

John Graham Ramsay CBE FRS (1931 – 2021)

John Graham Ramsay, formerly Professor of Geology and Head of the then Department of Earth Sciences, University of Leeds, died aged 90 on 12th January, 2021, in Zurich, Switzerland, after a long illness. With his passing, an era in Structural Geology ended, such was his influence.

John Ramsay was born in 1931 in London and graduated from Imperial College in 1952, followed by a Ph.D. at Imperial in 1954. His doctoral studies on the stratigraphy of the Moine rocks at Loch Monar, Scotland, led him to unravel for the first time the deformation history of these complexly deformed and multiply folded rocks. Following compulsory military service as a musician in the Corps of the Royal Engineers, he returned in 1957 to a teaching position at Imperial College, where in 1966 he became Professor of Structural Geology. In 1973, he was appointed Professor and Head of the then Department of Earth Sciences, University of Leeds. In the same year, he was elected Fellow of the Royal Society. Although remaining at Leeds for only three years, he laid the foundations for the resurgence in Structural Geology by creating one of the strongest groups in the UK, which continued after he had left. In 1976 he was appointed as a Professor of Geology at the Eidgenössische Technische Hochschule (ETH) and University of Zürich, Switzerland, where he remained until his retirement, becoming Professor Emeritus in both institutions. In 1985 he was elected to the National Academy of Sciences, USA, and in the following year he received the Wollaston Medal of the Geological Society of London, its highest honour. Amongst his other awards were the Bigsby Medal of the Geological Society of London in 1973 and in 1992 the Arthur Holmes Medal and Honorary Membership of the European Geosciences Union, one of the most prestigious EGU awards. Then, also in 1992, he was named a Commander of the Most Excellent Order of the British Empire in the Queen's Honours list.

To many, John Ramsay re-invented Structural Geology in 1967 with the publication of his seminal book, *Folding and Fracturing of Rocks*, subsequently revised in the three volumes of *The Techniques of Modern Structural Geology*. Indeed, whilst his publication record is relatively modest in modern terms, and most of it is pre-millennium in age, its impact still influences Structural Geology in particular and geosciences in general. He brought to Structural Geology a rigorous mathematical treatment, especially of strain, essentially upgrading what had largely been a qualitative, descriptive discipline. His work on shear zones underpinned modern understanding of localised deformation in the lithosphere, which many others have taken forward. However, it is probably fair to say that he was not especially focussed on the tectonic significance of his work; for him, it was all about the beauty of structures at outcrops – illuminated through the mathematical description of the deformation they record. To promote the study of Structural Geology, in 1971 he co-founded the Tectonic Studies Group of the United Kingdom and Ireland, affiliated to the Geological Society of London, which celebrated its 50th birthday only a few days before his death. The highest award of the TSG is the Ramsay Medal.

John Ramsay was first and foremost, and remained, a field structural geologist, continuing to do structural geology research work until the end of his life. In spite of his theoretical knowledge, he firmly believed that structures observed in naturally deformed rocks were key to the understanding of tectonic processes. He was also a polymath, publishing poetry and especially musical



John Ramsay pictured in 2011 on his 80th birthday meeting fieldtrip field trip in the Alps (photograph, Richard D. Law).

compositions (Chamber Music). The latter featured his talent as a cellist, recognised during his military service, and continued throughout his geological career and retirement in Isirac, France, where he also taught cello. In addition, he was an accomplished artist, a skill that he exploited in his field maps and publication figures; it is a humbling experience to view his original field maps of Loch Monar, which are simultaneously original scientific documents and works of art.

John Ramsay's contribution to Structural Geology was immense. He dedicated his life to the subject and we are all the better for that dedication and influence; many of us would not be Structural Geologists without him.

Geoffrey E. Lloyd, Robert J. Knipe and Simon H. Bottrell, School of Earth and Environment, University of Leeds, with contributions from Robert W.H. Butler (Aberdeen University, formerly Professor, University of Leeds) and Richard D. Law (Virginia Tech., USA, formerly Post-Doctoral Research Fellow, University of Leeds).