AUSTIN BURTON EDWARDS
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MEMORIAL OF AUSTIN BURTON EDWARDS

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Austin Burton Edwards Ph.D. (Lond.), D.Sc. (Melb.), D.I.C., M.A.I.M.M., was born in Melbourne in 1909 and educated at the Caulfield Grammar School where he was captain and dux in 1926. In 1927 he commenced a science course at the University of Melbourne, became a University half blue in football and graduated B.Sc. in 1930 with first class honours in Geology. He was awarded the Howitt Natural History Scholarship in Geology and later a Bartlett scholarship and then studied the geology and petrology of the Black Spur area, Healesville. This was the subject of the first of 128 published contributions to geological science with which Dr. Edwards is identified either as sole or joint author. His second paper was a similar study of the Warburton area where the mountainous terrain gave full scope to his enthusiasm and physical strength. These researches gained for him an 1851 Exhibition and enabled him, with the award of a free passage to England, to continue his studies at the Imperial College of Science in London. Here he gained his Colours in athletics during his course of study on the Tertiary volcanic rocks and dykes in South Gippsland and Central Victoria for which he was awarded a Ph.D. in 1934.

He then chose to return to Australia and accepted an appointment as research officer in the Mineragraphic Section of C.S.I.R. which was then housed in, and closely identified with the Geological Department of the University of Melbourne. Thus commenced an association with Dr. F. L. Stillwell which became widely known through reports and publications and which endured, notwithstanding occasional attractive offers from overseas and elsewhere. There followed a series of studies of Australian ores and ore deposits which was extended to the examination of mill products and mill tailings and eventually to smelter products such as mattes, speisses and slags.

His first independent Mineragraphic task was the study of the occurrence of Mn in iron ore of Iron Knob in South Australia. He extended this into a study of the iron ores of the Middleback Ranges. This was the first of a series of studies of iron ores which culminated in the recognition and discovery of the oolitic iron ores in the Northern Territory and Constance Range in Queensland.

At the same time he sustained a keen interest in petrological problems and completed at spare intervals various papers which he had initiated in London, of which the more important were his studies on the Tertiary Volcanic rocks of Central Victoria and the Differentiation of Dolerites

of Tasmania. In 1937 he shared the David Syme Research Prize awarded by the Melbourne University with Professor R. D. Wright. He gained his Doctorate of Science in 1942.

On the retirement of Professor Skeats from the chair of Geology at the University of Melbourne in 1941 he was invited to lecture to the students on Mining Geology, pending the appointment of a lecturer in Economic Geology. These lectures, which continued till 1953, aroused his interest in Victorian coal and a series of papers on Wonthaggi and Victorian brown coals originated which eventually elevated him to a position of authority on brown coal and resulted in a request from the State Electricity Commission to act as geological consultant for them. He was given permission by C.S.I.R.O. to accede to the request and the fees for consulting were, by arrangement with C.S.I.R.O., allocated for the purchase of equipment for the Mineragraphic Section.

In 1946 a special post-graduate course was provided by the Geological Department of the University of Melbourne for eight Indian graduates. Dr. Edwards contributed to this course a series of lectures on mineragraphy and ore textures. These lectures provided the basis for his book entitled "Textures of Ore Minerals" which was published by the Australasian Institute of Mining and Metallurgy in 1947. This publication met with world wide success and a demand for it in mining schools and universities quickly exhausted the first edition. Dr. Edwards then prepared a new and enlarged edition which appeared in 1954 and has been followed by a reprinting in 1960. Ore minerals and their textures was the subject chosen by Dr. Edwards for the Clarke Memorial Lecture which he was invited to give to the Royal Society of New South Wales in 1952. The last honour received by him was the award of the Clarke Memorial Medal of the Royal Society of New South Wales in 1960.

In preparation for the Fifth Empire Mining and Metallurgical Congress in Australia in 1953 Dr. Edwards initiated a symposium on the Geology of Australian Ore Deposits. It was organised by a committee appointed by the Australasian Institute of Mining and Metallurgy with Dr. Edwards as chairman. The result was a volume comprising 135 articles contributed by the leading geologists in the Commonwealth which were edited by Dr. Edwards with the gaps filled in with his own editorial contributions. Consequent on this work Dr. Edwards served as assistant editor of the Proceedings of the Institute until his departure overseas.

In 1953 Dr. Edwards became Officer-in-Charge of the Mineragraphic Section when Dr. Stillwell reached the retiring age. The Section had moved out of the Geology building of the University in 1949 for new quarters in an adjacent building shared with the Commonwealth Department of External Affairs and the University Appointments Board. When

the Commonwealth Department of Migrant Education vacated this building for larger premises Dr. Edwards was able to acquire further space to accommodate his increased staff and equipment.

Gradually over the years the scope of work undertaken by the Mineragraphic Section widened and in addition to the study of ores, igneous rocks and coal Dr. Edwards made contributions to sedimentary petrology, geochemistry, meteorites and geomorphology. The sedimentary petrology commenced with a study, jointly with G. Baker, of the Jurassic arkoses in Victoria and continued when the Mineragraphic Section was requested to examine the Mesozoic and Tertiary sediments of the Aure Trough, Purari Valley and the Wahgi Valley in Papua. His interest in geochemistry arose in the last few years from studies of the selenium content in sulphide deposits and the distribution of cadmium, manganese and iron in Broken Hill sphalerites. His descriptions of meteorites were a natural extension of his mineragraphic work, while his interest in geomorphology absorbed him during his vacations.

From 1953 onwards he was a member of the Council of the Australasian Institute of Mining and Metallurgy and, since 1949, a member of the Council of Caulfield Grammar School. His early interest in football was revived in later years when he accepted office as Vice-President of the University Football Club and coached the University Third football team for six years.

Honours that came to him from overseas included a Corresponding Fellowship of the Edinburgh Geological Society, nomination as Observer for 1958/61 for the Commission on Geochemistry of the International Union of Pure and Applied Chemistry, and election as a Foreign Member of the Mineralogical Society of India.

His overseas tour in 1960 to the mining fields in Europe and the centres of mineralogical research had been carefully planned even to the extent of acquiring some acquaintance with spoken Italian. He left with his wife on August 25th and travelled by air to Athens and after visiting some mines in Greece he moved on to Italy. His Italian tour was nearly completed when he collapsed and died in hospital in Rome. He was buried in the Protestant cemetery in Rome. He is survived by his wife, three daughters and a son.

With his death Australian geological science suffers the loss of an outstanding, unusually versatile and highly productive scientist whose clear thinking and rapid grasp of a problem was a constant help and guide to all associated with him. The loss of so brilliant and energetic a scholar at the height of his career is most keenly felt, both throughout Australia and overseas.

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