

## OBITUARIES

## Prof. A. Wormall, F.R.S.

ARTHUR WORMALL died in St. Bartholomew's Hospital on May 9 at the age of sixty-four. He will be greatly missed. The high esteem in which he was universally held is aptly epitomized by a remark made some years ago to one of his junior colleagues: "The one thing we envy you most in your department is your professor".

Wormall received his early education at Leeds, graduating in 1921 and joining the staff of the University in 1922. His work as a lecturer and senior lecturer in biochemistry until 1936 can truly be said to have laid the foundations of the Department of Biochemistry which exists in Leeds to-day.

He early developed an interest in problems of immunology; he helped materially to establish the complex nature of hæmolytic complement, and also described the hitherto unrecorded 'fourth component'. His work on proteins modified by nitration, halogenation and treatment with phenyl isocyanate or mustard gas and its derivatives, particularly his original use of correspondingly modified amino-acids as inhibitors of the precipitin reaction between these protein antigens and their specific antisera, work which he commenced as a Rockefeller Medical Fellow working with Landsteiner at the Rockefeller Institute during 1928-29, did much to clarify our present knowledge of the nature of the groupings which determine the immunological specificity of chemically modified proteins.

In 1930-31 he spent a year in Uganda on behalf of the Colonial Office, investigating chemical and immunological problems connected with trypanosomiasis, and developed methods of measuring the persistence of the drug 'Bayer 205' ('Antrypol', 'Germanin') in the blood stream. Although he later carried out work in widely different fields, these two early interests in immunology and trypanosomiasis remained with him all his life.

In 1936 he was appointed to the newly created chair of biochemistry and chemistry in St. Bartholomew's Hospital Medical College (University of London). His great organizing ability, his continual insistence that pre-clinical biochemistry teaching must be relevant to medicine, and his deep personal interest in all his students and staff, were responsible for the creation of a flourishing department—and a well-beloved chief.

Shortly after he went to 'Bart's', he recommenced work on mustard gas, and during the War led a research group working in Cambridge on the physiological action of mustard gas. It was at this time also that he commenced his work with artificial radioactive isotopes, and he was the first in Britain to use them in biological investigations. It is a tribute to his farsightedness that when he first envisaged the use of the radioactive sulphur isotope, sulphur-35, in his work on mustard gas, its preparation had been described; but it was stated that its  $\beta$ -particle emission was too soft for it to be of any use in quantitative investigations. At this time, too, the worker with artificial radioactive isotopes not only had to manufacture his own measuring equipment, but his isotopes also! Later, when isotopes became more readily available, he extended his use of them to immunological investigations and to investigations on the metabolism of zinc in normal and neoplastic tissues. In 1953 he organized and conducted the First Latin-American Course in Radioisotope Methodology, and was awarded an honorary doctorate of the University of São Paulo.

He was a governor of the Medical College and of the Hospital, and his wise counsel was greatly valued on the

many College and University committees on which he served.

He was always eager to create opportunities for integrating more closely the work of the Hospital and the preclinical departments, and it was mainly due to his endeavours that a research project on the biochemistry of skin was initiated in his Department jointly with the Department of Dermatology in the Hospital.

Wormall had a wide circle of friends, and his gentle courtesy and consideration for others endeared him to all. His great charm of manner readily made the most nervous youngster at ease with him, and no trouble was too great for him to take on behalf of anyone who came to him for help or advice.

Until physical disabilities prevented him, he was a keen golfer, and as a true Yorkshireman had an abiding interest in cricket. His election to the M.C.C. in 1956 probably gave him at least as much pleasure as his election to the Royal Society, which occurred in the same year, and his friends will long remember his account of a day at Lord's with a visiting American scientist when his attempts to explain the rules of the game were frustrated for some time by his visitor's unrealized misconception that the two batsmen were on opposite sides.

In 1925 Arthur Wormall was married to Eva Jackson, who survives him. All his friends would wish to tender to his widow, and his two daughters, their heartfelt sympathy in their loss.

G. E. C. FRANCIS

## Mr. H. D. Griffith

THROUGH the sudden death of Mr. Harry D. Griffith on April 11, the University of Aberdeen, and the Natural Philosophy Department in particular, lost a member who had given most loyal service for the long period of forty years. Born in 1898 at Clifton, Bristol, he received his early education at Bristol Grammar School and was awarded an open scholarship in 1916. On account of war conditions then in force, this scholarship was not taken up, but on the cessation of hostilities he entered as a scholar of Trinity College, Cambridge, in 1919 and in due course graduated B.A. Thereafter he continued to work in the Cavendish Laboratory under Sir J. J. Thomson and Sir Ernest Rutherford until 1923. In October of that year he came to Aberdeen on the recommendation of Prof. G. P. Thomson (later Sir George Thomson) with the specific idea of assisting in the teaching of physics to medical students. From this early beginning he was soon engaged in the development not only of the teaching of physics but also in the installation of a radon supply to hospitals in various parts of the country. In order to accommodate the required apparatus, an addition to the Department was built, and there Mr. Griffith installed towards the end of the 1920 decade the apparatus which enabled a supply of radon to be available for hospital work for a period of more than twenty years.

In 1932 he was awarded a Rockefeller Fellowship which enabled him to travel abroad. His first visit was to Berlin. There he studied for some months under Prof. Friedrich at the Institut für Strahlenforschung. Owing, however, to the political upheaval in Germany at that time he found it necessary to leave. From Berlin he went to Stockholm and worked under Prof. Sievert at the Radiumhemmet.

The insight he obtained abroad he put to good use on his return. Soon his services were required by various Departments in the Medical School, and, after the erection of the New Infirmary Buildings at Foresterhill, it was