

In the general debacle which overtook the teaching of science in the University of Durham in the eighteenth-sixties, the study of astronomy survived and at times the astronomical work has been of considerable importance. A seismograph was installed in 1929. Among the Royal Commission's recommendations for the future government of the University is a proposal that the Observatory should be transferred from the Council of the Durham Colleges to the University. It is pointed out that, there being science departments in both the Durham and the Newcastle Divisions, the work of the Observatory should be regarded as a central university activity.

University and Educational Intelligence

CAMBRIDGE.—The General Board has issued a report on the future organisation of teaching and research in crystallography. The following recommendations are made. (1) The Crystallographic Laboratory shall be under the control of the Cavendish professor of experimental physics. (2) All teaching of crystallography for Part I of the Natural Sciences Tripos shall be given in the Department of Mineralogy and Petrology. All teaching of crystallography for Part II of the Natural Sciences Tripos shall be given in the Crystallographic Laboratory. (3) The research facilities of the Crystallographic Laboratory shall be available for use by the staff of the Department of Mineralogy and Petrology and the research facilities of the Department of Mineralogy and Petrology shall be available in a similar manner for use by the staff of the Crystallographic Laboratory. (4) There shall be an assistant director of research in crystallography who shall be responsible to the Cavendish professor for advanced teaching and direction of research in crystallography. (5) There shall be an assistant in experimental research in crystallography whose duty shall be to help the assistant director of research. He shall be appointed by the Cavendish professor, subject to confirmation by the General Board. It is recommended further that Mr. J. D. Bernal, of Emmanuel College, be appointed assistant director of research in crystallography from October 1, 1934, with a pensionable stipend of £500 a year.

OXFORD.—The contributions to science by the early members of Wadham College formed the subject of a public lecture in the Hall of the College on March 2. The speaker, Dr. R. T. Gunther, stated that but for a most lamentable accident the lecture would have been delivered by the late Dr. F. A. Dixey, whose unrivalled knowledge of the connexion of the early fellows of the College with the foundation of the Royal Society had delighted many audiences in that hall. Portraits of John Wilkins, Sprat, Seth Ward and Wren hang on its walls. Sydenham and Mayow were among its members. Less well-known was the botanical work of Walter Stonehouse (1597–1655) and of Richard Warner (1713–75).

THE Royal University of Pisa is offering a research scholarship for the year 1935–36 under the Galileo Galilei Foundation. The scholarship is open to all and, if a candidate is not Italian, he will be expected to carry out scientific research in an Italian institute during the tenure of the scholarship. Further information can be obtained from the Rector of the University of Pisa.

THE first Regional British Isles Conference of the New Education Fellowship will be held at the University of St. Andrews on August 13–22, under the presidency of Dr. A. D. Lindsay, Master of Balliol College, Oxford. The theme of the Conference will be "Education and Leisure: How to Create a Democratic Culture". Two problems will be discussed, namely, education for leisure at schools and the provision of facilities and training for adolescents and adults so that they may be able to make use of their leisure after school life is over. The subject of Dr. Lindsay's address will be "Unemployment and Education". Further information can be obtained from the New Education Fellowship, 29 Tavistock Square, London, W.C.1.

Science News a Century Ago

A Description of Upper California

At a meeting of the Royal Geographical Society on March 9, 1835, a communication was read from Dr. Coulter describing Upper California, in which he had resided for two years. The only portion of the country which was settled was mainly along the coast, the chief settlers being the Catholic missionaries, who sought to collect around their stations an Indian population, whom they taught, in a rude way, to till the ground and rear domestic cattle, while they compelled them to conform to their religious observances. The great article of produce was black cattle. In 1827 the missions possessed 210,000 branded cattle, and it was supposed not less than 300,000 unbranded. The number of white inhabitants in Upper California was estimated by Dr. Coulter at 6,000, and they were rapidly increasing, while the Indian population was decreasing. The prospects for settlers in the north were good, the district being highly fertile, well wooded and watered. The Tuli Lakes, although shallow in the dry season, furnished good facilities for the transport of wood, hides, etc. Gold had been found in a stream falling into the Southern Tuli.

Colliery Explosion near Wigan

According to the *Annual Register* for 1835, an explosion of firedamp in a coal mine near Wigan on March 9, 1835, caused the death of three women working in the mine. There were only six persons working in the pit, which was a small one, but the pit was known always to contain a great quantity of inflammable gas. Owing to this, a piece of cloth had been placed at the bottom of the pit to assist in ventilating it, but on the day of the accident this was not in place. On a workman, Peter Tabernier, going into the colliery with a naked light, he noticed symptoms of an approaching explosion and hastened to get out of the pit, calling the others also to do so. Unfortunately, before they could get out, the explosion took place, burning two men badly, and killing another man and three sisters aged respectively nineteen, seventeen and fourteen years. "Had Tabernier," said the *Annual Register*, "taken the precaution of using Davy's safety lamp, instead of approaching with an unguarded light, which as soon as it approached, set fire to the explosive fluid, this accident in all probability would not have happened. He had one of the lamps at home but out of repair, and through the extreme poverty to which he was reduced, he could not afford to get it repaired."

Egyptian Chronology

On March 12, 1835, Henry Hallam, the historian, wrote to Mrs. Somerville directing her attention to an error she had made in her "Connexion of the Physical Sciences". On p. 104 of this work Mrs. Somerville had written: "The Egyptians estimated the year at 365 d. 6 h., by which they lost one year in every 14,601, their Sothiac period. They determined the length of their year by the heliacal rising of Sirius, 2,782 years before the Christian era, which is the earliest epoch of Egyptian chronology." After pointing out that the Egyptian civil year was of 365 days only and the Sothiac period was 1461 years, not 14,601, Hallam said: "I do not see how the heliacal rising of Sirius in any one year could help them to determine its length. By comparing two successive years they could of course have got at a sidereal year; but this is what they did not do; hence the irregularity which produced the canicular cycle. The commencement of that cycle is placed by ancient chronologers in 1322 A.C. It seems not correct to call 2782 A.C. 'the earliest epoch of Egyptian chronology', for we have none of their chronology nearly so old, and in fact no chronology, properly so called, has yet been made out by our Egyptian researches. . . . Certainly, 2782 A.C. is a more remote era than we are hitherto warranted to assume for any astronomical observation."

A History of British Fishes

Among its short notices of new books, the *Athenaeum* for March 14, 1835, referred to "A History of British Fishes" by William Yarrell. "Here is the first number," it said, "of a beautiful work, to be completed in fourteen monthly parts, illustrated by woodcuts of all the species, and numerous vignettes. The name of Mr. Yarrell is sufficient guarantee for the accuracy of the work; and we can assure our readers that the exquisite beauty of the illustrations leaves nothing to be desired. It promises, when complete, to be a worthy companion to Bewick's 'Birds'—and we know not that we could say more in its praise." Yarrell, who was born in 1784 and died in 1856, was a successful business man and head of a newspaper agency. Devoted alike to sport and natural history, he belonged to the Linnean, Zoological and Entomological Societies. His collections of fishes and birds were purchased for the British Museum.

Chemistry at Oxford

In the Lent Term, 1835, Dr. Daubeny began a course of chemical lectures in the basement of the Old Ashmolean Building at Oxford to an audience, some of whom rose to great distinction. Among them were Archibald Campbell Tait, F.R.S., then a newly elected fellow of Balliol, who afterwards became headmaster of Rugby, 1842–60, Bishop of London, 1856–68 and Archbishop of Canterbury, 1868–82; William Dudley Ryder, afterwards arbitrator in the Mixed Court of New York; Reginald Windsor West, seventh Earl Delawarr; and John Bennett Lawes, who had matriculated at Brasenose College in 1833, and who founded the Rothamsted Agricultural Experiment Station ten years later. In those days, it was quite usual for persons intending to take holy orders to attend scientific lectures.

Societies and Academies

LONDON

Royal Society, February 28. J. MELLANBY: The supposed coagulation of oxalate plasma by trypsin. The action is due to the conversion of prothrombase to thrombase by the ionised calcium contained in the trypsin solution. The quantity of calcium required to coagulate oxalate plasma is determined by the thrombokinase content of the plasma. Plasma containing $N/80$ potassium oxalate and an optimal quantity of kinase may be coagulated by the addition of $N/800$ calcium chloride. This fact indicates the avidity of kinase for securing the calcium ions to the prothrombase kinase system. Mammalian blood collected directly into a solution of potassium oxalate obtains kinase relatively slowly from the cells of the blood. The interval of time after leaving the blood vessels is greater than that required for the precipitation of 75 per cent of the total calcium of the blood by the potassium oxalate. G. SALT: Experimental studies in insect parasitism. (3) Host selection. Parasites attack only certain hosts, but why they choose some particular species and reject others is unknown. Two strains of the parasitoid *Trichogramma evanescens*, reared exclusively on *Sitotroga* and *Ephestia* respectively for 63 and 43 generations, developed no dependence on, or preference for, their respective hosts. Both strains preferred *Ephestia*, but the preference was not a specific one for *Ephestia* but a preference for *Ephestia* as the larger host. Ovipositing females of *Trichogramma* attacked a number of true hosts from which their progeny successfully emerged; several unsuitable hosts in which their progeny were unable to develop; and a variety of false hosts in which they were unable even to lay their eggs. The principal criterion used by ovipositing females of *Trichogramma* in the selection of their hosts is that of size. G. FRAENKEL: A hormone causing pupation in the blow-fly, *Calliphora erythrocephala*. This secretion is produced 16 hours before pupation (at 20° C.). The hormone-producing organ is either the ganglion or in its immediate neighbourhood. After the hormone has been discharged, pupation can be successfully accomplished without the co-operation of the ganglion. The atmospheric oxygen required for the darkening of the pupa is brought to the skin through the tracheal system.

PARIS

Academy of Sciences, January 21 (*C.R.*, 200, 269–356). The president announced the death of Emanuele Paterno di Sessa, foreign associate. EMILE PICARD: Functions of one variable possessing a theorem of addition. L. LECORNU: The *retour éternel*. ERNEST ESCLANGON: A photograph with long exposure of Nova Herculis. Remarks on a peculiarity present in the photograph taken on January 11, and not appearing in photographs taken on January 7 and 12. MARCEL BRILLOUIN: A heterogeneous electromagnetic ether capable of producing a field of a quantic atomic force. HYACINTHE VINCENT and FRANÇOIS MOREL: The alexic deficit determined by experimental hyperthermy. LOUIS LUMIÈRE: An optical inverter. A modification of the Wollaston prism. CHARLES CAMICHEL, LÉOPOLD ESCANDE and PIERRE DUPIN. Indeterminations in the phenomenon of sudden enlargement (hydraulics): the influence of the initial conditions. ALEXANDRE GUILLERMOND