

particularly to some of the recent Rothamsted experiments, showing that the addition of chalk to the soil caused so marked a disintegration that the drawbar pull on the tractor was reduced from 1500 lb. to 1300 lb. for the three-furrow plough, thereby reducing the consumption of fuel and the wear-and-tear.

Sir Daniel Hall described the relationships between research stations and the college and farm institutes on the one hand, and the county advisers on the other. He impressed upon his hearers the fact that much of the work of an experimental station could have no immediate practical application, and yet it was absolutely essential for the development of agricultural science and for further advances in agricultural practice. He described the great changes that had taken place in the past fifteen years in the attitude of Government departments towards research work, and to the broader and more enlightened outlook on the part of the general public.

Dr. Russell described the work of the station, and emphasised the fact that its purpose is first to obtain trustworthy information about the soils and growing plants, and then to put this information into such a form that teachers and experts can use it. Among recent developments to which Dr. Russell referred are the statistical department, where elaborate and extensive Rothamsted data are examined by modern statistical methods, and the work on cultivation which is now being carried out by the physical department and the farm.

University and Educational Intelligence.

DURHAM.—The following honorary degrees were conferred upon members of the British Medical Association on July 21:—*Doctor of Civil Laws*: Sir William MacEwen, Sir Thomas Oliver, and Sir Humphry D. Rolleston. *Doctor of Hygiene*: Dr. T. E. Hill and Dr. J. W. Smith. *Doctor of Science*: Sir Arthur Keith. *Doctor of Literature*: Sir Dawson Williams, editor of the *British Medical Journal*. M.A.: Dr. Alfred Cox, medical secretary of the British Medical Association.

LONDON.—Mr. M. T. M. Ormsby has been appointed as from August 1, 1921, to the Chadwick chair of municipal engineering tenable at University College. Mr. Ormsby was appointed assistant to Prof. Osbert Chadwick at the college in 1898, and since 1914 has been University reader in surveying.

Dr. F. S. Langmead has been appointed as from August 31, 1921, to the University chair of medicine tenable at St. Mary's Hospital Medical School. Dr. Langmead has held a number of posts at St. Mary's Hospital since 1902, also at the Hospital for Sick Children and at the Seamen's Hospital, Greenwich.

The Rogers Prize of 100l. for 1921 has been awarded to Mr. Lambert Rogers for an essay entitled "The Surgical Treatment of Hyperthyroidism."

The following doctorates have been conferred:—*D.Sc. in Physics*: Mr. Lewis Simons, an internal student, of King's College, for a thesis entitled "Contributions to the Study of Energy Transformations when X-radiation is absorbed by, or emitted from, a Substance." *D.Sc. (Engineering)*: Mr. K. C. Chakko, an internal student, of University College, for a thesis entitled "Stresses in Chain Links." *D.Sc. in Botany*: Mr. Birbal Sahni, an external student, for a thesis entitled "The Structures and Affinities of *Acomopyle Pancheri*, Pilger." *D.Sc. in Chemistry*: Mr. W. C. Reynolds, an external student, for a thesis entitled "On Interfacial Tension." *D.Sc. in Geology*: Mr. L. F. Spath, an external student,

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for a thesis entitled "On Cretaceous Cephalopoda from Zululand," and other papers; and Mr. L. D. Stamp, an external student, for two theses entitled "On the Beds at the Base of the Ypresian (London Clay) in the Anglo-Franco-Belgian Basin," and "On Cycles of Sedimentation in the Eocene Strata of the Anglo-Franco-Belgian Basin."

THE Trustees of the Beit Fellowships for Scientific Research, which were founded and endowed in 1913 by Sir Otto Beit in order to promote the advancement of science by means of research, have recently elected to fellowships Messrs. H. L. Riley and W. A. P. Challenor. Mr. Riley was educated at the Keighley Trade and Grammar School, 1910-17, and has been a student at the Imperial College of Science and Technology from 1919 to date. Mr. Challenor was educated at Whitchurch Grammar School, 1911-17, and has been a student at the Birmingham University from 1917 to date. Both will carry out research at the Imperial College of Science and Technology at South Kensington.

It was announced in NATURE of July 7, p. 604, that Mr. H. H. Wills had presented the University of Bristol with the sum of 200,000l. for the provision of a new physics laboratory. Further particulars have now been received. Two gifts totalling 200,000l. were received, and the Council of the University has now approved plans and signed a contract for the erection of a building. It is estimated that the work will absorb the whole of the original gifts, together with the interest on the fund, amounting to 21,000l., which has since accrued. The Council has further decided to associate the name of Mr. Henry Wills permanently and for all time with the department by naming the building "The Henry Herbert Wills Physical Laboratory." In this Bristol is following the precedent of other universities in associating the name of the donor with a laboratory erected by him for a particular subject. The building, which is Early Renaissance in style, will be a four-floor structure in the shape of the letter "L," to be erected on the north-east side of the Royal Fort Estate. The architects have been most successful in securing both architectural beauty and all the facilities of light and other special requirements demanded by a science department. When it is erected Bristol will possess the best building for teaching and research work in physics in the world. The total amount contributed to the University of Bristol by various members of the Wills family now exceeds 900,000l.

SIR MICHAEL SADLER, Vice-Chancellor of the University of Leeds, in the course of an address after opening the new buildings of the Community of the Resurrection at Mirfield on July 16, said that modern civilisation was one of the colossal facts in the world's history. It had been achieved by the courage and labour of Western men during four centuries. Its essence was power. Its phases had been the power of the individual pioneer, the power of the State, the power of the sea, the power of the machine, the power of coal, and the power of high explosives. Through this stupendous outburst of power Providence had permitted a great change in the lives of men and in the outlook of their minds. It had quickened invention; it had flowered in great literature; it had multiplied opportunity; it had created wealth beyond even the dreams of avarice. Of the six most brilliant epochs in human history modern Western civilisation had been one. But now in its heart and conscience there is foreboding. Power, which is the essence of modern civilisation, threatens to destroy it. Three men so typical as Viscount Grey, Mr. H. G. Wells, and the Dean of St. Paul's

warn us that modern civilisation is at the cross-roads of its destiny. Unless, by some deflection of its recent purpose, power can be concentrated upon the constructive works of peace, it will destroy civilisation by war. At this moment the Middle Ages seem to whisper once more the message of an ideal which in modern times most men have discarded or have tried, however wistfully, to forget. In industry men begin to think of the medieval guilds. In art the naive sincerity of the primitive painters inspires some of those moderns whose pictures are religious. In politics men speculate as to the possibility of a Council of the Peoples which may recognise nationhood, but allay its rivalries. We cannot go back to the Middle Ages and become medieval in all our thought and way of life. But it is possible that the future may blend some medieval ideas with those derived from the age of power, and that what is perilous in some modern tendencies may be transmuted by a rediscovery of some aspects of truth better known to the medieval than to the modern mind. To the medieval thinker three mysterious powers sustained, by their harmonious working, the life of Christendom. They were called the priesthood, the Empire, and the university: Sacerdotium, Imperium, and Studium. For all three in a form adapted to modern needs the modern world may find a place.

THE recent annual meeting of the council of the Association of University Teachers was held at Bedford College, London, and was well attended by delegates from the various university institutions of England and Wales. The president, Prof. John Strong, of the University of Leeds, in his retiring address indicated the general aims of the association, the lines on which it has been working, the progress made, and some of the more important problems opening up. The primary aims were the advancement of knowledge and the furtherance of the interests of the universities. So long as the universities were in difficulties regarding finance, so long would their work suffer. Such questions as teachers' salaries and superannuation were, under present conditions, insistent. The superannuation question had not been settled by the recent grant from the Treasury, nor was the problem of salaries yet solved, although progress towards a solution was apparent. Apart from these, other and equally serious questions were arising. The relation of the universities to the State and to the local authorities would demand more and more serious consideration. While greater financial support from the Government was imperative, the matter of similar and more uniform support from the local education authorities was urgent. The suggestion of a uniform local rate being levied upon all the local education authorities had much to be said in its favour, but, among other things, it would mean increased local representation. Consideration of these points gave rise to the question of the possible infringement of the present autonomy of the universities—a matter of vital importance to the teaching body. Any such possibilities would have to be watched carefully by the universities. The officers and executive committee for the coming year were elected as follows:—*President*: Prof. John Strong (Leeds). *Vice-Presidents*: Prof. McBain (Bristol) and Mr. F. Boulden (Sheffield). *Treasurer*: Asst. Prof. Tabor (Imperial College). *Hon. General Secretary*: Mr. R. D. Laurie (Aberystwyth). *Executive Committee*: Prof. Calder (Manchester), Prof. Dame Helen Gwynne-Vaughan (Birkbeck College), Mr. Haigh (Reading), Miss Halket (Bedford College), Prof. Lea (Birmingham), Prof. Mair (Liverpool), Mr. Monahan (Leeds), Prof. Orton (Bangor), Asst. Prof. Philpot (University College, London), and Prof. Truscott (Imperial College).

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Calendar of Scientific Pioneers.

July 28, 1818. Gaspard Monge, Comte de Péluse, died.—The creator of descriptive geometry, Monge was a prominent figure through the whole of the Revolutionary period. He had a great share in founding the Ecole Polytechnique, and, like Berthollet, was a favourite of Napoleon. At the Restoration he was expelled from the Institute on account of his having voted for the death of Louis XVI.

July 29, 1751. Benjamin Robins died.—A mathematician of distinction, Robins invented the ballistic pendulum and carried out a series of experiments which marks an era in the history of gunnery. He died at Madras as chief engineer to the East India Company.

July 29, 1869. Joseph Beete Jukes died.—A favourite pupil of Sedgwick, Jukes became naturalist to H.M.S. *Fly* in Australia (1842–46), and from 1850 was director of the Geological Survey of Ireland.

July 29, 1885. Henri Milne-Edwards died.—Milne-Edwards filled the chairs of entomology, zoology, and physiology at the Jardin des Plantes, studied the natural history of the coasts of France and Sicily, and wrote valuable works on the Crustacea, on the corals, and on physiology and comparative anatomy.

July 29, 1898. John Alexander Renja Newlands died.—One of the first to indicate that the properties of the elements are related to their atomic weights, Newlands practised in London as an analytical chemist.

July 30, 1832. Jean Antoine Chaptal, Comte de Chanteloup, died.—A member of a wealthy family, Chaptal engaged in practical chemistry, and during the Revolution superintended the manufacture of gunpowder. Under Napoleon he served as Minister of Instruction, and did much to further the industrial arts and manufactures of France.

July 30, 1913. John Milne died.—For twenty years professor of geology and mining at the Imperial College of Engineering, Tokyo, Milne made an exhaustive study of earthquakes. He founded the Seismological Society of Japan, invented various instruments, and contributed numerous papers on seismology to the British Association and other bodies.

July 31, 1839. Gaspard Clair François Marie Riche, Baron de Prony, died.—A famous member of the Corps des Ponts et Chaussées, Prony during the Revolution directed the compilation of extensive logarithmic tables. He became a professor at the Ecole Polytechnique, and was employed on many civil engineering works of importance. The Prony friction dynamometer was his invention.

August 1, 1769. Jean Chappe d'Aueroche died.—An assistant astronomer of the Paris Academy of Sciences, the Abbé Chappe d'Aueroche observed the transit of Venus of 1761 at Tobolsk, Siberia, and that of 1769 at St. Joseph, California, where he died of fever brought on by his exertions in the interest of science.

August 2, 1823. Lazare Nicholas Marguerite Carnot died.—Carnot began life as a military engineer. He helped to found the Ecole Polytechnique, and was one of the first members of the Institut de France. His work of 1803, "Géométrie de position," gives him a place beside Monge and Poncelet as one of the founders of modern geometry, and as a military engineer he is remembered for his great work on fortifications.

August 3, 1770. Guillaume François Rouelle died.—As professor of chemistry in the Jardin du Roi, Rouelle attracted much attention by his lectures and his new ideas. Lavoisier and Proust were among his pupils.

E. C. S.