ready to put at the disposal of his colleagues. As a teacher he was admirable, and while professor at Cairo did a great deal in many ways for his Egyptian pupils, who regarded him with real affection. His industry was incessant, but did not interfere with his unusual degree of generosity and hospitality.

In 1907 he married Essie Winifred (who survives him), a daughter of William Johnston, of Bromborough, Cheshire. She assisted in the preservation of the necklaces and other pieces of jewellery found in the tomb of Tutankhamûn.

BATTISCOMBE GUNN

Dr. James Colvin

DR. J. COLVIN, senior lecturer in the Department of Inorganic and Physical Chemistry, University of Leeds, who died suddenly on September 5, at the age of forty-seven, had been a member of the staff of the Department since 1927. He was a graduate of the University of Liverpool and went to Leeds in 1925 to do research work under Prof. R. Whytlaw-Gray; he joined the academic staff at Leeds two years later.

Before 1939 Dr. Colvin worked on the kinetics of reactions in the solid state, particularly the dissociation of salt hydrates; during the War he was occupied with research for the Government, and more recently he returned to the study of salt hydrate decompositions. He was a brilliant teacher, and will be remembered with affection by generations of former students for his sympathetic understanding of their difficulties, academic and otherwise.

WE regret to announce the following deaths:

Mr. A. H. Hall, C.B., C.B.E., formerly chief superintendent of the Royal Aircraft Establishment, Farnborough, on September 11, aged seventy-three.

Prof. August Krogh, For.Mem.R.S., emeritus professor of zoophysiology in the University of Copenhagen, aged seventy-four.

NEWS and VIEWS

Frederick Ives Medal of the Optical Society of America: Dr. G. R. Harrison

THE Frederick Ives Medal for distinguished work in optics has been awarded by the Optical Society of America to Dr. George R. Harrison, dean of science in the Massachusetts Institute of Technology. Dr. Harrison, who is fifty-one, was born in San Diego, California, and graduated from Stanford University. After rising to become associate professor of physics at Stanford, he joined the Massachusetts Institute of Technology as professor of physics in 1930 and was appointed dean of the School of Science in 1942. As professor of physics, and during 1930–42 as director of the Research Laboratory of Physics at the Institute, Dr. Harrison has won wide recognition for his achievements in spectroscopy and studies of atomic structure, much of which was valuable in developments associated with the Second World War. He has made especially notable contributions in the fields of spectral line intensities, photometry and vacuum spectroscopy, and with his wide background of scientific research he is known as a leader in applying advances in modern physics to industrial development. Under his guidance the spectroscopy laboratory of the Institute has become an important centre of technological research and has produced tools of great value for investigations in modern physics. For his achievements in this field Dr. Harrison was in 1939 awarded the Rumford Medal of the American Academy of Arts and Sciences. During the War he was chief of the Optics Division of the Office of Scientific Research and Development, and later he became chief of the research section at General MacArthur's headquarters. In recognition of his services he was awarded the Medal of Freedom and the Presidential Medal for Merit.

A. J. Corda (1809–49)

BORN at Libereo in north-east Bohemia, August Josef Corda began a remarkable scientific career as a pharmacist's assistant. He attracted the attention of Prof. Kombholz, who gave him a microscope and arranged for his further education. As early as 1826 Corda succeeded in germinating certain moss and fungal spores and made elaborate drawings of these cultivated cryptogams. He came into prominence for his medical work during the 1832 cholera epidemic, and this brought him to the notice of some German naturalists who gave him an opportunity to study cycads at Berlin. At the Breslau congress of doctors and naturalists in 1833, he gave an account of his work on *Cycas*, pointing to its links with higher cryptogams. Back in Bohemia, he was engaged to study the specialized algal and other flora of Karlsbad hot springs. Always fighting poverty, Corda's work was handicapped by his indifferent health; his main income was the stipend as curator of the Bohemian National Museum and the money he received from Count Kaspar Sternberg (president of the Museum Society) for his share in such tasks as examining fossils from the West Bohemian coal measures, described in Sternberg's "Flora der Vorwelt" (1837). Corda's most important work was "Icones Fungorum", printed in parts between 1837 and 1854, and thus completed by other botanists. Here, too, the most valuable feature was Corda's splendid illustrations. His ability to draw rapidly and accurately led to his being sent by some Bohemian patrons of science to Texas and elsewhere to collect specimens for the Museum. His ship, the *Victoria*, sank on the return voyage during a storm in the West Indies in September 1849, and Corda perished at the early age of forty.

Orientation of Lund Cathedral

A LECTURE on "The Orientation of the Cathedral of Lund", which was delivered by Hans Erlandsson at the Observatory of Lund on May 23, 1946, has been published by the Observatory in "Historical Notes and Papers", No. 21. In the donation letter of Canute, May 21, 1085, St. Lawrence was chosen as the patron saint of the cathedral at Lund, and the document of the consecration festival, September 1, 1145, says that the cathedral was built in honour of the Blessed Virgin Mary and Saint Lawrence, so that the name of St. Mary must be considered in dealing with the question of the orientation of the building. The late C. V. L. Charlier's investigations in 1900 suggested that the axis of the cathedral was

24·3° north of west and that the building was founded on the day of St. Lawrence. Observations made in April 1946 showed that an error of about 5° had occurred in Charlier's investigations and that this was due to the masses of iron tubes and cramp irons hidden in the floor and masonry. He had measured 24·3° in one place, and this agreed with St. Lawrence's day on August 10; but it has been found that about 18° north of west must be accepted as the true value. On August 22, 1085, the angle for sunset at the place was 17° 54′, and this date corresponds to the octave of the Assumption of the Virgin. An examination of the neighbourhood suggests that the building may have had some relation to an old pagan cult, the reasons for which are given towards the end of the lecture. In addition to the work on the cathedral, it is suggested that the church of the Dominicans at Lund had St. Mary Magdalene as patroness. The axis of this church is 34° north of west, and sunset on July 22, St. Mary Magdalene's day, is close to this angle.

A Package Testing and Advisory Service

THE Printing, Packaging and Allied Trades Research Association has recently extended the scope of its work by the provision of a Package Testing Station and advisory service at its new research centre at Leatherhead. The service is available both to members of the Association and to non-members on a fee-paying basis. The facilities available fall into four main categories. (1) The advisory service is designed to solve individual practical problems quickly and to supply information related to the many technical aspects of packaging; consultations may be made and, if required, laboratory research will be undertaken. (2) *Packaging Abstracts*, a monthly publication, hitherto restricted to flexible packages and packaging materials, has now been extended to cover the whole field of packaging, including bottles, cans, metal drums, wooden boxes, textile sacks, etc., in addition to fibreboard cartons and paper containers, and this journal has now been placed on general sale. (3) The packaging technical library contains many British and foreign books on packaging, and about two hundred periodicals and journals which are abstracted and form the basis of *Packaging Abstracts*. The library is open during 9.30 a.m.–5 p.m. (Mondays to Fridays) for *bona fide* inquirers. (4) The package testing station provides three groups of tests which enable manufacturers and users to select the design or the material for a pack so as to provide the optimum protection to the packed goods against all the hazards to which they are likely to be subjected. The first group of tests is that concerned with the mechanical strength of the package —a drum test designed to simulate general handling, an inclined plane tester which reproduces the type of shock encountered in shunting, and various types of drop test for determining tensile, burst and tear strengths, etc. The second group is concerned with the resistance of packages to atmospheric conditions, and materials are tested for their permeability to water vapour, gases and liquids (including water and oils). The third group of tests covers the protection afforded by the package to attack by insects and moulds, particularly for goods exported to tropical countries. In addition, storage rooms have been installed where the climatic conditions may be controlled to imitate those prevailing in most parts of the world. All inquiries should be addressed to Patra House, Randall Road, Leatherhead, Surrey.

Management Studies

BASED on the findings of the Urwick Committee which reported in 1947, the British Institute of Management and the Ministry of Education have now submitted details of the schemes which they are prepared to approve at further educational institutions for the award of intermediate certificates and of diplomas in management studies. Students for the intermediate certificate must have reached the minimum age of twenty-three years before completing the course and will be required to attend a course of directed study for three years concurrently with commercial or industrial employment. For the diplomas, courses will either be general or specialized and may be taken by students who have already obtained an intermediate certificate or are qualified to pursue more advanced studies in management subjects; they must have reached the minimum age of twenty-five years before completing the course. Diploma courses should normally provide for two years directed study concurrently with commercial or industrial employment. Where the experience and age of the students merit special consideration, full-time courses or other alternative arrangements may be approved. Further details of the courses may be obtained from Rules 116 (June 1949) of the Ministry of Education, H.M. Stationery Office, price 2*d*. net.

Bird Preservation

BESIDES those activities already in progress, the annual report of the British Section of the International Committee for Bird Preservation describes the formation of an International Wildfowl Research Institute. Accommodation for the new Institute has been provided at the Zoological Museum, Tring, and Dr. E. Hindle, scientific director of the Zoological Society of London, has been appointed honorary director. The Institute will be the international centre for existing and projected research into matters affecting wildfowl, and, it is hoped, will also build up study collections (including specimens, photographs, slides and films), which could be used for exhibitions designed to arouse a wider interest in wildfowl. Other items in the report include information collected by wildfowl counts during 1947–48; a list of counties which have agreed to give complete protection to the barnacle goose (*Branta leucopsis*) for a period of five years; an account of the action taken to prevent the netting of geese on the Wash at Holbeach and details of the ringing of wild duck being carried out at Orielton, Abbotsbury and Slimbridge. In the report there is also a full description of the British Wildfowl Exhibition which was held in London, and an account of various conferences which were held with other European members of the International Committee for Bird Preservation.

Spore Discharge in *Lycoperdon*

AN interesting study of spore discharge in *Lycoperdon perlatum* has been made by P. H. Gregory, using ultra-high-speed Schlieren cinematography (*Trans. Brit. Mycol. Soc.*, 32, Pt. 1, 11; 1949). Spore discharge is brought about by raindrops of 1 mm. diameter or more falling on the flattened endoperidium. The puff of spores thereby induced reaches a height of 1 cm. approximately one hundredth of a second after impact. Velocities of the spores on emergence are in the order of 100 cm./sec. The film is run at a speed of 600–1,770 pictures per second, and a time-base controlled by tuning fork is marked