

ENGINEERING EDUCATION.

The address of Prof. Storm Bull, before the Section of Mechanical Science and Engineering, was on engineering education as a preliminary training for scientific research work. The proposition put forward was that engineering education as furnished in the best technical schools of the world, together with the training obtained later in life as a practising engineer, provides the best preliminary preparation for the successful prosecution of scientific research work.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

MR. A. G. ASHCROFT has been appointed Assistant Professor of Engineering at the Central College of the City and Guilds of London Institute.

DURING the winter session 1899-1900 at the University of Edinburgh, courses on practical experimental physiology, practical chemical physiology, and practical histology, will be given every week day, in addition to the usual five months' course on physiology.

AMONG the addresses to be delivered at the opening of the Medical Schools in the beginning of October are the following:—At the Middlesex Hospital the introductory address will be delivered by Mr. John Murray. At St. George's Hospital the introductory address will be given by Dr. Howship Dickinson. At University College the session will be opened by Dr. G. F. Blacker. At St. Mary's Hospital the address will be given by Mr. H. G. Plimmer. At Charing Cross Hospital the address will be delivered by Dr. Mitchell Bruce. At Guy's the term begins on October 2, when the first meeting of the session of the Physical Society will be held at 8, in the new physiological theatre. Sir Samuel Wilks will preside. At the London School of Medicine for Women the introductory address will be given by the dean, Mrs. Garrett Anderson, after which the prizes for the past year will be distributed. The winter session of the London School of Tropical Medicine will open on October 2, when the new school will be formally opened to students. At St. Thomas's Hospital the session will open on October 3, when the prizes will be distributed by Prof. Clifford Allbutt. The winter session at Mason College, Birmingham, will begin on October 2, when Sir William Gairdner will deliver the introductory address. At University College of South Wales and Monmouthshire, Cardiff, the address will be given on October 6 by Prof. A. W. Hughes. At Yorkshire College, Leeds, the address will be given on October 2, and the prizes distributed by Dr. Byrom Bramwell. The session at University College, Liverpool, will begin on October 3 with an address by the Rev. S. A. Thompson-Yates, who will afterwards distribute the prizes. The introductory lecture at Queen's College, Manchester, will be given on October 2 by Sir J. Crichton Browne.

SCIENTIFIC SERIAL.

American Journal of Science, September.—On the gas thermometer at high temperatures, by L. Holborn and A. L. Day. The authors seek for a type of gas pyrometer yielding the most trustworthy results, and eventually decide in favour of the iridio-platinum bulb as against porcelain. They fill the bulb with nitrogen, and use a saltpetre bath up to 750°, a zinc bath up to 900°, and electric heating for still higher temperatures, since flame gases pass bodily through the metal.—On the flicker photometer, by O. N. Rood. The general idea of the photometer, which is independent of colour, is that the differently coloured beams of light traversing its axis should illuminate the two surfaces of a rectangular prism, facing the eye, and that by the oscillations of a cylindrical concave lens its illuminated surfaces should alternately and in rapid succession be presented to the eye. The resulting flicker vanishes when the two surfaces have the same luminosity.—A quantitative investigation of the coherer, by A. Trowbridge. The greater the charging potential of the coherer, the more rapid is the rise of the conductivity per unit increase in quantity of electricity discharged. Probably every coherer has a critical value of the difference of potential below which it will not act. In the ball coherer used this was 8 volts.—Double ammonium phosphates of beryllium, zinc, and cadmium in analysis, by Martha Austin. The preparation of

these double ammonium phosphates is described in detail, and their utility in analytical processes is indicated.—An Albertite-like asphalt in the Choctaw Nation, Indian Territory, by J. A. Taff. The mineral, in both its physical and chemical properties, is shown to be an asphalt, and only differs from albertite in its solubility in turpentine. It occurs in veins from 4 to 25 feet thick.—A new meteorite from Murphy, Cherokee County, N.C., by H. L. Ward. The siderite described has a square fracture unusual in iron meteorites.—On the separation of alumina from molten magmas, and the formation of corundum, by J. H. Pratt. The separation of alumina is well illustrated in nature in the occurrence of corundum, spinel, and chromite in the rocks of the peridotite group. Experiments in the laboratory show that the separation of alumina as corundum from molten magmas is dependent upon the composition of the chemical compounds that are the basis of the magma, upon the oxides that are dissolved with the alumina, and upon the amount of the alumina itself. When the magma is composed of a magnesium silicate without excess of magnesia, all the alumina held by such a magma will separate out as corundum.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, September 11.—M. Maurice Lévy in the chair.—On a new form of the equations of dynamics, by M. P. Appell. Some remarks on the new form of equation indicated in the *Comptes rendus* of August 7 and 28. The results obtained can be expressed in one theorem, with which is connected the principle of least constraint of Gauss.—The Perseids of 1899, by M. G. Flammarion. The paper gives the results of the observations of MM. Antoniadi and Mathieu at the observatory of Juvisy on August 11, 12 and 13. The results are given in tabular form, and the directions of the meteors observed are shown upon a map.—Remarks by M. Bouquet de la Grye on the above paper. It would be possible to utilise shooting stars as a means of determining differences of longitude between places unprovided with the telegraph.—On some geometrical relations between two systems of points defined by algebraic equations, by M. S. Mangeot.

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