

His earliest published account of these experiments was read at a meeting of the South African Institute of Electrical Engineers at Johannesburg on December 16, 1921. His full statement and his explanation of the effects were given in his Friday evening discourse at the Royal Institution on May 18, 1923.

For many years, Mordey was a member of the Council of the Institution of Electrical Engineers and being very sociable he used to stay to many of the Council dinners. His criticisms of the papers read were frank, but his remarks were often very helpful. He was a member of the Athenæum and of the Alpine Club. He loved to talk about mountaineering in Switzerland and climbing the snow-clad hills of Scotland in winter time to the astonishment of resident farmers. The profession and the industry have greatly benefited by his work.

Mordey was fond of good music and was a member of the Bach choir for many years. The early death of his first wife leaving him an only daughter was a great blow. His daughter married Major E. O. Henrici, but after having a family she died comparatively young. Another blow to him was the death of his partner Dawbarn. He has left many friends who will sadly miss him.

A. R.

THE death has recently occurred of Dr. Ragnar Rydberg, lecturer in physics in the University of Stockholm, at the early age of thirty-six years. Dr. Rydberg's scientific career was mainly devoted to the field of band spectroscopy, from which his beautiful methods of graphical constructions based on extensive spectroscopic data were developed. His dissertation: "Über Neubildung und Zerfall zweiatomiger Moleküle" (Stockholm, 1934), also included valuable discussions on problems regarding predissociation phenomena in discharges under different conditions.

WE regret to announce the following deaths:

Dr. B. T. Galloway, pathologist in the Bureau of Plant Industry of the U.S. Department of Agriculture, on June 13, aged seventy-four years.

Dr. A. E. H. Tutton, F.R.S., formerly H.M. Inspector of Schools (Technological Branch), Board of Education, and a leading authority on chemical and physical crystallography, on July 14, aged seventy-three years.

## News and Views

Prof. M. N. Saha, F.R.S.

AFTER nearly fifteen years of service in the University of Allahabad, Prof. M. N. Saha is returning to his Alma Mater, the University of Calcutta, as Palit professor of physics. The first occupant of this chair, the gift of a rich Calcutta lawyer to the University, was Sir C. V. Raman (1918-32), and he was succeeded in 1932 by Prof. D. M. Bose (1932-37), who is now director of the Bose Research Institute founded by his uncle, the late Sir J. C. Bose. Prof. Saha graduated from the University of Calcutta in 1915 in applied mathematics, and in 1917 became lecturer in physics in the newly founded University College of Science. Between 1917 and 1921, he published a number of papers in the *Philosophical Magazine* and other journals on the application of the special theory of relativity to electrodynamics, on selective radiation pressure and its application to astrophysics, and the theory of thermal ionization of elements. The grant of a foreign scholarship by the University of Calcutta enabled him to visit England in 1920-21, and to work in the laboratory of Prof. A. Fowler at the Imperial College of Science and Technology. He was thus enabled to give the finishing touches to his paper "On the Physical Theory of Stellar Spectra" which was published by the Royal Society in 1921, and is now regarded as a work of highest importance in astrophysics. When, two years later, the University of Allahabad was just then passing from an examining to a teaching university, Saha accepted the chair of physics there and was called upon to frame the courses of teaching, organize the laboratory, and initiate research

work. He succeeded in creating a fine school of teaching and research under great handicaps and in infecting his colleagues with enthusiasm, resulting in important contributions to knowledge. Students trained by him have already achieved great distinction, among them being Prof. D. S. Kothari (Delhi) and Dr. R. C. Mozumdar in astrophysics; Dr. N. K. Sur in meteorology, Dr. G. R. Toshniwal in ionospheric research, and Dr. P. K. Kichlu (Lahore) in spectroscopy.

BESIDES research and teaching, Prof. Saha has taken a leading part in the organization of scientific life in India. In 1931, he was instrumental in founding an Academy of Sciences for the Provinces of Agra and Oudh. In his presidential address to the Indian Science Congress in 1934, he advocated the establishment of a National Academy of Sciences for India on the lines of the Royal Society of London. This led to the foundation of the National Institute of Sciences (composed of 150 senior scientific workers in India) at Calcutta, of which Sir Lewis Fermor was the first president. In 1937, Saha succeeded Sir H. Couchmann, the surveyor general, as president of the Institute and was able to obtain a grant for it from the Central Government. In 1935 he founded the journal *Science and Culture* with the view of educating his countrymen about the relations of science to national life in India. Through its editorials and articles, he has been advocating that large-scale industrialization is the only solution of India's problems of poverty, unemployment and defence, and has directed the attention of the public to the



necessity of nationalization of India's power resources, to the usefulness of research institutes on power, plant industry, and to the creation of national councils of industrial and scientific research. His radical views and straightforward criticisms have not rendered him a *persona grata* either with the British officials who constitute the Central Government or with the Congress, but they are gradually finding acceptance with the public.

#### Mr. T. A. Joyce, O.B.E.

THE approaching retirement, to take effect early in August, is announced of Thomas Athol Joyce, deputy keeper in charge of the Sub-Department of Ethnography of the British Museum (Bloomsbury). Mr. Joyce was educated at Dulwich and Hertford College, Oxford. He was appointed in 1902 to the staff of the British Museum in the Department of British and Medieval Antiquities and Ethnography, of which Mr. (later Sir) Charles Hercules Read was then keeper. Mr. Joyce during the Great War was attached to the War Office on the General Staff (Intelligence), attaining the honorary rank of captain, and being awarded the O.B.E. in 1918. In 1921, he was appointed deputy keeper of his department, and on its re-organization was placed in charge of the Sub-Department of Ethnography in 1932. In his departmental work, he had specialized in the ethnography of the peoples of Africa and the antiquities of America. His three books on the archaeology of South America, Mexico and Central America, appearing between 1912 and 1916, in which the evidence available up to that time was analysed critically, secured his position as an authority among scholars in both the Old World and the New. Consequently Mr. Joyce was inevitably chosen to lead the expeditions sent by the British Museum to British Honduras in 1925 and succeeding years up to 1931, to excavate the ruined Mayan cities of that region. In addition to a large number of contributions to the publications of learned societies and the more serious of the journals devoted to the arts, such as the *Connoisseur*, Mr. Joyce was the author, in collaboration with Mr. E. Torday, of "Les Bushongo" (1910), of a valuable little book on Mayan Art (1927), and of the official guide to the ethnographical collections of the British Museum (1910). He held office as honorary secretary of the Royal Anthropological Institute in 1903-13, for two terms as vice-president, and as president (1931-33), and was president of the Anthropological Section of the British Association in 1934.

#### Memorial to Dr. W. J. S. Lockyer

ON July 16, at the Norman Lockyer Observatory, Sidmouth, a memorial was unveiled to the late Dr. W. J. S. Lockyer, who was director of the Observatory, in succession to his father, Sir Norman Lockyer, from 1920 until his death in 1936. The unveiling was performed by Sir Francis McClean, a personal friend of Dr. Lockyer, well acquainted with the latter's manifold activities, such as photography and aeronautics in addition to his astronomical work.

Sir Robert Mond took the chair, and a speech was also made by Sir Richard Gregory who, after paying tribute to Dr. Lockyer's memory, spoke about the foundation and present position of the Observatory. The memorial (subscribed for by friends of the late director) consists first of a panel with a portrait of Dr. Lockyer in the centre surrounded by smaller portraits of those friends who have assisted in the administration and organization of the Observatory during his term of office. Beneath this panel is a cabinet containing Sir Norman Lockyer's insignia and other records of his life and work. As the subscriptions were more than sufficient to supply these two articles the balance was put towards the new 'Oxford' recording microphotometer (mentioned in NATURE of July 16, p. 108), which thus forms a part of the memorial, very suitably recognizing Lockyer's astronomical work at the Observatory. Half the cost of the microphotometer is being met by Sir Robert Mond and the other half by subscriptions to the memorial and from Observatory funds. The instrument is now completed and installed, so that the Observatory's equipment for measuring spectra is now brought up to the level of the principal observatories in Great Britain and other countries.

#### Record Non-Stop Formation Flight

LEAVING Cranwell at 4.15 a.m. on Thursday, July 7, four Vickers Wellesley aircraft, fitted with 'Bristol' Pegasus engines and Rotol constant-speed airscrews, flew non-stop for 32 hours. They arrived at Ismailia, Egypt, next day at 12.10 p.m., having covered a distance of 4,300 miles at an average ground-speed of 135 m.p.h. This achievement, which was part of the development work of the Long-Range Unit of the Royal Air Force, is the longest non-stop formation flight ever accomplished. A flight of this nature is an extreme test of the absolute reliability of the engines. The Pegasus engines employed were the medium-supercharged type, specially developed for economy of fuel consumption. They have to be capable of running continuously on very weak mixtures, which increases the flame temperatures in the cylinders, so that the pistons, valves, plugs, etc., are subjected to abnormally high thermal stresses. The average height during the flight was about 10,000 feet, which sets up a difficult combination of high engine gas temperatures and low air density on one hand, and operation at very low power in a cold atmosphere on the other. It is a tribute to the design, manufacture, and maintenance of these engines that they stood up to the exacting conditions of this flight, giving a continuous performance of more than a thousand horse-power for little more than a thousand pounds weight.

#### 'Round-the-World' Flight in Northern Latitude

Mr. Howard Hughes, with Messrs. Connor and Thurlow, navigators, Stoddart, radio operator, and Lund, engineer, landed at New York on July 14, at 7.37 B.S.T. after having flown a circuit of the earth in the northern hemisphere, well above latitude

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