but those who knew the circumstances know well that his was the vision, and to him the accomplishment of it was largely due. On its constitution in 1905, the University appointed him as its first Vice-Chancellor, but he only held the office for a few months. His bent had always been for research, and he was anxious to get back to it, so that as soon as possible he withdrew from the vice-chancellorship to become simply the professor of physics, with comparative leisure for his research work. However, in 1913 he acted as Vice-Chancellor again for a year, stepping into the breach in an emergency.

Hicks's scientific work falls naturally into two parts separated in time by the year 1909. Up to this date, much of it can be summed up by the words 'vortex rings'. After the discovery by Sir William Thomson of the permanence of a vortex ring in a frictionless fluid, this subject made a double appeal to the younger school of mathematical physicists in Cambridge. In the first place, the mathematical difficulties of further treatment presented a continual challenge to their ability, and in addition there was the definite hope, in those classical days, of developing from it a theory of the real atom. Hicks made the subject peculiarly his own, inventing the necessary 'toroidal' functions for the treatment, and in a series of four brilliant memoirs in the *Philosophical Transactions* worked out the properties of vortex rings exhaustively. Among his discoveries was that of the existence of vortex aggregates, which showed a remarkable analogy with the periodic constitution of the elements. His eminence in these researches was marked by the award in 1885 of the Hopkins Prize in Cambridge, and by his election to the Royal Society in the same year. Later he was awarded the Royal Medal of the Society, and he served on the Council for many years.

From 1909, not only to his retirement in 1917 from his chair of physics, but also to the very end of his life, Dr. Hicks devoted himself to the task of elucidating the structure of spectra. Greatly attracted by Rydberg's memoir on the relationships between series lines, and imbued with a profound admiration for Rydberg's work, he set about extending it. The basic idea was to try to find out as much as possible about the relations between the frequencies of lines apart from all questions of theory. In its spectrum, each element wrote its signature, but in cypher form, and the methods he proposed to adopt were purely those appropriate to finding the key of the cypher. The difficult mathematics of his earlier works was replaced almost wholly by numerical calculations, simple individually, but laborious in the immense number of them. The results are presented in numerous papers in the *Philosophical Transactions* and the *Philosophical Magazine*. His essay on the "Analysis of Spectra" was awarded the Adams Prize in 1921, and a full account of his work up to then, based on the essay, was published in 1922. The results of his later work are to be published this autumn in a book on the "Structure of Spectral Series", on the proofs of which he was working when he collapsed with the illness which in a few weeks ended his life.

It is difficult at the present time to estimate justly the value of Hicks's results in this field. They tend to be neglected by modern spectroscopists, because admittedly in a certain proportion chance agreements occur in the applications of the rules he has discovered, and it is difficult without great labour to determine to what extent the validity of the rules may be affected thereby. But another reason is that no one can find any way of fitting them into the present day theories of the emission of light. Hicks recognised both these difficulties, but believed that his results must be held available, perhaps for a later generation of spectroscopists to succeed in fitting them into a framework of theory.

Dr. Hicks had two sons, one of whom was killed in 1915 in the War; his memory is perpetuated by the Basil Hicks lectureship, which provides for a series of public lectures at the University of Sheffield by eminent men on subjects connected with the War and international peace. Not very long after his retirement from the chair of physics at Sheffield, Dr. Hicks's wife died, and in 1919 he went to reside in the little country village of Crowhurst in Sussex, and remained there until his death. He was a man of vigorous constitution, extremely fond of walking, and a great lover of Nature. He explored the countryside for miles round his home, and many villagers must now miss his genial presence. Hampered somewhat by increasing deafness in his later years, he lived an extremely regularly ordered life, working with amazing industry at his calculations every morning, and walking in the afternoon. Nothing gave him greater pleasure than to be visited by his friends and old students, for whom he had a warm affection. The simplicity and courtesy of his mind and manners, his thoughtfulness for others, and the selflessness of his devotion to truth, mark him as a noble, not merely an eminent, man. The memory of him as such will be cherished by his friends as long as they live, while his scientific work on one hand, and the University of Sheffield on the other, form enduring monuments to his fame. S. R. M.

THE death is announced of Dr. Maurice Fishberg, the anthropologist, which took place suddenly at the age of sixty-two years in New York on August 31. Dr. Fishberg was born in Russia, but educated in New York, where he studied medicine. He also devoted special attention to the study of anthropology and questions of race, and came to be recognised as the foremost authority on the physical anthropology of the Jews. He was the author of "Physical Anthropology of the Jews", "Comparative Pathology of the Jews" and a volume "The Jews" which appeared in the Contemporary Science Series. His views on the origin of the differences in physical character displayed by the Jewish people in varying environments have been more widely accepted among non-Jewish anthropologists than they have among those of his own people, who have stressed the unity and continuity in history of the Jewish people as a race of distinctive character and culture.