

The mean temperature for the year ended on April 30 was 50.9° F., or 1.4° above the average. October was 6.3° above the average, the warmest October for 80 years. The rainfall was 16.49 in., or 7.75 in. below the average.

Wireless time signals from Eiffel Tower, Nauen, Bordeaux, Lyons, and Moscow are recorded on a syphon recorder; a special series of rhythmic signals from Lyons, for longitude purposes, was observed between June 20 and July 12.

### The Carnegie Trust and Scientific Research.

THE twentieth annual report (1920-21) of the Carnegie Trust for the Universities of Scotland contains several points of interest. In relation to scientific training and research there are three important matters to distinguish, namely, buildings and equipment; scholarships and fellowships; and part-time research assistants and lecturers. This last is a new feature of the research scheme and is to be commended as combining facility for research with experience in teaching.

So far there are thirteen of these combined posts in the four universities of Scotland and all in the departments of chemistry and physics. They are covered by an annual outlay of 3600*l.* Of the 14,419*l.* awarded to the four universities for research fellowships, scholarships and grants, nearly half is given to history, the remainder being fairly well distributed among the departments of physics, chemistry, natural history, and medicine. Of this sum 26 per cent. goes to St. Andrews, 16 per cent. to Glasgow, 15 per cent. to Aberdeen, and 43 per cent. to Edinburgh. Thus Edinburgh distinctly leads in research; but activity is specially noteworthy in St. Andrews, which, as regards the number of students in attendance, is much the weakest of the four.

As is natural, the conditions of tenure of scholarships and fellowships, which cannot be held with other remunerative appointments, lead to many resignations in the course of the year, so that of the sum initially awarded only a total of 8123*l.* has been expended. From the point of view of research this is to be regretted. The further development of the part-time assistantship scheme may in future supply a remedy.

Under the quinquennial distribution, the schemes of the universities and other institutes of learning include buildings, equipment, libraries, and endowments of chairs and lectureships. These require on the average 50,000*l.* per annum; and of this sum 72 per cent. is devoted to buildings. For new buildings in the Faculty of Arts and the Department of Zoology, Glasgow University has appropriated 91 per cent. of its share; and the new King's buildings for chemistry are absorbing 81 per cent. of Edinburgh's share. The ultimate influence of these developments on scientific research will no doubt be great; the more immediate effect will be a demand for increase of staff and a corresponding increased expenditure in the teaching of science.

Of the 65,000*l.* expended under what is known as Clause A, nearly 13,000*l.* is devoted directly to individual research; while of the remainder by far the greater part is being used for providing suitable laboratories, for extending libraries, for endowing chairs and lectureships, and for helping in the publication of books and memoirs, the influence of which on scientific progress cannot be over-estimated. In these respects the Carnegie Trust for the Universities of Scotland seems to be fulfilling admirably its high function in the advancement of science.

### University and Educational Intelligence.

CAMBRIDGE.—Dr. Roderick, Emmanuel College, has been reappointed demonstrator in surgery, and Mr. E. A. Milne, Trinity College, has been appointed University lecturer in astrophysics. A grant of 50*l.* from the Worts Fund is to be made to Mr. J. L. Evans, St. John's College, towards the expenses of a journey to make researches on the economic conditions of south, central, and south-eastern Europe since the treaties of peace, and on the question of the protection of minorities under the various treaties in the same region.

It is proposed to confer Honorary Degrees on H.R.H. the Duke of Aosta, K.G., and on Col. Sir Gerald Lenox-Conyngham.

The Statute giving the University power to confer by diploma titles of degrees upon women students of a recognised institution has now been approved by His Majesty the King in Council. The University now has power to name the recognised institutions and to lay down the conditions under which students of these institutions may qualify for these titles. It may admit members of such institutions to instruction in the University as well as to the use of its libraries, laboratories, and museums, in such numbers and on such conditions as it may determine. It may allow past residence kept and examinations passed by students of Girton College or of Newnham College as partial or complete qualification for titles of degrees.

Thus after four years of struggle does the University yield what the supporters of women's higher education asked twenty-five years ago, and one is tempted to wonder what the next twenty-five years will bring, and how long it will be before the next step in this old controversy will be taken.

Col. Sir Gerald Lenox-Conyngham, Trinity College, has been appointed reader in geodesy, and Mr. W. Dawson, Gonville and Caius College, has been reappointed reader in forestry. Mr. C. Fox, Christ's College, has been re-appointed principal of the Cambridge University Training College for Schoolmasters.

Sir Ernest Moir has offered to endow a prize in the Engineering Department in memory of his son, Rex Moir, Gonville and Caius College, who was killed in the war. This offer has been accepted.

EDINBURGH.—On Thursday, June 8, Prof. T. H. Morgan, professor of experimental zoology in Columbia University, New York, delivered a lecture in the Natural History Theatre of the University of Edinburgh to a large audience of the staff and students on "Old and New Ideas about Heredity." The vice-chancellor, Sir Alfred Ewing, presided. Prof. Morgan gave an account of the more recent developments of the work on inheritance in *Drosophila* which is being carried on in his laboratory. After showing that the facts of inheritance lead to the conclusion that the Mendelian characters are carried by the chromosomes and that the hereditary factors or genes are arranged in a linear series in each chromosome, he discussed briefly the evidence available for forming a rough estimate of the upper limits of size of the factors. At the close of the lecture the dean of the faculty of law presented Prof. Morgan to the vice-chancellor for the honorary degree of LL.D. The dean remarked that the ceremony was reminiscent of the graduation proceedings of an older time when the candidate for university honours was required to maintain against all comers a thesis upon some abstruse subject of his choice, and he thought the audience would agree that Prof. Morgan's treatment

of his subject had been such as to secure the unanimous vote that he had passed his trials *summa cum laude*. Prof. Morgan was then "capped" amid enthusiastic applause.

By the will of the late Mr. H. Musgrave, of Belfast, who died on January 2, the sum of about 50,000*l.* has been bequeathed to Queen's University, Belfast, and 2000*l.* to the Royal Academical Institution, Belfast.

THE summer meeting of the Association of Science Teachers will be held at Oxford on Saturday, July 8. A business meeting will be held in the morning, and in the afternoon there will be a lecture by Mr. A. F. Walden, New College, Oxford.

It is announced in the *Chemiker Zeitung* that Dr. Fr. Quincke, director of the Rhenania, Aachen, has been appointed professor of technical chemistry at the Technische Hochschule, Hanover, in place of Prof. Ost, who has retired; and Prof. Adolf Sieverts of Greifswald has become professor of chemistry at the University of Frankfurt-on-Main.

THE new School of Public Health, which will be opened at Harvard University next September, is offering several fellowships of 1200 dollars each for the year 1922-23. Well-qualified students working for doctorates or wishing to do a definite piece of research will be given special consideration. Applications for these fellowships should reach the Secretary of the School of Public Health, 240 Longwood Avenue, Boston 17, Massachusetts, not later than August 1.

A FAR-REACHING scheme for industrial training was recently adopted by the Convocation of the University of London. Put shortly, the proposal is that the University should co-operate with the City Guilds and cognate bodies in the selection of Boards dealing with their respective trades, and that these Boards should seek, among the workers themselves, shrewd men and women of intelligence, skill, and *savoir faire* to deal with apprentices, learners, and improvers, bestowing upon them a kind of parental care and watching over their health, their progress, and their interests generally; that such trainers should find a place in every workshop and in every factory, and should receive recognition at the hands of the Guilds and of the University as a reward for the fostering care extended to their pupils; that the industrial classes are well able to supply such persons, men and women, in numbers sufficient to impress their mark upon the rising generation of workers, and that such might be designated University *teachers, trainers, or tutors* in their special trades, receiving a diploma to that effect, while, to apt and industrious pupils, the term University *pupil, scholar, or student* might be accessible with a corresponding diploma or certificate. In the report of the committee which accompanies the scheme, details of the various activities of the University are given under six main headings, and the thought arises, how can the Senate bear the proposed increased burden? Convocation itself seems well fitted to bear it. Its members, collected in suitable centres, would no doubt gladly assist in so meritorious a movement if the University should see fit to delegate the working out of the proposed scheme to a strong central committee (or delegacy), giving it powers to recognise local centres and to entrust them with branch work of benefit to the community. Such a delegacy might have its headquarters at the University centre, and the Clerk of Convocation could be its mouthpiece. It should report annually (at least) to Convocation, and through Convocation to the Senate, which might give it authority to speak in the name of the University on all matters relating to the scheme.

## Calendar of Industrial Pioneers.

**June 17, 1881.** James Starley died.—The son of a Sussex farmer, Starley, in 1846, at the age of 15, became gardener to John Penn, the marine engineer. Afterwards he was employed by a London firm of machinists, and in 1857 he brought out the "European" sewing machine; subsequently he turned his attention to bicycles at Coventry. To his perseverance and energy Coventry owes its position as the centre of the cycle-making industry. A monument was erected to him there in 1884.

**June 18, 1861.** Eaton Hodgkinson died.—Known for his valuable contributions to the study of the strength of materials and for his discovery of the "permanent set" and of the position of the neutral axis in beams, Hodgkinson was born near Northwich in 1789. In Manchester he received lessons from Dalton, and while assisting his mother in business began the researches which led to his co-operation with Robert Stephenson and Fairbairn on their experiments in connection with the Britannia Bridge.

**June 18, 1912.** Floris Osmond died.—A distinguished French metallurgist, Osmond was trained at the École Centrale des Arts et Manufactures, and among other appointments he held was that of chief chemist at Schnieder's works at Creusot. Here he began his researches into the microscopical structures of iron and steel. He left Creusot in 1884, settled in Paris, and devoted himself to research, becoming the founder of the allotropic school in metallography.

**June 19, 1898.** Sir James Nicholas Douglass died.—For thirty years Douglass was engineer-in-chief to Trinity House, in which post he succeeded James Walker. The Wolf lighthouse was built under his supervision during 1862-69 at a cost of 63,000*l.*; he also designed the lighthouses on the Great Bases and Little Bases, strengthened the Bishop's Rock lighthouse, and during 1878-82 constructed the new lighthouse which replaced Smeaton's tower on the Eddystone.

**June 19, 1915.** Benjamin Franklin Isherwood died.—Born in New York City in October 1822, Isherwood was one of the first officers in the Engineer Corps of the United States Navy. He was a pioneer in carrying out scientific trials of steam-engines, and in 1859 published his "Engineering Precedents," a valuable work dealing with the friction losses and power of steam-engines. In 1861 he was raised to the position of engineer-in-chief of the Navy, a post he held till 1869. Recognised as the greatest marine engineer America has produced, he was for many years an honorary member of the American Society of Mechanical Engineers.

**June 21, 1885.** Henri Tresca died.—A student of the École Polytechnique, and for a time an engineer in the public service, Tresca was principal inspector of French exhibits at the Great Exhibition of 1851. Afterwards he became a professor of the Conservatoire des Arts et Métiers and served as president of the Société des Ingénieurs Civils. His labours were of the highest importance to the industrial arts of France, and included researches on the strength of materials, the efficiency of machines, the flow of metals, and the application of motive power.

**June 22, 1876.** Robert Napier died.—Commencing business in Glasgow as an engineer in 1815, with a capital of 50*l.* and a staff of two apprentices, Napier became one of the leading shipbuilders on the Clyde, and ultimately employed 3000 men. Of him Rankine said: "Few, if any, did more to bring marine architecture to the degree of perfection it has reached; and by drawing students of practical engineering from all quarters his building yard became a school of instruction to the world." E. C. S.