

visited. The expedition is to sail in the *Morrissey* under Capt. R. A. Bartlett, and will be mainly concerned with the collection of material for the American Museum of Natural History. No indication is so far given of the date of sailing or the route to be taken.

THE title of the *Amateur Aquarist and Reptilian Review* is being changed to the *Aquarist and Pond Keeper*, for it is intended that, besides the usual inhabitants of aquaria and ponds, the journal shall also deal with the mammals and birds which affect these directly or indirectly, either as enemies or friends. The present number (Winter 1927), the last of the old series, includes many short articles of interest to aquarium owners. These are chiefly about fishes, but there are also notes on miscellaneous subjects, such as lizards, snails, and fresh-water plants.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A part-time demonstrator in chemistry at Birkbeck College—The Secretary, Birkbeck College, Breams Buildings, Fetter Lane, E.C.4 (Feb. 21). A technical assistant in the Department of Fisheries, Irish Free State—The Secretary, Civil Service Commission, 33 St. Stephen's Green, Dublin, C.2 (Feb. 24). A mycologist to the Department of Agriculture, Tasmania—The Agent-

General for Tasmania, Australia House, Strand, W.C.2 (Feb. 29). A woman staff lecturer and demonstrator in the Department of Physics of Royal Holloway College—The Principal, Royal Holloway College, Englefield Green, Surrey (Mar. 14). A professor of biochemistry at the London School of Hygiene and Tropical Medicine—The Academic Registrar, University of London, South Kensington, S.W.7 (April 12). Male cartographers in the Hydrographic Department of the Admiralty—The Secretary, Civil Service Commission, Burlington Gardens, W.1 (return of application forms, May 24). A research worker with metallurgical training, in the Research Laboratories of the General Electric Company, Ltd.—The Director, Research Laboratories, G. E. Company, Ltd., Wembley. A junior veterinary surgeon in the Department of Agriculture, Southern Rhodesia—The Secretary, High Commissioner for Southern Rhodesia, Crown House, Aldwych, W.C.2. A director of agricultural research and of experiments and demonstrations in the application of fertilisers, and a director of fertilised propaganda, under the Chilean Nitrate Committee—The Chilean Nitrate Committee, Friars House, New Broad Street, E.C.2. A head of the Department of Biology of Huddersfield Technical College—The Director of Education, Education Offices, Huddersfield.

Our Astronomical Column.

FIXING THE DATE OF EASTER.—A new Bill, entitled the Stabilisation of Easter Bill, 1928, is being introduced as a private member's bill in the House of Commons by Capt. Bourne and is down for a second reading on Feb. 17. The Bill, which is to regulate the date of Easter Day and other days depending thereon, provides that "Easter-day shall, in the calendar year next but one after the commencement of this Act and in all subsequent years, be the first Sunday after the second Saturday in April."

THE TOTAL ECLIPSE OF AUGUST 31, 1932.—This is the only total eclipse in the next eight years that is visible in an easily accessible region. A recent *Daily Science News Bulletin*, issued by Science Service, Washington, gives the particulars about it that have been calculated by Dr. L. J. Comrie of the *Nautical Almanac Office*. The eclipse is total in eastern Canada and the north-eastern corner of the United States; it occurs at 3.30 P.M., height of sun 30° , duration of totality 100 seconds, width of totality track 100 miles; the central line runs from Pierreville, Quebec, to Biddeford, Maine. The southern limit of totality runs from Montreal to Salem, Mass.; the northern limit from St. Jean des Chaillons, Quebec, to Richmond, Maine. The central line passes over the White Mountains, Three Rivers and Sherbrooke in Quebec, Portland in Maine, and Portsmouth in New Hampshire are all suggested as suitable stations. Montreal is too near the edge of the track, except perhaps for some investigations of a special character. Boston is very close to the track, but just outside it. It will be remembered what enthusiasm was excited in America by the eclipse of January 1925. That of 1932 crosses a region not much less populous; it comes at a better time of the year and the sun is higher, so still more successful results may be hoped for.

This is a return after two Saroses of the eclipse of 1896, Norway, Novaya Zemlya, Japan; and after one

Saros of that of 1914 (Sweden and Russia); the eclipse is nearing its end in the Saros cycle, and 1932 is the last occasion on which it will be visible under favourable conditions in accessible regions.

THE SUN'S ROTATION AND THE RELATIVITY SHIFT OF SPECTRAL LINES.—A paper by Mr. J. Evershed dealing with "The Solar Rotation and the Einstein Displacement derived from Measures of the *H* and *K* Lines in Prominences" is published in *Mon. Not. Roy. Ast. Soc.*, Dec. 1927. It is well known that, at the photospheric level of sunspots, the sun's angular rate of rotation diminishes from the equator towards each pole. Spectroscopic observations of the Doppler effect made by Adams in 1908 indicated that the angular speed of rotation also increases from the photosphere outwards through the chromosphere. In 1925, Evershed published his results obtained from spectroscopic observations of prominences, which gave the unexpected value at the sun's equator of nearly 17° for the daily sidereal rotation as compared with $14\frac{1}{2}^\circ$ at the level of the photosphere (visual observations of sunspots).

The present paper, which confirms and extends Mr. Evershed's earlier results, is based on data derived from 200 spectra of prominences photographed last year at Pitch Hill, Surrey. For purposes of measurement, a comparison spectrum of the iron arc was used instead of the spectrum of the centre of the sun's disc as employed earlier. From a discussion of class *A* of spectrograms (those in which the lines were narrow, well-defined, or otherwise undistorted by radial motions of eruptive prominences) a first approximation of the mean shift of the spectral lines, *H* and *K*, in prominences is given as $+0.0109 \text{ \AA}$., the predicted relativity shift at $28''$ above the sun's surface being $+0.0081 \text{ \AA}$. The outstanding difference is discussed. The paper also contains an account of Mr. Evershed's apparatus which he has installed in his underground observatory at Pitch Hill.