Bill Williams

William Stanley Cossom (Bill) Williams was born in Margate on the 4th of August 1929. His family lived in Dover where his father was a Trinity House pilot. Bill attended Dover College, but in 1939 his father was transferred to Glasgow as pilot on the Clyde. When Bill was 13 he was sent to London and went to University College School, living with his uncle David who was professor of crystallography at Birkbeck College and greatly encouraged Bill's natural love of science. On leaving school Bill was offered a place at Trinity College Cambridge, but he was very young and would have had to wait a year before taking his place, to make room for men returning from the war. His mother feared he would have to do National service and be sent to fight so, reluctantly, he accepted an immediate place at University College London. There he managed to combine his science courses with becoming a serious oarsman, rowing for the University in the Head of the River races. He graduated with top honours and followed this with graduate study to a PhD under the supervision of Professor Harrie Massey. A Fulbright Scholarship took him to Stanford where he formed lifelong friendships with the later Nobel Prize winners Burton Richter and Dick Taylor. Throughout his career Bill went back to work at the Stanford Linear Accelerator and also at the LAMPF accelerator Los Alamos, Fermi Laboratory and CERN.

On returning from the USA Bill worked for a year at General Electric and then, in 1955, took up his first academic position as Lecturer at Glasgow University. In 1962 he was offered a position at CERN, Geneva, which would have delighted his French wife Renee, of whom more below. However, Denys Wilkinson, then newly appointed Professor of Nuclear Physics at Oxford, was on the selection panel for the CERN job. Wilkinson's letter of congratulation to Bill included an invitation to him to join the Oxford department and head his own research group. Such an invitation was not to be turned down and accordingly in 1963 Bill was appointed University Lecturer at Oxford and Tutorial Fellow in Physics at St Edmund Hall. In the College he teamed up with George Series who had been in post, the first tutor in physics, since the 1950's. Years later Bill was offered the Chair of Physics at Queen Mary's College London but, after short consideration, chose to remain in Oxford.

Bill was an early member of the then new elite among physicists, the High Energy men, who made experiments requiring fantastic accelerators to elucidate the behavior of matter on the smallest scale. His research centred on the class of particles known as muons, a kind of heavy electron. In his early days he devised and operated detectors for these particles, exploring their production in collisions at extremely energies. Later he was involved as a senior partner in large teams using beams of muons to explore the inner structure of, for example, the neutron. He contributed strongly to the exploration of the so-called EMC (European Muon Collaboration) effect whereby the interaction of extremely energetic charged particles with number of neutrons and protons in a nucleus differs from that expected from an assembly of the same number of free nucleons. Their experiments involved years of planning, execution and analysis. I recall on one occasion Bill talked to me in some detail about his work. He had the difficult task of devising a scheme to deal with a malfunction, a small leak, in one element of the equipment, which had been undetected during the data taking. There was no possibility that the experiment be repeated and it was vital that Bill be successful - as indeed he was – in establishing appropriate correction to the data.

Bill was active as both lecturer and tutor. His first year lectures on electromagnetism, a pretty dry, mathematical, subject, are reported to have been enlivened by his using both arms, and sometimes a leg as well, to illustrate the mutual orientation of the various vector quantities under discussion. As a tutor he impressed but did not overawe his students, being willing to take pains to make sure his explanations were fully understood. His ex-pupils report his habitual use of diagrams in his teaching and leaving his tutorials clutching a bunch of sheets of paper feeling that now all was clear as day. He took on the highly responsible task of tutoring the first year, seeing them through any initial doubts and difficulties. We lost very few, thanks to Bill's considerate attention and encouragement, not only to their work but also to their well-being. To tell the truth Bill considered Oxford students somewhat pampered and contrasted their ample contact with their tutors with his London undergraduate experience, but this in no way intruded into his personal dealings with 'our students' as individuals. He served also as moral tutor to a range of Hall graduate students and saved at least one of mine when he was going through a bad patch. What has stuck in the memory for several is his means of transport between the physics department and the College – the sight of this extremely tall man going sedately along on a bike with very small wheels, his knees nearly touching his chin and his voluminous coat tails dangerously near the chain.

A further dimension of his interest in teaching was his authorship of four books, all relating to nuclear and particle physics. The most prominent was his very successful 'Introduction to Nuclear and Particle Physics' which was adopted by many courses around the world.

In College matters Bill was a quiet, thoughtful, servant on all the usual Committees and in due course served as Vice-Principal. His years coincided with the retirement of Principal Gosling and it fell to Bill to organize the election of a successor. After retirement and election to Emeritus status in 1996 came Bill's most particular service to the College. He instigated and took on the leadership and development of the Floreat Aula Society, formed of those alumni who undertake to make bequests to the Hall.

I knew Bill as a quiet family man. He met his wife-to-be Renee when both were newly arrived in Glasgow. He was a faculty member of the advisory committee of a student club where activities included Scottish dancing. In 1955 she was on her year out from an English degree at the Sorbonne. She recalls she first saw him wearing a most inappropriate light suit - in Glasgow in November! She immediately decided he needed looking after and proceeded to do so for sixty-four years. Their mutual attachment to St Edmund Hall included major family occasions. Their son Matthieu was christened, and their daughter Claire married, in the College chapel. In later years Bill would talk with affection in particular about his daughter Claire's twin sons, whom he regarded as absolute tear-aways and just about beyond control – they must have been five or six at the time. We all know and love his wife who became the long-time lecturer in French at the Hall and other colleges. In retirement, she encouraged him to come regularly to College for lunch. The SCR staff were very attentive and brought him his food from the usually self-service line-up of good dishes. Later, when he became a little absent-minded, returning home by bus became problematic. Renee would drive to the College to pick him up, leaving the car parked irregularly in Queens' Lane under the watchful eye of the porter. Arriving in the Senior Common Room, where Bill was enjoying a long chat, her affectionate, if somewhat peremptory, 'Come along Bill' would hasten his departure before the local parking officers took notice.

Bill was a kind, friendly and quietly serious man, studious, staunch, and at the same time, efficient. His friendship and companionship have been highly appreciated by his many colleagues and associates in Oxford and around the world. I had the privilege of working alongside him for more than 30 years in the smoothest possible partnership and of enjoying his almost ever-presence in my now less frequent visits to the College. He was a gentle man in every respect and will be greatly missed and fondly remembered.

I wish to acknowledge assistance and contributions in preparation of the short appreciation from Renee Williams and from SEH physicists Andrew Williams, David Doran and Terry Spitz.

Nick Stone Oak Ridge April 19 2020