THE following announcements are made in the *Johns Hopkins University Circular* (No. 121):—Sir Archibald Geikie has accepted the invitation of the President and Board of Trustees of the Johns Hopkins University to inaugurate the George Huntington Williams Memorial Lectureship, and has selected October, 1896, as the time for delivering his lectures.—Prof. Cleveland Abbe, of the United States Weather Bureau, will, during January next, give four lectures upon Climatology in its relations to Physiography.—Mr. G. K. Gilbert, of the U.S. Geological Survey, will begin a course of lectures upon Physiographic Geology the second week in January, and will lecture four times weekly until about the end of February.—Mr. Bailey Willis, of the U.S. Geological Survey, will commence his lectures upon Stratigraphic and Structural Geology, as soon as Mr. Gilbert has completed his course, and will lecture twice weekly until the middle of May.—Dr. R. M. Bagg has been appointed assistant in Geology.

SIR JOHN GORST, in a speech delivered last Thursday at the annual meeting of the London Society for the Extension of University Teaching, remarked that "though they were all anxious that the scientific education of the country should be fully developed, it would be a great mistake if that development were to take place at the expense of the literary side of education. A proper liberal education is fairly balanced on all sides, and no system which extends one branch of education at the expense of others can be productive of anything in the long run but mischief." Just so. We have always urged that science should receive as large a share of attention as literature in our colleges and universities; but no one can say that it does. Some of Sir John Gorst's hearers took his remarks to indicate a reaction against the increased facilities now being offered for instruction in science; but if the remarks are taken literally, they mean that scientific education should be fostered, and placed upon the same footing as the humanities.

SCIENTIFIC SERIALS.

American Meteorological Journal, November.—Relations of the Weather Bureau to the science and industry of the country, by Prof. W. L. Moore, Chief of the Weather Bureau. It is satisfactory to find that the change of Chief will not affect the scientific activity of the U.S. Weather Office, as many people supposed. Prof. Moore quotes the Act of Congress of October 1, 1890, which prescribes the duties of the Chief, from which it is seen that the main object of the Bureau is to give warning of the approach of storms, and therefore that the proper line of investigation should be relative to their mechanism. Systematic exploration of the upper air, with a continuation of the studies of terrestrial magnetic forces, begun by Prof. Bigelow, will be the line of investigation prosecuted during the next two years. With regard to estimating the probability or severity of frost, Prof. Moore thinks that sufficient weight has not yet been given to the dryness or wetness of the soil, and he calls for special attention to this point.—The meteorological observatory on Monte Cimone, Italy, by A. L. Rotch. Monte Cimone is the culminating point of the Northern Apennines, attaining a height of 7100 feet above the sea, and it is the only summit station in Italy, the observatories of Vesuvius and Etna being both situated on the flanks of these volcanoes. Both the summit and base stations are provided with self-recording instruments, and are dependent upon the Central Meteorological Office at Rome, with which there is telegraphic communication.—Physiological effects of high altitudes, by A. L. Rotch. The author points out the importance of the effect of the rarefaction of the air on the human system, which is, as yet, but imperfectly understood, and refers to his own experiences at great heights in the Alps and Andes.

Wiedemann's Annalen der Physik und Chemie, No. 10.—The practical use of Wheatstone's bridge, by F. Kohlrausch. The meter bridge is greatly improved and made more sensitive by introducing two resistances, 4·5 times the resistance of the wire, at one or both ends of it. The wire may also be rolled on a roller of marble or wood boiled in paraffin, with a flat spiral groove. With an enlarged scale reading to thousandths the author claims to have attained a limit of error of 1 in 25,000.—Density measurements of extremely dilute solutions, by the same author. These were made, as before, by weighing a glass sphere immersed in the liquid. But as the sphere used was heavier in this case, the cocoon fibre suspending it had to be replaced by a fine wire of dull platinum. The accuracy was then carried to the seventh decimal place, the only limit being the accuracy of temperature measurements.—Luminescence of solids and solid solutions, by E. Wiedemann and G. C. Schmidt. This is a continuation of previous researches on photo-luminescence and cathodo-luminescence, or the phosphorescence produced by the impact of light and cathode rays respectively on certain bodies, such as sulphates. A list of the most brilliantly luminescent substances is given, including "solid solutions," in van 't Hoff's sense, of $MnSO_4$ in other sulphates. The kind of luminescence of the latter depends only little upon the concentration, but much upon the kind of solvent. The lower the temperature the brighter the light. But the sulphates of copper, iron, and nickel extinguish it altogether, even in small quantities. The spectrum of the rays emitted is in every case a continuous spectrum consisting of one band.—On the absorption of cathode rays, by P. Lenard. The ratio between the absorptive power and the density is the same for all media, whatever their state of aggregation, provided the cathode rays are of the same kind.—Cathode rays and continuous discharges in gases, by O. Lehmann. This paper deals with the question of the actual nature of gas discharges.—The cooling effects of air currents, by A. Oberbeck. These are measured by finding what velocity of air is required to prevent the glowing of a platinum wire conveying a current. It is proposed to use this as a sensitive anemometer.—Anomalous dispersion curves, by A. Pflüger. Cyanine and Hofmann's violet have refractive indices below 1 for rays between F and G, and fuchsine, magdala red, and malachite green all show an increase of refrangibility with increase of wave-length in certain portions of the spectrum.

Bulletin de la Société des Naturalistes de Moscou, 1894, Nos. 3 and 4.—On the Ostracodes fauna of the neighbourhoods of Moscow, by A. Croneberg (in German). Twenty-three species are described, of which *Cyclocypris pygmæa* and *Erpetocypris peregrina* are new (with plates).—On the slates of Megalo-Aïalo, near Balaklava, by D. P. Stremoukhoff (Russian, summed up in French). The presence of a number of Amonites, characteristic of the Bath and Kelloway strata, settles their age.—The birds of the government of Moscow, by Th. Lorenz. A list (in French) continued from a previous number.—The development of the tarsus in *Pelobatus fuscus*, by M. Chomiakoff (in German).—Two new Aphides from South Russia (*Stomaphis Graffii* and *St. macrohyncha*), by N. Cholodkovsky (in German) The microscopical structure of the electrical organ of the torpedo, by N. Iwanzoff, a large detailed work (in German), with plates in both numbers.—Yearly report of the Society.

SOCIETIES AND ACADEMIES.

LONDON.

Physical Society, November 22.—Special meeting.—Captain W. de W. Abney, President, in the chair.—The following resolution, with reference to the articles of association, was passed. In Article 33, to strike out the words "by the payment of £10 in one sum," and in place of this to insert the words "the composition fee shall be, for every member who shall not have paid ten annual subscriptions, fifteen times the amount of the annual subscription payable by such member, and for any member who shall have already paid ten or more annual subscriptions, ten times the amount of the annual subscription payable by such member."—The ordinary meeting then took place.—Dr. G. Johnstone Stoney exhibited a print of Profs. Runge and Paschen's photograph of the spectrum of the gas obtained from clevite, together with a diagram illustrating the manner in which these observers have arranged *all* the lines obtained in two sets, each set containing three series of lines. Dr. Stoney also drew attention to the resemblance between each of these sets of three series of lines and the similar triple series obtained in the case of the metals of Mendelejeff's first group. The lines of the different series in the case of the gas obtained from cleveite have certain definite peculiarities which permit of their identification and selection. The two gases, to the presence of which the two sets of lines are presumably due, can be partly separated by diffusion through a plug of asbestos. Prof. Ramsay's observation that by suitably altering the pressure of the gas the predominance of the lines in either of the two sets can be increased is, however, against the