronomical and the civil day, making both begin at midnight and using 24-hour reckoning. The effort was a failure, little encouragement being given by astronomers as a whole, and no response being received from the general public. In the last few years the situation has changed; astronomers in general have abandoned the plan of beginning the day at noon, and now follow the civil reckoning in this respect (except that they do not use summer time). This change was suggested by the British Admiralty, and after international discussion was adopted in all the ephemerides from the beginning of 1925. The International Astronomical Union, which met at Cambridge in July 1925, gave further endorsement to the new system, making, however, an exception in the case of the Julian day, which still begins at Greenwich noon.

As regards the use of 24-hour reckoning, there is one department of civil life, namely, the railway timetables, in which its introduction seems desirable. For short journeys there is little difficulty; the use of the symbols A.M. and P.M. at the heads of columns sufficiently meets the difficulty. But in the case of journeys lasting for a large fraction of 24 hours, probably most people find some trouble in interpreting the indications of the tables. The trouble may not be very grave, but it would certainly be diminished by carrying the reckoning of hours up to 24.

The council of the Royal Astronomical Society recently authorised Prof. H. H. Turner to approach the railway companies of Great Britain with this end in view. They replied that they had no objection to the change, but desired an expression of opinion from the general public before making it. Accordingly, a letter appeared in the *Times* of Dec. 8, signed by the Astronomer Royal, by Rev. T. E. R. Phillips (president of the R.A.S.), and Prof. Turner. It gives a brief rehearsal of the above facts, notes that the 24-hour system is general in Continental timetables, and emphasises the fact that the change proposed is strictly limited to railway tables. The failure of forty years ago was largely due to the attempt then made to introduce 24-hour reckoning for all civil purposes: this attempt is now abandoned, so that people may continue to lunch at one and dine at eight, instead of substituting thirteen and twenty. It is hoped that there will be sufficient public response, in one direction or the other, to give the railway companies an indication of the general trend of opinion.

A NAKED-EYE SUNSPOT.—Although not unusually big, a recent group of spots was seen by a number of people through fog or thin cloud prevalent at times

during the transit of the spots across the sun's disc. One observer, near Piccadilly, previously unaware of the existence of the spots, saw the two terminal members of the group as separate dots on Dec. 4 when the angle subtended by them was less than 4'. The group was of stream type with the components closely packed, and changes in their shape denoted considerable activity. Spectroscopic observations made at Worthing on Nov. 30 and Dec. 1 provided more precise evidence of this activity. Position and area of the group are as follows:

| No. | Date on Disc.   | Central Meridian Passage. | Latitude. | Maximum Area.       |
|-----|-----------------|---------------------------|-----------|---------------------|
| 11  | Nov. 30–Dec. 11 | Dec. 5.6                  | 9° N.     | 1/800 of hemisphere |

A magnetic disturbance was recorded at Greenwich between Dec. 5, 22h. and Dec. 6, 5h.; range in declination, about 40'.

FORBES'S COMET.—From the three positions given in NATURE of Dec. 1, p. 856, Dr. A. C. D. Crommelin has deduced the following elements of this comet:

|          |                      |
|----------|----------------------|
| $T$      | 1928 Nov. 7-040 U.T. |
| $\omega$ | 198° 32' 6"          |
| $\Omega$ | 248 59 4             |
| $i$      | 28 39 26             |
| $\log q$ | 9.87346              |

These resemble very closely the elements of Comet 1873 VII, discovered independently by Coggia and Winnecke; the latter again resemble those of Comet 1818 I, discovered by Pons. Argelander and Schulhof had already suspected that these two comets were identical, with a period of either 55 years or some sub-multiple of this; since the observed arcs in both years were very short (4 days and 5 days) it was impossible to deduce the period from them. There is good reason to believe that Forbes's comet is the same object, and to hope that it will be observed long enough at the present return to settle the question of the period. The observed intervals are 55.8 and 54.9 years, which do not differ more widely than planetary perturbations give us a right to expect; the recent revolution of Halley's comet was two years shorter than the one before. If the period is 55 years, the aphelion distance would be  $28\frac{1}{2}$  units, not far inside Neptune's orbit, so that it might be looked on as belonging to that family.

The comet is now out of reach in England, but should be followed in the southern hemisphere for two or three months. In the middle of October it was far north of the equator and comparatively near the earth, so that it is rather surprising that it was not discovered then.