

Extracts from Publications.

Radium in the Chromosphere.—In No. 454 of "The Observatory," Dr. Dyson replies to the views expressed by Mr. Evershed and Mr. Mitchell concerning his suggestion that there is some evidence of radium among the elements spectroscopically disclosed in the solar chromosphere.

His contention is that the chromospheric spectrum is an enhanced line spectrum, and that before accepting any coincidence of Fraunhoferic and chromospheric lines as evidence of identity of source, the behaviour of any line in question in the spark should be taken into account. On these grounds he questions Mr. Mitchell's identifications of the lines λ 4699.52 and λ 4533.34 with lines given by Rowland. Other cases are against the radium identifications, however, and Dr. Dyson expresses the hope that the question will receive attention at future eclipses, and that the radium line at λ 5813.9 referred to by Mr. Evershed will be looked for.

[*Nature.*

A Remarkable Shower of Meteoric Stones.—In No. 203, Vol. XXXIV of the "American Journal of Science" Mr. W. M. Foote gives a preliminary account of the shower of meteoric stones which occurred near Holbrook, Navajo County, Arizona, on July 19, 1912. Mr. Foote has collected a large mass of evidence which appears to settle the question of authenticity favourably. A large meteor was seen to pass over Holbrook at 6-30 p.m. on the date mentioned, and created a loud noise which lasted for half a minute or more. Numerous stones were seen to fall near Aztec, raising puffs of dust for over a mile of the sandy desert, and subsequently a great number of these stones were found by the local people; the largest found weighed more than 14 lbs., while several of 5 lbs. each were picked up over an elliptical area about three miles long and half a mile broad. The preliminary physical and chemical tests point to an undoubted meteoric origin, and a sample taken from twelve individual stones was found to contain 3.68 per cent. of nickel-iron, and 96.32 per cent. of silica. The principal constituent appears to be enstatite, olivine and monoclinic pyroxene making up the balance; in one section a patch of spinels set in quartz was found.

Altogether more than 14,000 stones, weighing in all more than 481 lbs., were picked up and preserved, but of these 8,000 weighed less than one gram each; 29 stones had weights ranging from 6,665 grams to 1,020 grams, and some 6,000 ranged between 1,000 grams and one gram.

[*Nature.*

At the meeting of the Royal Astronomical Society held on the 13th of December last, Prof. H. H. Turner read an interesting note on a new similarity between the variations of S. Persei and of sun-spots. Prof. Schuster had shown that besides the well-known eleven-year period of sun-spots there are several other periods, *viz.*, 4.77, 8.17, and perhaps one of 13.45 years; these seemed to be sub-multiples of a master period of $33\frac{1}{3}$ years. Prof. Turner had previously found a similar association of periodicities in the light curve of S. Persei, which showed three independent periods, corresponding to sun-spot periods of 8.17, 11.13 and 33.38 years. The subject had now been fully investigated, and satisfactory accordances obtained. In the discussion Prof. Schuster spoke of the sun-spot periods as 4.8, 13.5, 11, 8.3 and 48 years. Mr. Maunder and Father Cortie both doubted if these periods (with the exception of the 11-year) were more than mere arithmetical periods having no real existence.

A Practical Seismologist.—In a letter to *Nature* of the 19th December 1912, Prof. J. Milne, F.R.S., the great seismologist, pays a most interesting tribute to his Japanese assistant Shinobu Hirota, from which we extract the following: “Shinobu Hirota, who returns to Japan at the end of this month, by his doctor’s advice, came with me to this country in 1895, and within a week of his arrival the seismograph which he had brought with him from Japan was at work at Shide * * * * *. In practical seismometry he has made many innovations, some of which will perhaps be looked upon as ‘mere dodges,’ but they have rendered instruments more sensitive. His multiplying levers made of grass stems gathered from ‘bents’ give pointers exactly one-third the weight of their equivalents in aluminium, and yet twice, if not three times, as stiff. It was by using these that we got at Bidston, where Hirota went to set up an instrument, the first records of rock deformation due to tidal load * * * *. In the workshop he is a good all-round workman, in the observatory and office he has kept most careful records, could calculate a chordal distance * * * * * for photographic work holds a gold medal. * * * * *. Above all this, his sharp eyes would find on a seismogram two records where at other stations only one had been discovered * * * * *.”
