

London, on November 1. The scheme has been warmly commended by the Prince of Wales, by whom a Canadian hostel was opened in Paris but two days before, in the Cité Universitaire near the Parc de Montsouris. The erection of a similar residential college is not, however, a central feature of the British Institute project, which aims primarily at providing a centre for serious study and exchange of ideas for French students of English and for British students in France. It is proposed to work in co-operation with, if not to absorb, the existing Collège de la Guilde, founded thirty years ago by Miss Edith Williams and now carried on as a tutorial agency with the full approbation of the University of Paris authorities. At the Mansion House meeting Lord Crewe, the French Ambassador (M. de Fleurian), Lord Burnham, M. Desclos (on behalf of the Rector of the University of Paris), Sir Theodore Morison (representing the Standing Committee of the Vice-Chancellors of the Universities of the United Kingdom), Sir William Beveridge, Lord Meath, and Lord Derby all strongly supported the scheme, and an influential committee was appointed as a provisional council of the Institute. In the *University of London Gazette* of November 3 appears a notice of a Resolution of the Senate warmly approving the project and of the appointment of a committee to report how the University can co-operate. The minimum amount required for financing it is 100,000*l.*, towards which Sir Daniel Stevenson and others have promised some 15,000*l.* Sir William Beveridge stressed the need of an institution capable of representing British Universities in Paris as the American University Union represents the Universities of the United States in London and Paris. This need, which has long been felt, has become acute since the establishment of the International Institute for Intellectual Co-operation in Paris.

THE universities' duty of self-adjustment to contemporary social changes is discussed in a suggestive article by Hubert Phillips in the October number of the *University Bulletin*, the organ of the Association of University Teachers. In an age in which in the secular conflict of Man *versus* the State the honours seem to be with the latter, whilst the spiritual ascendancy of the syndicated press, the B.B.C., and the 'movies' seems to be assured, how, it is asked, are the will to criticise, and the will to determine, and the will to progress to be nourished and kept alive? It is suggested that it is 'up to' the universities to find ways and means. The newer universities are commended for not being ashamed to call themselves provincial and are exhorted to go further and "be provincial—to fight for people and places against syndicates and machinery." Lastly, reference is made to the fact that, unlike the churches (or certain of them), the universities have not made their voice heard as mediators in the disastrous struggle in the coal industry, notwithstanding that they are the custodians of accumulated wisdom in regard alike to mining technology, economics, social ethics, and industrial organisation and finance. We are reverting, in the view of the writer, to a society in which all significant institutions must exercise—somehow—political functions, or must perish: the professional politician is ceasing to matter. In these circumstances, it behoves the universities not to be obsessed by the fear of "interfering in politics," always provided they can keep their interference clear of any party complexion. The article is entitled "Some Academic Horizons": it is interesting as an addendum to Dr. Earle's paper, read at the Universities' Congress last July, on "An Imperial Policy in Education."

Contemporary Birthdays.

- November 6, 1861. Principal Arthur P. Laurie.
 November 8, 1872. Dr. Martin Onslow Forster, F.R.S.
 November 8, 1864. Prof. Benjamin L. Robinson.
 November 10, 1861. Mr. Robert T. A. Innes.
 November 10, 1851. Prof. Waldemar C. Brøgger, For. Mem. R.S.
 November 10, 1847. Earl of Iveagh, K.T., G.C.V.O., F.R.S.
 November 12, 1863. Prof. Alfred W. Porter, F.R.S.
 November 14, 1891. Prof. Frederick G. Banting.
 November 14, 1869. Prof. Harry Yandell Benedict.
 November 17, 1847. Prof. Archibald Liversidge, F.R.S.
 November 18, 1869. Hon. Sir Arthur Stanley, G.B.E.
 November 18, 1855. Prof. Archibald Barr, F.R.S.

DR. LAURIE was educated at Edinburgh Academy. He graduated at the Universities of Edinburgh and Cambridge. Sometime lecturer in physics and chemistry at St. Mary's Hospital Medical School, London, he has been professor of chemistry, Royal Academy of Arts, since 1912; in 1914 he became a member of the Chemical Products Supply Committee, Board of Trade. He has written many illuminating memoirs on artists' pigments and mediums. Dr. Laurie is principal of the Heriot-Watt College, Edinburgh.

DR. M. O. FORSTER studied at Finsbury Technical College, and the Central Technical College, South Kensington. From 1902 until 1913 assistant professor of chemistry at the Royal College of Science, he became the first director of the Salters' Institute of Industrial Chemistry (1918-22), retiring to take up the directorship of the Indian Institute of Science, Bangalore. Dr. Forster was president of Section B (Chemistry) at the Edinburgh meeting of the British Association in 1921, delivering an address on "The Laboratory of the Living Organism." *Inter alia* he asked, "What is breakfast to the average man?" He answered the question by saying that it was a "hurried compromise between hunger and the newspaper." In 1915 Dr. Forster was awarded the Longstaff medal of the Chemical Society.

PROF. B. L. ROBINSON, botanist, was born at Bloomington, Illinois, U.S.A. He was educated at the Universities of Harvard and Strasbourg. Since 1899 he has been Asa Gray professor of systematic botany in Harvard University, whilst being from an even earlier date curator of the celebrated Gray Herbarium. Prof. Robinson is a foreign member of the Linnean Society. He is the author of numerous papers on the classification of the higher plants of the United States, Mexico, and tropical America.

MR. ROBERT INNES, astronomer, was born at Edinburgh. From 1903 until 1911 he was director of the meteorological department, Transvaal, South Africa, becoming then chief of the Union Observatory, Johannesburg. He is the author of many astronomical memoirs.

PROF. BRØGGER, the distinguished geologist, rector of the University of Christiania (Oslo) and one of its alumni, is a foreign member of the Royal Society and of the Geological Society. Sometime an assistant on the Norwegian geological survey, he became professor of geology in the University of Stockholm. Since 1890 he has held the chair of geology and mineralogy at Christiania (Oslo). He is Hon. LL.D., Glasgow, Hon. Sc.D., Cambridge, and Hon. D.Sc., Oxford. In 1911 the Geological Society of London awarded Prof. Brøgger its Wollaston gold medal (twenty years

earlier he had been allotted the Murchison medal) at the hands of Prof. W. W. Watts, then president. It was remarked that Prof. Brøgger was an accomplished chemist, skilful mineralogist, and great petrologist. His researches on the Cambrian and Ordovician rocks of his own country had indicated that he was a gifted palaeontologist and stratigrapher. His detailed mapping and interpretation of the structure of the Christiania area and his explanation of the origin of the Christiania Fjord had proved him to be a tectonic geologist of a very high order.

The EARL OF IVEAGH, whose interest in the movements of science and appreciation of its needs are well known, has been Chancellor of the University of Dublin since 1908.

Prof. PORTER, dean of the Faculty of Science in University College (University of London), occupies there the chair of physics. Honorary secretary of the Institute of Physics, he is a past president of the Röntgen Society and of the Faraday Society.

Prof. F. G. BANTING was born at Alliston, Ontario. Educated at the Alliston Public and High Schools, he graduated in the medical faculty of the University of Toronto. From a physiological post in the University of Western Ontario, London, Canada, he returned to Toronto to become a lecturer in pharmacology. He now occupies the chair of medical research established lately in the University. Prof. Banting, with Prof. J. J. R. MacLeod, received in 1923 the distinction of the Nobel prize in physiology and medicine for their discovery of insulin.

Prof. BENEDICT, who occupies the chair of applied mathematics and astronomy, and is dean of the College of Arts in the University of Texas, was born at Louisville, Kentucky, U.S.A. He was educated at the Universities of Texas, Harvard, and Virginia. Sometime an assistant in the Leander McCormick Observatory of the University of Virginia, he also held a mathematical professorship in Vanderbilt University.

Prof. LIVERSIDGE, the veteran chemist and mineralogist, was born at Turnham Green, Middlesex. His studies were pursued at the Royal School of Mines, South Kensington, Royal College of Chemistry, and Christ's College, Cambridge. Appointed so far back as 1873 to the chair of chemistry in the University of Sydney, he occupied that post for thirty-five years. He has rendered distinctive service to science and technical education in Sydney, and also far beyond its boundaries. He was a founder of the Australasian Association for the Advancement of Science, and was its honorary secretary for a number of years; afterwards he became president. Prof. Liversidge has written numerous memoirs on chemistry and mineralogy. He is Hon. LL.D., Glasgow.

Sir ARTHUR STANLEY, who was educated at Wellington College, entered the diplomatic service, filling various posts before retirement. He is chairman of the Joint Council of the British Red Cross Society and Order of St. John, and is also treasurer of St. Thomas's Hospital. Sir Arthur is especially interested in the work of the British Empire Cancer Campaign. He is a Commander of the Legion of Honour.

Prof. BARR, Regius professor of civil engineering and mechanics in the University of Glasgow from 1889 until 1913 (earlier he held a similar chair at the Yorkshire College, Leeds), was born at Glenfield, Renfrewshire. In collaboration with Prof. W. Stroud he has invented several types of range finders. Of these, one designed for use at sea is extensively employed in the British Navy. Prof. Barr is Hon. LL.D., Glasgow and Birmingham.

Societies and Academies.

LONDON.

Royal Society, November 4.—H. C. H. Carpenter and S. Tamura: Experiments on the production of large copper crystals. Crystals exceeding 4 in. in length have been grown in polycrystalline copper strip of section 0.5 in. × 0.125 in. by the method of critical strain followed by appropriate heat treatment. These crystals, however, are not, strictly speaking, single crystals, since they contain numerous twins which may be oriented in so many as three directions. It has not been found possible to produce large copper crystals by this method without at the same time producing twins. The complete removal of strain in recrystallised copper strip is only achieved by prolonged heating. On account of the presence of twins, the large crystals thus prepared only possess about one-third of the ductility of polycrystalline copper. Their tenacity, however, is almost the same. Their ductility is still more inferior to that of single-crystal copper prepared direct from the liquid which is free from twins.

H. C. H. Carpenter and S. Tamura: The formation of twinned metallic crystals. The principal cause of twinning seems to be crystal growth. Deformation is an indirect cause of twinning, merely because it causes subsequent growth on annealing. In some cases the orientation of annealing twins indicates that they have grown along certain crystallographic directions; most frequently they are rectilinear. The capacity for forming annealing twins appears to be closely related to the atomic arrangement in the crystal lattice. Those metals which crystallise in the face-centred cubic, tetrahedral cubic, and face-centred tetragonal lattices produce annealing twins after suitable treatment, whereas metals possessing other atomic arrangements have not been found to produce them. Metals which crystallise in the close-packed hexagonal lattice, *e.g.* zinc and cadmium, have no possible planes of twinning, and what is called twinning in these metals is probably parallel growth.

G. I. Taylor and C. F. Elam: The distortion of iron crystals. Specimens cut from crystals of iron were subjected to uniform distortion both in compression and in tension, and the distortion analysed and the orientations of the crystal axes determined by X-rays. Distortion is due to slipping in a direction parallel with the perpendicular to a {111} plane. This plane of slip had different orientations with respect to the crystal axes in different specimens, and its orientation round the direction of slip was determined chiefly by the direction of stress. A uniform shear, for which the direction of slip is a crystal axis while the plane of slip is not a crystal plane, arises from a condition of slipping in which the particles of the material stick together in rods instead of in planes. This conception of the mechanism of distortion in iron accounts for the fact that the general direction of the slip lines which appear on a polished surface coincides with the trace of the plane of slip and has no direct connexion with the crystal axes.

W. Rosenhain and A. J. Murphy: The metallography of solid mercury and amalgams. Carbon dioxide snow has been employed to attain the low temperature required, and specimens having a smooth surface have been obtained by solidification against a glass surface or by polishing. The cast surfaces have been etched electrolytically in hydrochloric acid and examined microscopically.

C. F. Elam: Tensile tests of large gold, silver and copper crystals. Crystals of gold, silver and copper