OBITUARY

Peo Koller

P. C. KOLLER, Professor of Cytogenetics at the Institute of Cancer Research, died on 29 June 1979. He will always be remembered by those who knew him well. For some it will be his splendid humour that endeared him, for others his fascination for the facts of life.

Born in 1904, he was taken as a novitiate into a Benedictine community at the age of twelve with the intention that he should eventually become a teacher in a subject that he found pleasing. Choosing botany and zoology he eventually graduated from the University of Budapest in 1924 at the age of 20. During his time in the monastery and university he had had to combine religious and scientific studies and it is clear from what he wrote in his unfinished autobiography that there arose in his mind, even before he graduated, some difficulties of reconciliation of the two disciplines. Despite this he was ordained into the priesthood the same year he gained his BSc.

Rather to his surprise his superiors offered him a teaching post in Budapest and encouraged him to undertake a PhD. He met a number of scientists including Voronow, Rhoda Erdmann and Kammerer at an International Conference in Budapest in 1927 and became committed to a research career. Shortly after joining the new hydrobiology unit at Tihany on Lake Balaton he was granted a scholarship to go to Cambridge in the United Kingdom.

This was the beginning of his break with the church which was in a large part due to increasing interest in genetics. As he explained it, the determinist philosophy of genetics, with which he became involved under the influence of his collaborators T.H. Morgan, Theodore Dobzhansky, C.D. Darlington and H.J. Muller, was the deciding factor. His interests turned specifically to cytogenetics which was a newly emergent discipline in the early 1930's. During and immediately after the war he became involved with the effects of alkylating agents, such as nitrogen mustard, on chromosomes, an interest which remained for much of the rest of his working life. He joined the staff of the Royal Cancer Hospital and soon afterwards its pup, the Chester Beatty Research Institute.

Peo's study of chromosome breakage in tumours particularly under the influence of cancer chemotherapeutic agents established him as a leading authority in the field. At that time, however, further and more exact developments of cytogenetic studies of mammalian somatic chromosomes was somewhat hampered by the inadequacies of the available methods.

In 1956 under the influence of Alex Haddow he became interested in the newly discovered radiation chimaeras, the analysis of which was best accomplished by cytogenetic methods with which Peo was familiar and which, largely under the influence of Peo's friend, Charles Ford, were now more reliable.

Peo's curiosity led him with enthusiasm into the fields of haematology and immunology which emerged as integral parts of the study of chimaerism.

He was a great biologist and always had the ambition that biology should be accepted in its own right as a major discipline in cancer research. In his latter working years he provided encouragement for a number of young research workers including J.F.A.P. Miller who made his discovery of the function of the thymus whilst under Peo's umbrella.

He rarely scolded his juniors and always provided the quiet and unobtrusive support which is so successful and so difficult to emulate. It should not be thought that he lacked in passion. His occasional anger was a source of amazement and delight to his colleagues who, on one occasion at least, had to shelter from bombardment with the bottles in which *Drosophila* flies were kept.

Peo found great happiness in his marriage and his three daughters were a constant source of delight and pride in his life.

After retirement he became an articulate and much-respected member of the rural community in which he and his family chose to live. His preaching there of the delights and method of biological science was probably in many ways the happiest time of a very full life.

He will be remembered with affection and gratitude by his friends, his colleagues and his neighbours. There was rarely a dull moment with Peo about.

Tony Davies

C.E. Wynn-Williams

DR WYNN-WILLIAMS, a pioneer in the use of radio valves, valve amplifiers and thyratrons for measurement and counting in the fields of nuclear and radiation physics, and in the basic techniques of electronic computers, died at his home near Aberystwyth on 30 August 1979, aged 76 years.

He was born in Swansea on 5 March 1903, attended Wrexham Grammar School and entered the University College of North Wales at Bangor in 1920 with an Open Scholarship and a County Exhibition. He received the R.A. Jones Mathematics prize in 1922 and graduated BSc Wales with first-class honours in physics in 1923. From 1923 to 1925 with the aid of a Research Studentship of the University of Wales he carried out research at Bangor under Prof. E. Taylor Jones, obtaining an MSc Wales in 1924.

He then continued with research in physics, at the Cavendish Laboratory, Cambridge, under Sir Ernest Rutherford, with, in succession, a University of Wales Open Fellowship, an 1851 Senior Fellowship and a moiety of the Clerk Maxwell Studentship. During this period he took a BSc London with first-class honours and received a Cambridge PhD in 1931.

His first two papers relating to valve amplification described a valve amplifier for ionisation currents with compensation for L.T. and H.T. battery fluctuations and equivalent to a quadrant electrometer of sensitivity more than 6000 mm per volt; and with the modifications of this necessary to allow it to be applied for measuring X-ray and photo-electric effects. He next worked in collaboration with Cave and Ward on the rate of emission of α-particles from radium, and with Rutherford and Ward on the α-rays from RaC, ThC and AcC, his main contribution being the design of the valve amplifier for the detection of the individual particles and its screening from outside effects.

A visit to the Cavendish Laboratory by A.W. Hull about the time of Hull's full description of thyratrons in 1929 stimulated Wynn-Williams' interest in them and led to his first step in their applications to counting when he devised a ring of four thyratrons and applied it in 1931 to further α-ray counting experiments with Rutherford and Lewis, in the investigation of long-range α-particles from ThC and AcC.

In the following year he published his "scale of two" thyratron counting system which, he pointed out, could be operated by current taken from the ordinary A.C. mains supply and required no delicate adjustments; it was this invention, followed six years later by a somewhat similar counter devised by W.B. Lewis emplying hard valves instead of thyratrons, from which has mushroomed the great technology of digital electronics. In recognition of this work Wynn-Williams was awarded the Duddell medal of the Institute of Physics in 1957.

During the second world war Wynn-Williams was deeply involved in the work of code-breaking machines, in particular on the "Enigma" cipher machine and on the electronic side of the "Heath Robinson" cryptanalytic device which was