



OBITUARY

Dr Eric Duckworth OBE FIMM FInstP FREng
Mathematical Metallurgist, Pioneer of Industrial Operational Research.

Duckworth's first book 'A Guide to Operational Research' was the first description of the industrial use of OR techniques developed during World War II. It was an instant success welcomed by the universities then introducing courses into their curricula and was translated into French, Spanish, Portuguese and Japanese. It inspired many students to take up the discipline including the two professors who helped Duckworth to bring the book up to date in 1977

Working at the Glacier Metal Co after graduating from Cambridge in an atmosphere of continuous innovation under Wilfred (later Lord) Brown Duckworth went on to develop statistical control techniques which helped one factory to triple its production. His second book 'Statistical Techniques in Technological Research' (1968) described, in laymen's language, the many methods of rigorous experiment design becoming widely used and which helped Glacier become a leader in the field of plain bearings.

As Assistant Director of the British Iron and Steel Research Association which he joined in 1960 he, with many others, showed how the production of steels with improved properties could fight off the competition from concrete which had been surrendered after steel rationing in 1935. In particular his Metallurgy Division was foremost in the progress towards the high strength low alloy steels used in most modern cars. For this, and other work, he received his PhD in 1968 from Cambridge, one of the first under the new regulations for external degrees.

With a colleague, Geoff Hoyle, he pioneered the electro-slag refining method used to purify the very high strength steels use for aircraft undercarriages etc. from the inclusions which could cause their premature failure by metal fatigue. Their joint book on the subject, written in 1968 while Duckworth was recovering in hospital from a near fatal car accident, remains the major work on the subject to this day.

Head hunted by the board of the Fulmer Research Institute, then the only commercial contract research company in the UK, in 1969 he transformed it from a mainly government supported institute in Stoke Poges with a turnover of £300,000 to an international organisation with sales of over £6 million, three sites in the UK and joint operations in USA, Singapore and South Africa.

In the 1980s contract research became recognised as the way forward for many Research Associations and others and Duckworth helped to forge what is now the Association of Independent Research and Technology Organisations (AIRTO) and was its president twice. He edited the book on Contract Research (1991) following a major international conference

In 1975 he was president of the Institution of Metallurgists and secured its Royal Charter. He was elected to the Royal Academy of Engineering in 1980, appointed OBE in 1991 on his retirement. He received honorary doctorates from Brunel and Surrey. He served on many committees promoting innovation and engineering and was a trustee of the Comino Foundation from 1981 until his death.