

University and Educational Intelligence.

CAMBRIDGE.—Mr. W. Dawson, Gonville and Caius College, has been re-appointed reader in forestry. Mr. T. M. Harris, Christ's College, has been appointed demonstrator in botany.

A COURSE of twelve Swiney lectures on "The Geological History of Scotland" will be given by Dr. R. Campbell in the lecture theatre of the Imperial College of Science (Royal College of Science), South Kensington, at 5.30, on Dec. 12, 14, 16, 19, 21, 23, and Jan. 2, 4, 6, 9, 11, and 13. Admission will be free.

THE following travelling fellowships for women graduates, for the academic year 1928-29, are included among those announced by the British Federation of University Women, Crosby Hall, Cheyne Walk, S.W.1, from the secretary of which application forms and regulations may be obtained: The Rose Sidgwick Memorial Fellowship, value £400, for research work in the United States, to a British woman graduate (latest date of application, Feb. 15). An International Junior Fellowship, value £250 (offered by the International Federation of University Women), for research in biological or physical science, or in mathematics (latest date of application, Feb. 15).

It may be remembered that a committee composed of representatives of teaching and industrial bodies and learned institutions was formed in 1925, under the chairmanship of the late Right Hon. Lord Emmott, to inquire into the relationship of technical education to other forms of education and to industry and commerce. A report embodying some of the chief results of the committee's investigations was discussed at a meeting held in the Regent Street Polytechnic, London, on Nov. 18, under the chairmanship of Sir Robert Blair. The report was approved, and it was agreed that it be submitted to the President of the Board of Education. The following deputation was appointed to wait upon the President of the Board of Education in this connexion: Sir Robert Blair, Sir Benjamin Gott, Mr. W. Prescott (Federation of British Industries), and Mr. J. Wickham Murray.

THE annual meeting of the Geographical Association will be held at the London School of Economics, Houghton Street, London, W.C.2, on Jan. 4-9. Dr. Vaughan Cornish will deliver his presidential address, "Harmonies in Scenery," on Jan. 7; the address will also be broadcast from 2LO by Dr. Vaughan Cornish on Jan. 9. Lectures have been arranged by Dr. Marion I. Newbigin on the geographer and the study of climate (Jan. 5), Sir John Russell on Palestine and its agricultural possibilities (Jan. 5), Prof. Rodwell Jones on the prairie provinces of Canada (Jan. 6), and Sir E. Humphrey Leggett on economics and administration in British East Africa (Jan. 7). On Sunday, Jan. 8, the Rev. Canon C. S. Woodward will preach at Evensong in Westminster Abbey on "International Relations in the light of Geographical Science." Visits to the Imperial Institute and to demonstrations of educational films are being arranged, and a publishers' exhibition will be open on Jan. 5-7. All communications regarding the meeting should be addressed to the honorary secretary, Prof. H. J. Fleure, 11 Marine Terrace, Aberystwyth.

Calendar of Discovery and Invention.

December 11, 1691.—Prior to the use of steam for pumping engines, experiments were made on the employment of gunpowder for the production of motive power. In the "Calendar of State Papers" is the following entry: "December 11th, 1691.—Warrant for a grant to Sir Samuel Morland of the sole use for 14 years of his invention for raising water out of pits, etc., to a reasonable height, by the force of powder and air conjointly."

December 11, 1863.—In 1838 two English chemists, Dyar and Hemming, patented a process for producing carbonate of soda by the action of ammonium bicarbonate upon sodium chloride, but all attempts to manufacture by this process failed until the Belgian chemist, Ernest Solvay, devised modifications in it which were patented by him in England on Dec. 11, 1863. With his brother Alfred, Solvay started works near Brussels in 1866. In 1873 a licence was granted to Brunner and Mond, and by 1914 there were throughout the world 23 separate works engaged in the Solvay ammonia-soda process capable of producing nearly 2,000,000 tons of soda-ash annually.

December 12, 1901.—It was on Dec. 12, 1901, in a room in a disused barracks on Signal Hill, St. Johns, Newfoundland, that Senatore Marconi heard faintly in a telephone the groups of three dots, constituting the morse letter S, transmitted from Poldhu in Cornwall. The detector used was a self-restoring coherer and the aerial a thin wire carried to a height of 400 feet by a kite. One feature of the experiment was that its success disproved the theory then widely held, that the transmission of radio signals over great distances would be impossible owing to the curvature of the earth.

December 14, 1874.—On this day Cornu communicated to the Paris Academy of Sciences the result of his redetermination of the velocity of light. His methods were fundamentally the same as Fizeau's, but his precision was greater.

December 15, 1859.—One of the landmarks in the history of the spectroscopic examination of the sun was the memoir read by Kirchhoff to the Berlin Academy of Sciences on Dec. 15, 1859, in which he explained the nature of the lines in the solar spectrum.

December 15, 1904.—Though attempts were made from time to time to elect women into the Linnean Society of London, it was always found that the original charter did not permit this being done. A supplemental charter was therefore obtained in April 1904, and the first election of women as fellows took place on Dec. 15 of that year.

December 16, 1883.—To Gottlieb Daimler we owe the first high-speed internal combustion engine with high compression, which he patented in Germany on Dec. 16, 1883.

December 17, 1849.—The well-known form of pressure gauge with the curved tube of elliptical section was invented by the French engineer Bourdon and patented by him on Dec. 17, 1849. He was led to the invention by observing the motion of the end of a coil of copper pipe when being tested.

December 17, 1903.—The pioneering work of the Wright brothers, leading to the construction of the first practical flying-machine, was spread over the years 1896-1903; and it was on Dec. 17, 1903, on the lonely sandhills at Kitty Hawk, North Carolina, U.S.A., that the brothers made their first flights. Orville Wright flew first for 12 seconds, and the same morning Wilbur Wright flew for 59 seconds.

E. C. S.