

endowment, and 15,000 dollars for the school of forestry from Mr. G. H. Myers, a graduate of that school.

THE Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield has appointed Mr. J. Murray Crofts, of Emmanuel College, Cambridge, as their organising secretary for the inspection and examination of schools. Mr. Crofts was for two years assistant master at Giggleswick, for two years junior inspector of the Board of Education, secondary branch, and for five years headmaster of the Johannesburg College, Transvaal, a post which he recently resigned.

WE learn from the *Scotsman* that during the recent recess many alterations and additions to the buildings in connection with the physiological department of the University of Edinburgh have been carried out, and that the additional accommodation will be available in the course of the present month. By utilising what was formerly the lecture-room, a new physiological chemical laboratory has been obtained, and the former chemistry room has been re-fitted as a laboratory for special research in chemical physiology. In addition to the foregoing, a new lecture-room has been erected on a piece of vacant ground at the south-west corner of the new buildings of the University. It is a one-storey building, designed to harmonise in appearance with the older adjacent buildings, and accommodates about 350 students.

THE *Electrician* for October 1 reprints in slightly abridged form from the *Electric Journal* an article by Mr. F. W. Taylor, an employer and past president of the American Society of Mechanical Engineers, on the reasons why manufacturers dislike college graduates. The difficulty in America appears to be that the graduate, on first entering works, becomes dissatisfied with the simplicity of the jobs allotted to him, and only after a year or two of shop experience develops character enough to do monotonous, unpleasant, or disagreeable work. Mr. Taylor suggests as remedy a year of hard work in the shops to follow immediately the first year of college life of all students, whether they are intended ultimately for the engineering profession or the Church. He believes they will in this way get a sounder knowledge of man and his duty in this world than can be gained by any other means. The *Electrician*, in a leading article devoted to the question raised by Mr. Taylor, cordially endorses many of the opinions he expresses.

PROF. W. OSLER, F.R.S., formally opened on October 15 three new laboratories for physiology, chemistry, and physics, respectively, at the London Hospital Medical College. The laboratories have been constructed and equipped at a cost of about 8000*l.*, and afford accommodation for some 120 students. In declaring the laboratories open, Prof. Osler said that, after all, laboratories are the foundation-stones on which the work of a hospital rests. Medical students cannot spend too long a time in them. Medical students ought to get their laboratory methods so thoroughly ingrained into their constitution that they carry them with them to their dying day. If they are to be good practitioners they have to carry their laboratory work with them into their practice. Prof. Osler said he would like every medical student in one or other of the laboratories to undertake during some portion of his career a small piece of research work. It is difficult, but it altogether depends upon the individual will of the individual man. All can do it if they only make up their minds to it, and in view of their large research endowment fund there is no reason why some of the money should not go to helping the research work of some of the younger men.

THE new University College of South Wales and Monmouthshire at Cardiff was opened on October 14 by Lord Plymouth, president of the college. The King, as Protector of the University of Wales, sent wishes for the success and prosperity of the future work of the college. The Prince of Wales, as Chancellor of the University, sent a letter to Lord Plymouth to be read at the ceremony. In

the letter the Prince said:—"The steady growth of the college and the record of work accomplished during the first twenty-five years of its life are evidence that it has adapted itself to the needs of the community. This development is particularly noticeable in the technological and medical schools, and, thanks to the generous support of the coalowners of South Wales to the former and the assistance specially given by the Treasury to the latter, still further vigour and usefulness may be looked for from these departments. To Principal Griffiths and the students past and present I offer my hearty congratulations upon the good results achieved by the college. Meanwhile, we must look ahead and endeavour to be ready to meet all the requirements of scientific and intellectual progress. The imperative necessity for higher education and research is becoming more and more recognised, and I feel sure it is not lost sight of by those who direct the great commercial industries of the district. The University College of South Wales is destined to provide the want, and I confidently believe that the people of South Wales, through whose patriotic generosity so much has already been accomplished, will by their continued sympathy and material support not only extinguish the debt upon the new buildings, but secure the funds necessary for still further developments."

THE trustees of the Oxford University Endowment Fund have completed the first year of their administration of the fund. The total sum received by the trustees was 86,570*l.*, the greater part of which was forwarded to them as the result of Lord Curzon's appeal for donations for the further endowment of Oxford University. Among grants made by the trustees the following may be mentioned. A grant of 500*l.* a year has been promised for eight years to the curators of the Bodleian Library. The trustees have also provided the funds required to convert the North Gallery into a new reading-room, and have undertaken to meet the cost of constructing an underground chamber for the storage of books belonging to the Bodleian Library. It is estimated that this chamber will cost 10,000*l.* Five hundred pounds have been offered to meet the cost of equipment for further accommodation if space can be found by the University for the expansion of the school of geography. The trustees have agreed to pay for three years the salary of the newly appointed lecturer in Japanese, so that the school of Japanese—the first to be established in any English university—may be initiated without more than nominal calls upon the funds of the University. A school of engineering has been provided, largely by gifts allocated by donors and passing through the hands of the trustees. From the sum thus provided the trustees have promised a payment of 600*l.* a year for five years as a contribution to the cost of the engineering school, and have paid 300*l.* for equipment. Out of the general income of the trust fund a further sum not exceeding 150*l.* per annum has been promised for three years to furnish accommodation for the professor, for whom at present there is no adequate laboratory available. The sum of 61,553*l.* has been invested. The income will enable the trustees to make annual grants in aid of studies at present endowed inadequately, or in the establishment and initiation of new studies.

SOCIETIES AND ACADEMIES.

MANCHESTER.

Literary and Philosophical Society. October 5.—Mr. Francis Jones, president, in the chair.—A new binary progression of the planetary distances, and on the mutability of the solar system: Dr. H. **Wilde**. In his table of planetary orbits the author has adopted the radius vector of Mercury as the unit to which the other planetary distances should be referred, the terrestrial unit being a survival of the geocentric system of the universe. The change in the unit of distance has revealed a new binary progression of the planetary distances nearer the observations than that of Bode's law.

PARIS.

Academy of Sciences, October 11.—M. Bouchard in the chair.—The total sugar of the plasma and globules of the blood: R. Lépine and M. Boulud. The sugar estimated in the blood by the ordinary methods is called by the authors the immediate sugar of the blood; after heating with hydrofluoric acid the maximum amount of sugar found is called the total sugar. An investigation is described on the estimation of the immediate and total sugar in the blood from dogs both in a normal healthy condition and after deprivation of food.—Observations on the surface of the planet Mars from June 4 to October, 1909: R. Jarry-Desloges. The work was done at two observatories, both at a high altitude, at Revard (1550 metres above the sea) and near Masegros (900 metres). The paper is illustrated by two diagrams.—The effects of mechanical shocks on the residue of condensers: Paul L. Mercanton. A glass condenser was charged to about 400 volts, and the effects of mechanical shocks and also vibrations on the amount of the residual discharge studied. The results are summarised in tabular form.—The reduction of weighings to vacuum applied to the determination of atomic weights: Ph. A. Guye and N. Zachariades. The substances studied in this work, twenty-six in all, were chosen from material actually used in atomic-weight determinations. The reduction to vacuum weights was first applied in the usual way from the known densities of the substances, and the results compared with direct weighings in a vacuum. The differences on 100 grams of material varied between 1 and 32 milligrams, and the conclusion is drawn that it is completely illusory to weigh bodies closer than 1 part in 10,000, or to calculate atomic weights with a greater precision, whenever the weights of powdered substances, determined in air, are reduced to vacuum by calculation.—The probable influence of the motion of the moon on atmospheric radio-activity. Some meteorological consequences: Paul Besson. The radio-activity of the principal spring of Uriage-les-Bains has been found to vary with the barometric pressure and also with the movements of the moon. If this latter effect is confirmed, it would result that the moon, by increasing or reducing the number of condensation nuclei, would have an effect on weather.—The asymmetry created by a continuous current in liquid chains, initially symmetrical, formed by aqueous couples of identical viscosity: M. Chanoz.—The revision of the density of gaseous hydrochloric acid; the atomic weight of chlorine: Otto Scheuer. Twenty-eight determinations, made in seven series, of the density of hydrochloric acid gas give 1.6394 grams as the normal weight of a litre ($t=0^{\circ}$ C., $H=760$ mm., $h=0$, $\gamma=45^{\circ}$). This leads to the figure 35.45 as the atomic weight of chlorine.—The spectrographic analysis of blends: G. Urbain. The spectra were taken from the arc, iron being taken as the comparison spectrum. Out of sixty-four blends, thirty-eight gave clear evidence of the presence of germanium, and amongst these five contained the element in such a proportion that all the germanium lines were observed. Indium was found in forty-one blends, three being remarkably rich. Nearly all the blends contained gallium, there being only five in which gallium could not be detected. The other elements noted included iron, copper, silver, tin, antimony, cobalt, bismuth, arsenic, and molybdenum.—Some derivatives of hexahydro-oxybenzoic acid: P. J. Tarbouriech. This acid was first obtained by Bucherer from cyclohexanone. This latter substance can now be readily obtained in quantity by the Sabatier and Senderens reaction, and Bucherer's work is repeated and extended.—A new series of leucobases and colouring matters derived from diphenyl-ethylene: P. Lemout.—The liquid crystals of the combinations of cholesterol and ergosterol with urea: Paul Gaubert.—The *Dioscorea* cultivated in tropical Africa, and on a case of natural selection relating to a species spontaneous in the virgin forest: Aug. Chevalier.—The stratigraphical position of the *Heterodicerias Lucii* layers at Salève: E. Joukowsky and J. Favre.—The distribution of granites in the French Congo: H. Arsandaux.—The earthquake of October 8, 1909: Alfred Angot. The earthquake felt in Croatia was registered in the observatories of Parc Saint-Maur and Grenoble.—Some remarks on the great magnetic disturbance of September 25,

1909, and the accompanying solar phenomena: Émile Marchand.

CAPE TOWN.
Royal Society of South Africa, September 15.—Borchard's form of the eliminant of two equations of the n th degree: Dr. T. Muir.

DIARY OF SOCIETIES.

- THURSDAY, OCTOBER 21.
INSTITUTION OF MINING AND METALLURGY, at 8.—The Influence of the Railroads of the United States and Canada on the Mineral Industry: Dr. J. Douglas.—The Development of Heavy Gravitation Stamps: W. A. Caldecott.
OPTICAL SOCIETY, at 8.—The Theory of Vision and Colour Perception: Dr. F. W. Edridge Green.
FRIDAY, OCTOBER 22.
PHYSICAL SOCIETY, at 5.—On Cadmium Amalgams and the Normal Weston Cell: F. E. Smith.—The Production of Helium from Uranium and Thorium: Frederick Soddy.—The Production of Radium from Uranium: Frederick Soddy.—Note on a Gravitational Problem: Dr. C. V. Burton.
TUESDAY, OCTOBER 26.
QUEKETT MICROSCOPICAL CLUB, at 8.—Notes on the Life-history of the Tachnid Fly, *Phorocera serriventris*, Rondani: W. Wesché.—Note on a Quick Method of Preparing and Staining Pollen: W. Wesché.—Low-power Photomicrography, with Especial Reference to Stereoscopic Work: A. C. Banfield.
WEDNESDAY, OCTOBER 27.
BRITISH ASTRONOMICAL ASSOCIATION, at 5.—Annual Meeting: Address by the President.
FRIDAY, OCTOBER 29.
INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Prof. W. E. Dalby's Report on Heat Transmission (*Resumed Discussion*).

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