Obituary: Professor Bill Price RONALD BURGE *Tuesday, 16 March 1993*

William Charles Price, physicist and spectroscopist, born Swansea 1 April 1909, Senior Spectroscopist ICI (Billingham Division) 1943-48, Research Associate University of Chicago 1946-47, Reader in Physics London University 1948, Co-editor British Bulletin of Spectroscopy 1950-93, Wheatstone Professor of Physics King's College London 1955-76 (Emeritus), FRS 1959, married 1939 Nest Davies (one son, one daughter), died Orpington Kent 10 March 1993.

BILL PRICE could give a misleading impression on first acquaintance. He might appear diffident, which belied the penetrating and innovative approach he brought to scientific problems. In this respect he had a certain similarity to Charles Wheatstone, the inventor of the electric telegraph, whose name has been attached to the Chair at King's College London to which Price was appointed in 1962.

There is a well-known, possibly apocryphal, story about Wheatstone that he ran away out of fright at the last moment before he was due to give a lecture at the Royal Institution, the lecture then being given by Faraday. Bill Price did not run away before he gave a distinguished lecture at the Royal Institution, but he was certainly more comfortable when he was working at the laboratory bench. This makes a second similarity with Wheatstone. Both men were supreme experimenters, using the materials at hand in new and ingenious ways to achieve new instrumentation driven by new concepts. Price could design new apparatus, construct it with his own hands, including the use of machine tools and scientific glass blowing, and make it work. He had a profound intuition for optical design to achieve new measurements in spectroscopy, and by careful experimental design he ensured the measurements were accurate and would stand the test of time.

Price was a physicist and spectroscopist of international reputation. He was elected a Fellow of the Royal Society at the age of 50. He became Wheatstone Professor and Head of Department of Physics at King's College London in 1962, a post he retained until his retirement in 1976. After this he became an Emeritus Professor of London University, retaining strong links with King's.

Price was an undergraduate at the University of Wales, Swansea, after attending the local grammar school where his father was a teacher. He frequently remembered with glee that, when he was a school prefect, he several times put Dylan Thomas into detention. Following his B Sc degree at Swansea he gained two Ph D degrees, one at the Johns Hopkins University, Baltimore, in 1934 and one at Cambridge University in 1937. He became Prize Fellow of Trinity College, Cambridge, in 1938. During the war years, until 1943, Price undertook research in absorption spectroscopy on the composition of alloys used in German bombers and he determined, from their characteristic spectra, the sources of supply of the aviation fuel from crashed enemy aircraft. He then spent three years at ICI Billingham setting up spectroscopic facilities and one year as a research associate at the University of Chicago carrying out fundamental research in spectroscopy. Then followed his appointment at King's College London in 1948, initially as Reader in Physics.

In his early research, Price was mainly involved with vacuum ultra-violet spectroscopy. This work bore fruit subsequently in the understanding of satellite data concerning the photochemistry and photoionisation of the upper atmosphere, Price was recommended for employment at King's College by Professor Charles Coulson. The then Wheatstone Professor was JT (later Sir John) Randall. Randall was establishing biophysics at King's, involving inter-disciplinary research encompassing physics, chemistry, biology, biochemistry etc, with the intention, among other problems, of considering the structure and function of nucleic acids and proteins.

Price seized the opportunity to broaden his role in harmony with Randall's wishes and began immediately to develop at King's both further fundamental work in the vacuum ultra-violet and also infrared absorption studies which included pioneering measurement on DNA and protein structure. Thus began the strong school of modern spectroscopy covering a wide range of the electromagnetic spectrum which has flourished, and still flourishes, at King's College. Undoubtedly the success of the work stemmed principally from Price's ability as a physicist, but Price was also a charming and friendly man who engendered loyalty not only in his research associates and immediate students but also in the Physics department as a whole.

When Price began infra-red work on DNA he found himself providing crucial structural data, particularly about the orientation of the hydrogen bonds (as we now know) linking the double DNA helix. These data were to be used in association with the X-ray diffraction results of Maurice Wilkins, Rosalind Franklin, Alec Stokes and Raymond Gosling for the determination of the molecular structure. As a

direct consequence of the interpretation of the diffraction data, the double helix for DNA was established and a Nobel prize was awarded to Maurice Wilkins with Crick and Watson from Cambridge. Price died within a few weeks of the 40th anniversary of the papers in Nature which announced the DNA structure.

Price continued work on both ultra-violet and infra-red spectroscopy in parallel at King's until he retired. However, increasingly as time went on Price, for his personal research, concentrated on the ultra-violet. He saw immediately the potential of the new method of ultra-violet photoelectron spectroscopy which he developed rapidly at King's, as did DW Turner, at Imperial College, London. In parallel, Professor K. Siegbahn, in Uppsala, Sweden, was developing X-ray photoelectron spectroscopy, for which he was subsequently awarded a Nobel prize.

Price twice came near to a Nobel prize and published over 150 research papers. He carried out pioneering work in ultra-violet, infra-red and photoelectron spectroscopy. This breadth of coverage of the different branches of spectroscopy is unlikely to be seen again, because he was in at the beginning of and made important contributions to the modern applications of all three approaches. As a consequence Bill Price's knowledge of spectroscopy was encyclopaedic. Price, like Wheatstone, was an intuitive 'hands-on' physicist, who made important contributions to science