W.1, contains a large and comprehensive collection of microscope outfits for use in petrology, mineralogy, and crystallography. The list includes instruments suitable for elementary students, as well as more elaborate types adapted for the most exacting investigations. A petrological microscope, being an instrument for observing and measuring the optical properties of rocks, minerals and crystals, requires many special fittings and adjustments which are not necessary in a microscope for use in the biological sciences. The models described in the catalogue have been designed primarily for petrological work, and incorporate many of the latest devices for simplifying adjustments and for securing rigidity and accuracy.

MESSRS. Bernard Quaritch, Ltd., 11 Grafton Street, W.1, have recently circulated Catalogue No. 390 dealing with nearly 1900 second-hand works on zoology, botany (including agriculture, forestry, fruit-culture and gardening), and geology. As is usual with the catalogues of this bookseller, many choice and rare publications are listed.

MESSRS. W. Heffer and Sons, Ltd., 4 Petty Cury, Cambridge, have just published a lengthy and well-arranged catalogue (No. 248) of second-hand works in the following branches of science:—Mathematics and physics, astronomy and meteorology, engineering, wireless telegraphy, agriculture, husbandry, and farriery, anthropology and ethnology, botany, chemistry, chemical technology and metallurgy, geology, mineralogy and palæontology, zoology and biology, physiology, anatomy and medicine. Upwards of 3500 books are named, and in addition there is a long list of complete sets of scientific serials which Messrs. Heffer have for disposal. The list is to be had upon application.

Our Astronomical Column.

THE BEGINNING OF THE JULIAN DAY.—There is a lamentable state of confusion in the astronomical world as to whether the Julian Day should begin at noon or midnight. Some countries, following the lead of the United States, have decided on beginning at midnight. But the Astronomical Society of the Netherlands continues the noon reckoning, and many people in the British Isles propose to do the same; some of these quote the fact that no change has been made in the Julian Day table of the Nautical Almanac as registering an official decision in this sense. The fact is, however, that no such decision has been reached, and in its absence the wording of the Nautical Almanac remains as before.

While it is possible to make a good case for either noon or midnight, the use of different systems in different countries cannot fail to be a source of great confusion, and it is earnestly to be hoped that an official decision will be registered by the Astronomical Union at its meeting in July. The present year must in any case be one of confusion, but the sooner that state is ended the better.

THE TOTAL SOLAR ECLIPSE OF JANUARY 24.—The *Scientific American* for March describes this as "the best observed eclipse in history." It was certainly the most populous region that the moon's shadow has traversed since modern methods have been introduced, and the article states that thousands of volunteer observers were engaged in observing the exact limits of the zone of totality and similar researches. Five successful colour photographs of the corona were obtained, and the reproduction of one of them is promised in the next issue. "The great spectacle was not marred by so much as a single wisp of cloud."

The times of the beginning and end of totality were telegraphically recorded on two chronographs, one at New Haven, the other in New York; this facilitated the rapid comparison of results, which were thus available in the cable message despatched to Europe the same day. The main feature of the eclipse as a whole was the eager co-operation of thousands of people in a great many directions, including the effect of the shadow on wireless transmission. There is little doubt that the full report will add to our knowledge very considerably.

The errors in the calculated times of beginning of totality, given in NATURE for January 31, were taken from the cabled reports in the *Observer* for January 25. They were very nearly correct, but need a little revision, which can now be made, thanks to a courteous communication from the editor of the *Scientific American*. The observed times were late on the predicted ones as follows; Ithaca, 5 sec.; Poughkeepsie, 2·7 sec.; New Haven, 4·7 sec.; Easthampton, 5·5 sec.; mean, 4·5 sec., practically identical with that given before. The time at Buffalo was noted as 0·3 sec. early, but uncertain owing to cloud.

Easthampton, on Long Island, was occupied by a party despatched by the *Scientific American*. It was at this station that five successful colour photographs of the corona were obtained by Mr. Edward R. Hewitt, who has devised a very rapid process for such photographs.

MOVING ABSORBING VAPOURS AT GREAT HEIGHTS ABOVE THE PHOTOSPHERE.—Observations with the photographic recording spectrometer as employed by Deslandres in 1910 give the changes in appearance of a line emitted or absorbed by a chromospheric vapour and also its radial velocity. Certain filaments are found to develop violent movements, after which they generally disappear or are much weakened. These phenomena are not observed with the spectroheliograph since its narrow second slit is adjusted for a line of the stationary vapour, and when this line is affected by the Doppler effect, it does not pass through it at all. M. L. d'Azambuja, in the *C.R. Acad. Sci. Paris*, January 5, describes six cases which he has observed in the Meudon Observatory from April 1919 to January 1921, using the calcium K_3 line, four of which are similar to that described by Deslandres, and show radial, but no horizontal, movement. The two others, however, show rapid and extensive horizontal movements, and in addition important radial ones. Maps are given showing the forms and positions of these filaments at different times, together with the positions on the solar disc which they would have occupied had there been no horizontal movement. The filaments were seen at first on the spectroheliograms, but not when the radial velocity became large. The maximum velocity towards the observer of one of the filaments was about 25 km./sec., and it was estimated that it must have reached a height of 225,000 km., or about one-sixth of the solar diameter. No trace of it was left about an hour after it was last seen. It is probable that the same phenomena are involved as in the formation of a temporary protuberance at the edge of the solar disc.