

OBITUARIES

R. W. James

Reginald William James, one of the pioneers of x-ray diffraction, died of a heart attack at age 73 in his home near Cape Town, South Africa, on July 7, 1964.

James was the chief coworker of W. L. Bragg in the post World War I period when Bragg built up his famous school in Manchester, and James later became the author of a standard book on the theory of x-ray diffraction—namely, *The Optical Principles of the Diffraction of X-rays*. This 600-page book appeared in 1947 after being under preparation for fourteen years, a period which included World War II, as well as the author's taking over of the chair of physics at the University of Cape Town. Earlier, in the critical period of 1925-28, when crystal-structure analysis was about to founder on the reef of intensity interpretation of the diffracted rays, James belonged to the active group in Manchester who cleared up the many causes affecting the intensity, namely crystal perfection, temperature (Debye-Waller factor), intra-atomic interference (atomic factor), and, lastly, the structure factor which alone contained the coveted information regarding the positions of the atoms. This combined experimental-theoretical investigation enabled a major breakthrough in crystal-structure analysis. It also led, incidentally, to the first quantitative proof of the existence of zero-point energy, and it opened the way for the experimental checking of Hartree's calculations of the electron distributions in atoms.

After his move to Cape Town, James continued his interest in x-ray diffraction and inspired some of his pupils and colleagues to work along these lines. His own work was delayed by the unpleasant administrative duties he had to take on as the acting principal of Cape Town University in a time of mounting interference with University affairs by the present South African Government. After his retirement, however, he returned to his

favorite subject, as shown by a masterly 165-page article on the dynamical theory of x-ray diffraction which appeared in 1963 in *Solid State Physics*, Vol. 15. Even after recovering from a severe coronary attack in October 1963, he kept on working up to the date of his final attack.

In his early days, James had joined Shackleton's South Polar Expedition as the expedition's physicist. After Shackleton's ship was crushed in the ice, James played an essential role in saving the expedition by providing the navigational data. In World War I, W. L. Bragg and James met in Belgium in the first sound-ranging detachment; at the end of the war, Bragg asked him to join him in Manchester. James was an unpretentious man of sterling character, and, scientifically, of great competence in a wide field. A description of the early Manchester school from his pen is contained in *Fifty Years of X-ray Diffraction* (p. 420-429), and an appreciation of his contribution to the formation of this school by W. L. Bragg is on p. 535 of the same volume.

His many friends in this country are deeply grieved at losing him.

P. P. Ewald
New Milford, Conn.

Harold A. Wilson

Harold A. Wilson, professor emeritus of physics at Rice University and a member of the original faculty of that institution, died in Houston, Texas, on October 13, 1964. He was 89 years old.

He was born in York, England, and studied at Leeds University, where he received an MSc degree in 1897, at London University, where he was awarded a DSc degree in 1900, and at Cambridge University where he was a Clerk Maxwell student and a fellow at Trinity College. He also studied for one year at the University of Berlin.

In 1904, he joined the faculty of Kings College, London, and in the

following year was named professor and head of the Department of Physics. He left England for Canada four years later to accept a professorship at McGill University. In 1912, when the Rice Institute of Technology (now Rice University) was established, he joined the faculty as one of its eleven original professors. He remained at Rice for the rest of his academic career. He was named professor emeritus in 1947 but continued to teach part-time at Rice until last year. During World War II, Professor Wilson served as a physicist with the Office of Scientific Research and Development and as a senior physicist in the University of Chicago's Metallurgical Laboratory.

He was a member of the American Physical Society and a fellow of the Royal Society and the London Physical Society.

C. S. McGinnis

Claude S. McGinnis, retired chairman of the Department of Physics at Temple University, died on October 11, 1964, in Clearwater, Florida.

Dr. McGinnis, an acoustician who specialized in musical instruments and sound transmission, was born on October 12, 1881, in Indianapolis, Indiana. He received his bachelor's degree from the Massachusetts Institute of Technology in 1906 and his doctoral degree from the University of Pennsylvania in 1911. He served as an assistant in physics at MIT from 1906 to 1908 and as an instructor at Pennsylvania while studying for his PhD.

In 1911, he joined the faculty of the University of New Brunswick in Canada as a professor of physics and electrical engineering, a position which he held until 1920. He came to Temple that year as professor and head of the Physics Department. He retired in 1952 with the title of professor emeritus.

Dr. McGinnis was a member of the Acoustical Society of America and the American Association of Physics Teachers.

Hedwig Kohn

Hedwig Kohn, professor emeritus of physics at Wellesley College, died on November 26, 1964, at the age of 77