

a recognized teacher at the East Malling Research Station; in botany, on F. C. Steward, of Birkbeck College; in fuel technology, on R. J. Sarjant, of the Imperial College (Royal College of Science); in history, methods and principles of science, on Dr. Douglas McKie, a recognized teacher at University College; in physical chemistry, on C. F. Goodeve, a recognized teacher at University College; in zoology, on R. J. Ortlepp, of the London School of Hygiene and Tropical Medicine.

Alexander Haddow has been re-appointed to the Laura de Saliceto studentship for the year 1936-37. The Sir George Jessel studentship in mathematics for 1936 has been awarded to W. J. E. Butler, of University College.

BETT fellowships for scientific research, tenable at the Imperial College of Science and Technology during the academic year 1936-37 have been awarded as follows: extensions of fellowships to R. Walls, for the continuation of his research on the metamorphic rocks of north-east Scotland, under the direction of Prof. P. G. H. Boswell; E. W. Hewson, for the continuation of his research in meteorology, more especially the detailed structure of discontinuities between air masses as occurring in England and Canada, under the direction of Prof. D. Brunt. New fellowships have been awarded to: E. K. Woodford, of Olds School of Agriculture, Alberta, 1929-30, and the University of Alberta, 1930-36, for research in the physiology of plants, with special reference to problems of plant growth and metabolism, under Prof. V. H. Blackman; Dr. N. Kemmer, of the Universities of Göttingen and Zurich, for mathematics research, using the ideas and formalisms of quantum theory (especially quantum electrodynamics), under Prof. S. Chapman.

A NEW handbook of information about facilities available for students from other countries at university institutions in Great Britain and Ireland has been published by the Universities Bureau of the British Empire (88a, Gower Street, London, W.C.1). In the sixty-four pages of this pamphlet are set out, succinctly but lucidly, indications of conditions of admission, costs of living, fees and other charges, courses and subjects of study, special courses for overseas students, vacation courses, social amenities, some features of university administration and notes on research facilities and open scholarships. Under the heading "Cost of Living", overseas students are strongly recommended to obtain entrance to hostels, as they provide contacts which are not readily obtainable in the seclusion of lodgings and boarding-houses or even in families where students are received as paying guests. The list of courses of study comprises those which experience has shown may be of special interest to overseas students and research workers. Among special courses for overseas students mention is made of an offer by Ashburne Hall of Residence for university women, Manchester, of places at reduced fees (£13 for the term or £1 5s. per week) to foreign women students prepared to give some conversational French, German, Italian or Spanish to students resident in the Hall. Other institutions which offer special courses for overseas students are: University College, London; London School of Economics and Political Science; University College, Exeter; University College, Nottingham; and University College, Southampton.

Science News a Century Ago

Progress on the Liverpool and Manchester Railway

At a meeting of the proprietors of the Liverpool and Manchester Railway held in Liverpool on July 27, 1836, it was reported that the receipts for the half-year ending June 30, 1836, had been £109,355, and the expenses £69,953. It was also reported that the tunnel at the new station, in Lime Street, Liverpool, would be opened for public business on August 15, and that this new means of approach to the railway would prove of great public accommodation. The expense of erecting this station and the one at Edgehill, which was constructed on a most magnificent scale, amounted to about £150,000. The directors also intended, it was said, to erect a commodious station in Manchester similar to the one at Liverpool, and with that view extensive premises had been purchased in the neighbourhood of Water Street, near the River Irwell.

The Euphrates Expedition

IN a supplement to the *London Gazette* of July 29, 1836, a dispatch from Colonel Chesney to the India Office was published describing the loss of the steamer *Tigris*, the smaller of the two steam-vessels with which he was descending the Euphrates to the Persian Gulf. His dispatch was dated May 28, 1836, from the steamer *Euphrates* at Anna. All had been going well, he said, up to May 17, the survey having been carried 509 miles down the great river and "all was continued prosperity up to the afternoon of the 21st inst when it pleased God to send the calamitous event of which it is now my duty to give a feeble sketch. A little after 1 p.m. the flat boats being a little ahead, and the *Tigris* leading the *Euphrates*, a storm appeared bringing with it, high in the air, clouds of sand from the west-north-west quarter. At the moment we were passing over the rocks of Is Geria (deeply covered) and immediately after made a signal for the *Euphrates* to choose a berth and make fast. . . . The *Tigris* was immediately directed towards the bank against which she struck without injury but with so much violence as to recoil a distance of about eight yards." The wind then veered, said Col. Chesney, the water came aboard and the vessel soon sank. Col. Chesney escaped, but no fewer than twenty officers and men were drowned. The storm only lasted about 12 minutes. In spite of the disaster, which included the loss of instruments, journals and surveys, the work of the expedition was carried on by the *Euphrates* alone, "the party continuing their survey to Bussora hoping to demonstrate the speed, economy and commercial advantages of the river Euphrates".

Medicine in Denmark

ON July 30, 1836, the *London Medical Gazette* published the following note: "Every physician and surgeon in Denmark gets an education which qualifies him to maintain the dignity of his profession, as a worthy member of a class that is generally considered to be one of the most respectable and most liberal. The Danish medical men are usually held in high esteem. . . . Danish physicians and surgeons are so honoured abroad that very often Swedes come to Copenhagen in order to be treated by them. Mountebanks and quacks among the Danish medical men

are rare. . . . The learning and scientific intercourse among the medical men in the Danish capital are supported by two medical societies. In their general methods of cure the Danish medical men do not commonly use but rather shun heroic remedies: as true sons of Hippocrates they follow his maxims in studying Nature and in endeavouring in all their treatment to obey it and to sustain the *vires medicatrices* not disturbing them by too active medicine".

The Siamese Twins

The British and Foreign Medical Review for July 1836 gives the following account of this interesting pair, who were then in Paris: "The connecting band united them at first face to face, but constant traction has so changed its direction that they are now side by side. Its length above is two inches, below nearly four; from above downwards it measures three inches, and its greatest thickness is one and a half inch. . . . The band is formed superiorly by the xiphoid appendix and by some of the cartilages of the ribs, and presents inferiorly the cicatrix of the umbilicus: the cavities of the two chests do not communicate, but the abdominal cavities do. . . .

It has been proposed to divide the band, but, if this description be correct, any incision would open the peritoneum; such a proposal is very disagreeable to the twins, who have often said they have never seen any single individual so happy as they are united. Their names are Eng and Chang, and they were born in May 1811 in a small village on the coast of Siam, twenty leagues from Bangkok, of Chinese parents. They have the Chinese features; the internal angles of the eyes slightly drawn down, skin yellow and hair very black; they are extraordinarily alike, only Eng is a little larger and stronger, and Chang appears to rest more willingly on his brother. They are five feet in height, well proportioned and of great muscular strength; they are very agile, they walk and run rapidly, and can swim as well as a single person. Their intellectual faculties are well developed. They understand English and speak it perfectly, but they have forgotten their native tongue, which is not to be wondered at, as they never speak to each other except sometimes asking a question. They have both an equal knowledge of English. Two persons have endeavoured to converse separately with each at the same time, but both turn invariably to one speaker, and converse alone with him. They suffered from ague in America; the attack commenced at the same time in both, and the stages of the disease exactly corresponded, so that they experienced rigors, heat and sweating at the same moment. Chang also had pain in his side, during which his brother was uncomfortable, and when Chang was being bled, Eng felt indisposed.

Their taste for food, for persons and things is similar, what pleases one, pleases the other; they both experience hunger and thirst, go to sleep and wake at the same instant; one is never awake while the other sleeps, and to wake them it is only necessary to touch one. During sleep they often change their position by one rolling over the other without waking. There is the utmost uniformity in their motions, as if both were influenced by one will. They have never been known to be angry with each other; the one who wishes to perform any act, makes no sign to the other, who, notwithstanding, concurs without the slightest hesitation".

Societies and Academies

Edinburgh

Royal Society, July 6.

B. G. SHAPIRO and H. ZWARENSTEIN: Relation of the pituitary gland to muscle creatine. The creatine content of the thigh muscles of *Xenopus laevis* is about 400 mgm. per 100 gm., the extreme limits for normal animals, male or female, being 40 mgm. above or below this figure. Six months after total removal of the pituitary gland, the muscle creatine content is found to be about 320 mgm. per 100 gm. The same result follows the removal of the anterior lobe alone. The drop does not follow immediately after operation, and is still comparatively slight after three months have elapsed. Injection of anterior lobe extract into normal toads of the same species raises the muscle creatine level by thirty per cent. This effect is tissue specific.

EDITH A. T. NICOL: The fauna of the brackish water lochs of North Uist. These lochs lie at different levels and show all conditions between lochs entered by every tide with a salinity of more than thirty per mille and those entered by only the highest tides with a salinity of about two per mille. The pH varies between 7.8 and 9.9 in spite of the low pH of the fresh-water and the alkali reserve is often below 0.0010 N. The fauna is unusually rich owing to the varied conditions of salinity and substratum, and consists of 59 marine, 24 fresh- and 25 brackish-water species, as well as 5 euryhaline forms. *Sphaeroma hookeri* is recorded for the first time in Scotland.

P. C. KOLLER: The chromosomes of the male grey squirrel. The diploid chromosome number of the grey squirrel (*Sciurus carolinensis leucotus* Gapper) is 28. The sex chromosomes exhibit very little difference in size. The sex bivalent during meiotic metaphase is invariably asymmetrical, which indicates an obligatory pre-reduction. A deviation of metaphase chiasma frequencies, found in different individuals, is brought about by a different degree of terminalization of diplotene chiasmata. The ultimate cause of the deviation is either genetical or environmental.

F. WALKER and C. F. DAVIDSON: A contribution to the geology of the Faeroes. The eighteen islands of the Faeroes archipelago, 540 square miles in area, are formed of a great sequence of Tertiary basalts and tuffs, 14,000 feet thick. Small volcanic vents, sills and dykes are present, and thin seams of sediments, including lignite, are intercalated with the basalts. Traverses show that the lowest exposed horizons of the plateau, the base of which is not seen, are formed of tholeiitic basalts. These are succeeded by olivine-basalts, and in turn by a vast thickness of porphyritic feldspathic and tholeiitic basalts, capped by ankaramites and olivine-rich lavas at the highest levels. Composite flows, dyke-feeders to lavas, and other phenomena are described, and an extensive bibliography is given. Seven 'superior' chemical analyses of Faeroes rocks are now available.

F. A. E. CREW and P. C. KOLLER: Genetical and cytological studies of the intergeneric hybrid of *Cairina moschata* and *Anas platyrhynchos platyrhynchos*. The two genera are fertile *inter se*, but the hybrid is infecund. The characterization of the hybrid differs according to which way the cross is made. The male hybrid ex *Anas* (male) \times *Cairina* (female) is normally equipped sexually but infecund; the female has a