

University and Educational Intelligence

CAMBRIDGE.—It is proposed that the degree of Sc.D. *honoris causa* be conferred on Prof. A. Fowler, Yarrow research professor of the Royal Society.

At Clare College, Mr. R. E. Priestley has been appointed to a professorial fellowship.

OXFORD.—Dr. R. W. T. Gunther, Magdalen College, has been appointed University reader in the history of science. The appointment, to which no stipend is attached, is for six years from August 1, 1934. No one in Oxford is better qualified than Dr. Gunther to give instruction in the history of science, especially in its relation with the University. His long series of volumes on "Early Science in Oxford", as well as his smaller treatises on the Daubeny Laboratory and the Botanic Garden, together with his work as curator of the Lewis Evans collection of scientific instruments, are evidence of his power of making available his intimate knowledge of the subject.

The *New Commonwealth*, the monthly organ of a society for the promotion of international law and order, appeals, in a special educational supplement to its December number, to all engaged in education, to co-operate towards the realisation of its aims. The society stands for the establishment of an international tribunal of wider jurisdiction than the court at The Hague, and for an international police force, and this special supplement has articles by well-known writers on "Teaching Peace", "War and History", etc. Simultaneously there appears in *School and Society* of December 9 a protest against premature agitations for organising the surrender to an international body of parts of the sovereignty of the modern State. In an address to the Association of Urban Universities by the president of the College of the City of New York on the place of the State in the modern world, it is contended that it will be centuries before humanity is ready for a world commonwealth, and that the best agencies for conserving such communities of interest as exist among nations are the sovereignties joined in treaties and trade agreements.

Science News a Century Ago

Royal Geographical Society

"At the Anniversary Meeting, held on May 12, 1834, Mr. W. R. Hamilton, V.P., in the chair, General the Right Hon. Sir George Murray was re-elected President, and Mr. R. I. Murchison was elected a Vice-President. A report related that the Society had published, during the last year, the third volume of its *Journal*, in two parts, and a Map of America by Col. Monteith; that the late African and Palestine Associations had dissolved themselves and transferred their funds to the Society; that the Royal Premiums for 1832 and 1833 were assigned to Capt. John Biscoe and Capt. Ross, and that the Council had subscribed 50l. to a projected expedition into the interior of Africa from Delagoa Bay; and to another into the interior of South America—50l. towards outfit, and 50l. a year for three years. It also noticed the formation of a branch society at Bombay. Lieut. Allen, the companion of the late Richard Lander, was present and exhibited a variety of his African sketches. A portrait of Lander, painted

by Mr. Brockedon, shortly before his departure, was presented by that gentleman to the Society. The Society have published the first part of Vol. IV of their *Journal*." (*Gentleman's Magazine*, June 1834.)

The first to receive the Royal Premium of fifty guineas (1832) was Richard Lander, for exploring the course of the Niger to the sea; next (1833), John Biscoe, for his circumnavigation of the antarctic continent and the discovery of Enderby Land and Graham Land. Biscoe's voyage was chronicled only in the Society's *Journal*.

The Padorama

The *Times* of May 12, 1834, describes an exhibition then on view at the Bazaar, Baker Street, London. "It consists of a continuous view of the railway and the adjacent country through which the line of road passes between Manchester and Liverpool. . . . The whole picture covers a surface of 10,000 sq. ft. of canvas and it is made to move on drums by mechanical power. . . . There is also a foreground detached from the principal painting which foreground is also moveable. . . . Along the railroad a great variety of waggons, carts, etc., attached to steam engines, are at intervals made to pass along. This part of the exhibition was well contrived; the mechanism of the steam engines is accurately represented, and the pigmy passengers by whom the carriages are crowded might easily, so well is the deception of the whole effort preserved, be mistaken for living people of the full size of life."

Coins and Coining

On May 13, 1834, Mr. William Wyon (1795–1857), the chief engraver at the Mint, delivered a lecture before the Society of Arts on "Coins and Medals" in which he gave a sketch of ancient and modern coins, the progress of the art of coining and of modern medals. After referring to the coins of the Greeks and Romans, and to the introduction of the various British coins, he said that one of the most important events in the history of the Mint in London was the introduction of the mill and screw. Previous to the reign of Charles II, money was made by hammering slips of gold and silver to the proper thickness, then cutting the slips into squares, which were afterwards rounded and adjusted to the weight required. After this, the blanks were placed between dies and struck with a hammer. The mill and screw, or coining press, was invented in France, it is supposed by Antoine Brucher in 1553, and was first used in Great Britain during the Commonwealth. At the Mint in 1834, there were eight presses, each press producing sixty pieces a minute. In 1817 the daily production of coins was 343,000, while from January 4, 1817 until December 31, 1833 the sum coined in sovereigns and half-sovereigns was £52,187,265 sterling. One of the problems at the Mint was the selection of the best steel. Fine steel as used by engravers was unfit for the purpose and coarse steel acquired fissures under the die-press. Even the best steel could be spoilt for want of skill on the part of the smith. Casualties to dies were frequent but sometimes a pair of dies would strike three or four hundred thousand pieces. The lecture was reported in full in the *Athenæum* of May 1834.

Sir Charles Bell on the Brain

On May 15, 1834, Sir Charles Bell read a paper before the Royal Society on the functions of some parts of the brain and on the connexion between the

nerves of motion and sensibility. In the course of his paper, he suggested that the best mode of inquiry into the functions of the brain and nervous system would be to trace the filaments of the nerves through the filamentary and striated substance of the brain, and stated that the result of such an examination would show that two columns of motor and sensory nerves descend from each hemisphere of the brain and meet and decussate in the medulla oblongata. He also entered upon a minute account of the medulla, and of the various septa of nerves with which it is connected, tracing the filaments upwards into the brain and downwards into the spinal column. In concluding, he remarked that the use of the cerebellum had not yet been determined with any tolerable degree of accuracy. Bell at the time was surgeon to the Middlesex Hospital. He had been admitted F.R.S. in 1826, and in 1829 awarded a Royal medal for his discoveries relating to the nervous system.

Death of H. W. Brandes

Prof. H. W. Brandes, who died at Leipzig on May 17, 1834, was the first meteorologist to construct a series of daily pressure charts. In his "Beiträge zur Witterungskunde", published at Leipzig in 1820, he discussed the weather over Europe of each day of 1783. He drew charts of equal deviation of pressure from 'normal' and of wind direction; these charts were not published and have been lost, but a specimen chart was reconstructed by Hildebrandsson from Brandes' material. Brandes believed that the winds converged towards regions of rarefied air or low pressure. In a later publication he discussed two 'cyclonic storms' and demonstrated that they advanced from west to east across the earth's surface.

In the year 1834 there was published the "Narrative of a Voyage in the Southern Atlantic Ocean . . . in H.M. Sloop 'Chanticleer' . . .", in which W. H. B. Webster gave what was probably the first printed account of the differences of average annual pressure between different parts of the world, and attributed to these hitherto unrecognised differences the perpetual interchange and motions of the atmosphere.

Belgrave Literary and Scientific Institution

Following the establishment of this institution at 30 Sloane Street, the *Athenæum* reported in its issue of May 17, 1834, the delivery of an opening lecture by Prof. Robert E. Grant, whose subject was, "On the Nature, Growth, and History of Corals". We read that there was a crowded and "highly respectable" audience, and that the lecture was illustrated by a variety of beautiful specimens and diagrams; also, that the results of personal researches and ingenious experiments were detailed.

Prof. Grant, who is referred to above, was born in Edinburgh, and was a graduate of the University there. In his student days he was the frequent companion of Charles Darwin in excursions and walks. Darwin (then) thought that he was "dry and formal" ("Life"). Grant contributed many papers to the *Edinburgh Philosophical Journal*, and the *Memoirs of the Wernerian Society*. In 1828 he took up duties in London as professor of comparative anatomy and zoology at University College, and during forty-six academic years never omitted a single lecture. Appointed in 1837, he was for three years Fullerian professor of physiology at the Royal Institution. By will, Grant bequeathed his property, collections and library to University College. (*Roy. Soc. Proc.*, 23.)

Societies and Academies

LONDON

Royal Society, May 3. W. D. WRIGHT: The measurement and analysis of colour adaptation phenomena. There is a main process of adaptation that operates through the regeneration of a photosensitive substance at a constant rate. The instantaneous response aroused by a stimulus is directly proportional to the magnitude of the latter, but owing to the process of adaptation, the response is rapidly reduced to an approximately constant level. This is the true interpretation of the constancy of the Fechner fraction, as opposed to the suggestion that the response is proportional to the logarithm of the stimulus. By locating the three hypothetical stimuli in the colour triangle corresponding to those sensations that can be modified in intensity, but not in colour, no matter what the colour of the adaptation may be, it has been possible to determine the fundamental response or excitation curves. R. J. LUDFORD: Factors influencing the growth of normal and malignant cells in fluid culture media. Significant differences have been found in the behaviour of different strains of tumours in mouse and rat serum. Some tumours have not been grown as sheets of malignant cells in either mouse or rat serum; other tumours have given good sheet growths in mouse serum but not in rat serum; while still others have grown in both sera. It is suggested that whether or not cells form sheets from explants in a fluid medium depends upon the adhesion of the cells to glass in that particular medium, rather than upon growth-promoting or growth-inhibiting properties of the medium. The presence of large numbers of active cells of the macrophage type interferes with sheet formation by malignant cells in fluid media. This is regarded as due partly to crowding out of the malignant cell on the surface of the cover glass, and partly to the phagocytic activities of the polyblasts. It may be the activity of cells of this type accumulated around a tumour graft in an 'immune' animal which prevents its growth.

DUBLIN

Royal Dublin Society, February 27. J. J. NOLAN: Observations of atmospheric electricity at Glencree. The results for diurnal variation of ion content and rate of ion production in the lower atmosphere at Washington (Wait and Torreson), Canberra (Hogg) and Boston (Yaglou) were compared with those found at Glencree. It is shown that there is considerable support for the view that the maximum in the rate of ion production occurs approximately simultaneously at these stations.

PARIS

Academy of Sciences, March 12 (*C.R.*, 198, 997-1088). JEAN REY: The working of a thermocompressor carrying successively two compressible fluids of different densities: law of yield by weight: law of invariance of the final pressure. C. CAMICHEL, L. ESCANDE and G. SABATHE: The similitude of *ouvrages courts* with free surface. DMITRI MORDOUKHAY-BOLTOWSKOY: Abelian integrals with reducible systems of periods. J. O. STRUTT: Hill's differential equation in the complex domain. A. RAUCH: Remarks on holomorph functions in an angle and meromorph algebroids in the plane. K. NIKOLSKY: The relativist quantic interaction. RENÉ REULOS: