

years to the Medical Research Council's Unit. When that was closed in 1969 he returned to the Institute of Psychiatry, becoming Reader in Psychiatric Genetics.

During field work in 1954 he contracted polio, and thereafter was confined to a wheelchair. But with the courage that was typical of him he re-organised his life to surmount disablement and to continue research, lecturing, foreign visits and collaboration with a succession of visiting guest workers, virtually unimpaired.

He built up a register of consecutive cases of twins who were patients of the Maudsley Hospital, which has been, and it is hoped will continue to be the foundation of important field studies. The rigorous objectivity and self-critical understanding which he applied to twin studies has maintained it as a uniquely informative research tool after a period in which it was misunderstood and disparaged. His classic work on *Monozygotic Twins Brought up Apart and Brought up Together* was published in 1962. It was based on the largest collection of separated twins so far made; and his analysis threw new light on the role of genetics in social environment and upbringing.

Shields collaborated in many papers with Irving Gottesman. Their work on Schizophrenia and Genetics, reported in 1972, was awarded the Hofheimer Prize. After the most critical examination of the genetical hypothesis, it was found conclusively that genetic factors specific to schizophrenia are involved in its aetiology.

Shields's wide range of genetical work also covered anxiety states, neuroses, homosexuality, alcoholism and adoption in relation to schizophrenia. His knowledge of the literature was encyclopaedic; his scholarship, intellectual distinction and passion for truth in a contentious field were recognised by the (rare) award of the honorary D.Med. of the University of Zurich in 1975.

Unassuming, uncomplaining and generous, he endeared himself to his colleagues. He had, through thick and thin, the loving support of his wife Elizabeth, sharing with her a gift and an enthusiasm for music.

Eliot Slater

William Ellison

WILLIAM ELLISON, Professor of Agriculture at the University College of Wales, Aberystwyth, died a few months before retirement, on 11 April 1978, aged 66.

He was a graduate of King's College, Newcastle, where, in 1934, he also gained a Ph.D. for work on the cytology of potatoes. In the same year he was appointed assistant lecturer in agricultural botany at Aberystwyth. Until the outbreak of war he continued his cytological work and col-

laborated fruitfully with the staff of the Welsh Plant Breeding Station on the cytology of *Avena* species.

In 1939 his work and interests changed abruptly when he was appointed Chief Technical Adviser to the Montgomeryshire Welsh Agricultural Education Committee. This work, which continued throughout the war, was to bring him much renown, not only locally but nationally. He was instrumental in extending and putting into practice on a large scale the knowledge gained from experimental work of the 1920's and 30's, at the Welsh Plant Breeding Station and elsewhere, for the improvement of hill and marginal lands in Britain. His achievement confirmed not only his authority and expertise, but also his initiative and powers of leadership in this field.

When the war ended he became Professor of Agriculture at Aberystwyth and, from that time onward, he served his College with enormous dedication and the utmost loyalty. He served as Dean of the Faculty of Science and was Vice Principal from 1965 to 1967. He was a member of the U.G.C. sub-committee on agriculture from 1965 to 1975 and President of Section M of the British Association for the Advancement of Science in 1966. Apart from these 'academic' commitments Professor Ellison's influence was important in determining post-war agricultural policy towards the use and development of hill and marginal lands in the U.K., notably through his book on marginal land and as member of the N.E.R.C. Land Use Research Committee.

Professor Ellison was a staunch, even passionate advocate of the merits of university degree courses in agriculture. He would argue that the blend of science and technology, of art and craft, of economics and husbandry was a firm foundation for a broad, yet rigorous education. He would argue, also, that agriculture had as much to do with a way of life as with making a living. This is not surprising. He came from an ancient family of distinguished farmers, land agents and lawyers in the north country. He was proud not only of their professional achievements and enterprise but of the qualities of reliance, courtesy and public spirit which were part of their rural scene. Professor Ellison himself was well endowed with these qualities. He was unfailingly courteous, modest and unassuming and with an enormous capacity for making, and keeping, friends. These many friends will mourn his passing.

He is survived by two daughters. His wife died only four days before him, on 7 April 1978.

H. Rees

J. G. Valatin

JOHN GEORGE VALATIN, Professor of Theoretical Physics at Queen Mary College in the University of London, died on 19 April 1978, aged 60. Born in Budapest, John Valatin studied engineering at the Technical University there. Having obtained a doctorate for work on molecular spectra he worked for two years in industry before returning to the University at the end of the war as a lecturer in physics.

In 1947 he left Hungary to work with Louis de Broglie at the Institut Henri Poincaré. He was awarded the D.Sc. of the University of Paris for a thesis on the theory of the positron. In 1950 he went to the Niels Bohr Institute in Copenhagen, where he developed a covariant gauge independent formulation of quantum electrodynamics.

Two years later Valatin's interest in physics led him to the Mathematical Physics Department headed by Professor Peierls at Birmingham University. He spent thirteen years there and became a British citizen. In his early years in Birmingham he continued his studies in quantum electrodynamics doing pioneering work on the use of the point splitting technique to remove the divergence of that theory.

Following the fundamental work of Bardeen, Cooper and Schrieffer, and stimulated by the presence in Birmingham of J. R. Schrieffer as a young post-doctoral fellow, Valatin discovered in 1957 (independently of academician N. N. Bogolyubov) the canonical transformation which bears their names. This discovery gave greater insight into the nature of the ground state and of the elementary excitations in superconductivity. Over the next few years Valatin developed a generalization of the Hartree-Fock method designed to take account of the pairing forces which occur in superconductors. In collaboration with B. R. Mottelson and D. J. Thouless he used this generalized Hartree-Fock method to discuss pairing forces in nuclei and their influence upon nuclear rotational states.

In 1965 he left Birmingham for a chair at Queen Mary College, London, where he established a theoretical group working both in the theory of elementary particles and in the theory of condensed matter. He established a research seminar that drew distinguished speakers from all branches of theoretical physics and which served as an eloquent witness to his belief that theoretical physics was a unified subject.

Although John Valatin's life was dominated by his interest in physics, he was a deeply committed Christian and was much concerned with the welfare of students, especially those from overseas.

He is survived by his wife and two sons.

*R. B. Jones
W. Young*