

CHARLES JOSEPH HUGHES

Born 16 November 1925, died 11 June 2012

Charles Hughes BSc MSc FEng FIET

CHILDHOOD

Charles was born on 16th November 1925 in Preston, Lancashire the only child of Arthur and Susan. His father, born in Manchester, worked for Customs and Excise, mainly in Lancashire and London.

In 1929 Charles' family moved to Blackpool and his early formative years coincided with the depression. It is hardly surprising therefore that he always had clear memories of seeing poverty and dejection and recalled seeing lines of men sitting silently by their doorsteps with nothing else to do and without conversation, for this had dried up many weeks previously.

EDUCATION

Charles's education started in 1930 at Waterloo Road Primary School, Blackpool. With his family moving to London in 1937, Charles started to attend East Ham Grammar School. It was whilst here that the school was evacuated for three years to Swindon Wilts.

Further education commenced at the Sir John Cass College, Aldgate and the University of the South Bank, London, both on a part time basis.

WORKING LIFE

In 1942 Charles joined Cable & Wireless but later applied for the RAF aircrew. He was not accepted due to colour blindness so stayed with Cable & Wireless. As he was scheduled to go abroad into a combat zone, he had to be in uniform and was nominally attached to the Royal Signals. His situation was similar to that of a war correspondent with a rank of honorary Lieutenant.

His actual military training was very limited; in fact Charles only remembers being taught how to return a salute! Whilst in this capacity he travelled to Kenya, Haifa and Colombo restoring communications, and also spent time on a communication ship. When asked about his experiences during this time he replied; "Discomfort and discomfort – first in Colombo and then on the cable ship!"

In 1946 he returned to Britain and worked at the Head Office laboratories of Cable and Wireless in London, in Research and Design on electronic telegraph and radio systems. At the same time he completed his BSc degree in Physics.

In 1951 Charles married Vera Capella at Caxton Hall, Westminster. Prior to this commitment and settling down to married life, Vera had herself obtained an Hon degree in Physiology at Bedford College, London.

In 1955 he applied to the Post Office at Dollis Hill and secured a job as an Executive Engineer in research. During this period he published a thesis and was awarded an MSc.

In 1960 Charles applied for secondment to the International Telecoms Union (ITU), part of the United Nations, where he became a 'Telecoms expert' in Khartoum with direct link to the Sudan Government. The work involved travelling to Saudi Arabia, Sudan and Egypt.

Charles then returned to Post Office Research at Dollis Hill in 1964 as a section leader, becoming head of Switching Technology Division (later BT) in 1969.

In 1971 he relocated with the BT research division's new base at Martlesham, near Ipswich Suffolk and later became Deputy Director of the Research Laboratories, where he was responsible for some 250 graduate/professional staff and 50 or so technical/clerical grades. His team was engaged on R&D work on switching, radio and submarine cable systems.

His work took him around the world including Japan, Australia, Russia, France, Malaysia and the United States.

During this time Charles also took up the post of visiting Professor of Telecommunications at the University of Essex, moving to a full Professorship upon his retirement from BT in 1985.

He also undertook expert witness work in telecommunications disputes, which required overseas trips, including to New Zealand.

He published conference papers together with numerous other technical reports and received a number of awards including two for technical reports; the IEE Fahie Premium (1954) and the IEE Fleming Premium (1963).

His greatest achievement was to be awarded the British Telecom Martlesham Medal in 1984 for services to telecommunications. Among his greatest achievements were:

- Conceiving the idea of using programmable logic in electronic form for telecommunications and progressing the application of what the world now calls microprocessors in telecommunications
- Managing the successful installation between 1964 and 1968 of the Empress exchange in West London - the world's first operational time-division digital switching network
- Establishing important principals in the architecture of switching systems operating under stored program control

- Guiding the development of digital switching systems from inception to commercial production in forms such as the Monarch call connect system, the UDX5 rural telephone exchange, and System X digital concentrators
- Advancing work on the use of digitally recorded speech for a wide range of interactive and recorded voice services. In particular, exploiting the technique in the voice guidance for customers provided in system X exchanges.
- Initiating work on a universal digital transmission system of variable bandwidth to accommodate instantaneous demands from constantly varying sources.

SPORT

Charles enjoyed swimming and playing football and hockey in his younger days, representing the exiles in hockey in Colombo. Later in life he took up golf and belonged to Felixstowe Ferry Golf Club until this was curtailed by a minor stroke in 2006. He always enjoyed watching football, initially live (including when young, seeing Stanley Matthews playing for Blackpool), but had more recently become an armchair viewer.

RETIREMENT

Following his retirement from the University of Essex in 1994 at the age of 68 he continued to have an active interest in many things including; University of the Third Age (U3A), PROBUS, WEA, the Middle East and current energy concerns, frequently writing to local and national newspapers.

He also liked to travel and undertook many cruises and trips with Vera and recently returned from a week in Gloucestershire.

Over the last few years his health deteriorated. His eyesight developed macular degeneration, he developed prostate cancer and he had difficulty walking. Despite this he continued to enjoy the Suffolk countryside and spending time with his family.

He is survived by his wife Vera, sons Graham and Trevor, and grand daughters, Hannah, Laura, Martha and Grace. Donald, his eldest son, died of a brain tumour in 1995, aged 40.