

universities and research institutions, as well as some companies and individuals, are using the service.

Although few results have been produced as yet, some had special significance. One group established that the prior stream-beds were actively depositing more than 34,000 years ago in the area south-west and west-south-west of Griffith, New South Wales. Other results are regarded by archaeologists as of great significance to the study of Stone Age man in Australia. Charcoal occurring with uniface pebble tools from the Clarence Valley in northern New South Wales was aged $3,880 \pm 120$ years, and it is the earliest evidence of aboriginal occupation of this part of Australia. Of less importance, but great public interest, was the piece of red gum from a deep boring on the site of Melbourne's projected National

Gallery and Cultural Centre found to be about 9,400 years old. The information was of value to the architects, who are about to start the foundations of the £5,000,000 building.

Many persons and institutions have willingly given valuable advice and help, and we are especially indebted to the staff and those in charge of the Institute of Nuclear Science's Dating Laboratory at Lower Hutt, New Zealand. Two grants for special equipment from the Australian Institute of Nuclear Science and Engineering enabled the date of the opening to be advanced by some months.

¹ Flint, R. F., and Deevey, E. S., *Amer. J. Sci.*, Radiocarbon Supp. 2, 224 (1960).

² Focken, C. M., *Austral. J. Sci.*, 17, 10 (1954).

³ Focken, C. M., *Austral. J. Sci.*, 23, 127 (1960).

⁴ Carman, R. D., *Austral. J. Sci.*, 23, 340 (1961).

OBITUARIES

Prof. H. B. Squire, F.R.S.

HERBERT BRIAN SQUIRE was born at St. Neots in 1909, the son of a Bedfordshire farmer, and he died on November 23, 1961. He was educated at Bedford School and Balliol College, Oxford, where he was an Exhibitioner. He read mathematics, and after graduating with first-class honours, he spent a year as a research student under Prof. R. V. Southwell and a further period of a year was spent at Göttingen working with Prof. L. Prandtl. This initial post-graduate work established his interest and reputation in the field of fluid mechanics. He joined the staff of the Aerodynamics Department at the Royal Aircraft Establishment in 1934 and he remained there until 1938, when he became a lecturer in the Mathematics Department of the University of Manchester. He was married in 1937 to Miss Winifred Fenney and they have a daughter aged twenty-one and a son aged eighteen. At the outbreak of war in September 1939 he returned to the Royal Aircraft Establishment, where he remained until 1949. He then transferred to the Aerodynamics Division of the National Physical Laboratory and in 1952 he was appointed to the Zaharoff chair of aviation at the Imperial College of Science and Technology, London.

Squire was a scientist of considerable versatility and wide-ranging interests, but fluid mechanics remained his prime love. Among his earlier achievements was a now classic theorem on the stability of boundary layers to three-dimensional disturbances, a simple method for determining with acceptable accuracy the development of the turbulent boundary layer, a method for calculating the drag of wings which was readily extended to the calculation of the drag of aircraft, some theoretical and experimental investigations of low-drag wings, a number of valuable solutions to problems of heat transfer, and an important study of helicopter stability. His later work included an investigation of jet flows, the characteristics of surfaces planing on water, and some applications of linearized supersonic wing theory of considerable practical significance leading to a family of wings named after him, while in recent years he has devoted much of his time and effort to the experimental and theoretical study of rotating and vortical flows. The hovercraft was a vehicle that particularly fascinated him, and he had in progress a number of investigations into some of the interesting flow problems that this vehicle presents.

For very many years Squire had been a member of the Fluid Motion Sub-Committee and the Helicopter Committee of the Aeronautical Research Council, and when the latter Committee was replaced by the Powered Lift Committee he was appointed its chairman. He was made a Fellow of the Royal Aeronautical Society in 1945 and a Fellow of the Royal Society in 1957. A few months ago he was appointed to the board of the Hovercraft Development Co.

As a man and as a scientist Squire was of a piece. Integrity and an acute sensitivity are the qualities which his friends and colleagues would most readily associate with him; and he had the great scientist's gift of laying bare the essentials of a problem in simple, elegant terms. This gift was in evidence not only in his work but also in his approach to social and human problems, in which he was deeply interested. He took extraordinary pains over his tasks as a teacher, and he earned the devotion of his students and staff.

Squire had no special hobbies, but he enjoyed most outdoor activities such as walking, cycling, camping and sailing, and he had learnt to fly. A year ago, when he was invited to Bangalore, India, he drove there and back in a 'Land-Rover'; he gave as his reason the wish to prove to himself that he was still young. There is no doubt that he enjoyed the physical challenge of the journey, but certainly his main reason was to get first-hand experience of life in the Near and Middle East. He enjoyed reading, the theatre and conversation, and he found some relaxation in carpentry.

His early death is a tragic loss to the world of science; his friends will long mourn not only the loss of his exceptional intellect but also the shy, kindly warmth that characterized all his thoughts and deeds and made his friendship uniquely precious.

A. D. YOUNG

Prof. J. Husband

EMERITUS PROF. JOSEPH HUSBAND died in Sheffield on December 4, 1961, in his ninety-first year. He was born at Rotherham and educated at the old Central Secondary School, Sheffield. In 1888 he was awarded a Royal Exhibition, which enabled him to study engineering at the Royal College of Science, Dublin, where he gained first place in the final associateship