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MEMORIAL OF HAROLD EUGENE BUCKLEY

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By the death, after a long illness, of Harold Eugene Buckley on 30th August, 1959, Britain lost one of its outstanding crystallographers. Born on 19th November, 1897, at Bolton, Lancashire, Buckley attended the local primary school and later Bolton Grammar School. During the First World War he served in France initially with the Grenadier Guards and later, on being commissioned, with the Loyal North Lancashire Regiment. On demobilization Buckley entered the Honours School of Chemistry in the University of Manchester, graduated in 1921 and took his master's degree the following year. At this time Sir Henry A. Miers was Vice-Chancellor of the University and it was due largely to his influence that Buckley was attracted to work in the field of crystallography. Buckley was appointed assistant to Miers in 1923 and although his earlier work was primarily concerned with the optical anomalies in a series of isomorphous double tartrates it was apparent that his main interests were in the growth, and the mechanism of growth, of crystals. On Miers' retirement in 1926 Buckley was appointed to a newly established Lectureship in crystallography, an appointment which although loosely associated with the department of physics allowed him the freedom of an independent unit within the Faculty of Science. His absorbing interest in crystal growth was thus able to develop unfettered along the lines which he himself planned. Buckley's attitude to crystallography was from the beginning highly individual and his independent approach, so characteristic of the man himself, was heightened by his conscious intention not to become a mere appendage of the Bragg school of *X*-ray crystallography.

In the thirties his work on the effects of ionic impurities on the growth of crystals was pursued with the greatest vigour and during this period he published in the Zeitschrift für Kristallographie some twenty papers which contain a wealth of detail on the experimental modification of crystal habit. The regularity of publication and the constancy with which his work appeared in the Zeitschrift were typical both of Buckley's zeal and of his fierce independence. His earlier work had been published in the Mineralogical Magazine but shortly, as the result of a disagreement with the editor, the late Dr. L. J. Spencer, he declared and carried out his intention in future to publish elsewhere. There is no doubt that by some of his colleagues Buckley's work was considered to be outmoded by the methods of *X*-ray crystallography. This attitude, however, served

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only to strengthen his resolve to pursue his investigations which at this time were unique among British crystallographers.

It is unlikely that Buckley himself foresaw the magnitude of the interest in crystal growth which developed during the Second World War, or of the great increase in the needs of the telecommunications and electronics industries for large clear crystals of substances with specific physical properties. During the early stages in the development of this new crystal-growing industry Buckley's experience and knowledge was invaluable and the successful beginnings of commercially grown crystals in the United Kingdom were in no small measure a consequence of the readiness with which he shared his knowledge with all who sought his advice. The lack of a comprehensive account of crystal growth and dissolution phenomena in English rendered Buckley's service the more valuable, but the awakened interest in both the experimental and theoretical aspects of the subject emphasized the urgent need for a general textbook. In this field also it was Buckley who filled the breach and his book, Crystal Growth, was published in January, 1951. This work which at the time of publication was the most complete and modern account of the theory and practice of crystal growth is now generally accepted as the standard text in this subject.

Buckley was essentially a researcher but each year he gave a lecture course in crystallography. He was, however, unable to appreciate the extent of the gulf between his knowledge and enthusiasm and that of the undergraduate; consequently few students voluntarily attended his classes and many went away without appreciating either the usefulness or the elegance of crystallographic methods and techniques. To the research student, and to his colleagues, Buckley presented a very different picture for he was always ready to give unlimited time and patience to those who brought their problems to him.

His university recognised Buckley's academic distinction firstly by his appointment to a Senior Lectureship in 1937 and finally to a Readership in 1952. He was elected to Fellowship of the Mineralogical Society of America in 1947. To those who knew him Buckley will be remembered not only for the work he accomplished but also for the manner of its achievement based as it was on his fierce independence, great integrity and complete singleness of purpose.

He leaves a widow and four sons, the two eldest of which he had the the pleasure of seeing graduate in his own university.

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