

## **ADAM CUMMING McLEAN**

Adam McLean died on 13th March 1983. His enormous contributions to the Society and to the University of Glasgow will be remembered by many with gratitude and affection.

Adam was trained as a geologist but worked in applied geophysics with a feeling for scale and accuracy characteristic of a physicist. This combination gave him a powerful ability to see a realistic role for geophysical studies of geological problems. His enthusiasms for Scotland and particularly the West led him to apply himself to local problems, but always with a general question in mind. He pioneered detailed gravity surveys in the Midland Valley, demonstrating the association of sag synclines with displacements on bounding faults. The regional gravity field was shown to be higher than over adjacent areas: this was interpreted as a thin Midland Valley crust or a rise below the Midland Valley of a dense lower crustal layer. Twelve years later, and at much greater expense, seismological work confirmed the latter interpretation. He then moved to sea and from gravity measurements on the floor of the Firth of Clyde he discovered two Palaeozoic basins either side of Arran. From the pattern of gravity and magnetic fields he suggested that the Highland Boundary Fault does not extend beyond Arran but is replaced en echelon by a fault to the south, probably linked with the Dusk Water Fault in Ayrshire. He brought other geophysicists and techniques to bear on those problems while continuing with gravity work. The Hebridean area was studied at sea and on land in an attempt to understand the inter-relationships of a Caledonide framework and later sedimentary basins and Tertiary centres. This was a big nettle to grasp and only now are we beginning to recognise the reactivation of old thrusts as normal faults in basin formation. Meanwhile, nearer home, a big gravity anomaly was discovered as the likely remains of a magma chamber underneath the Campsies and from which their lavas were erupted, and Adam also grappled with models of a nebulous, dense and magnetised rock mass under the Central Coalfield syncline. He welcomed the chance to bring new techniques to bear on geological problems: for example he supervised finite element stress analysis of Tertiary igneous activity which explained the pattern of dyke swarms in western Scotland.

To all this work he brought a fine ability to get people working together – colleagues and students in the Department, collaborators in the Institute of Geological Sciences and crews of research vessels. His perseverance in difficult conditions – at sea with a broken ankle and land- lubber's tummy, for example – was an outstanding example to others.

Over a score of research students in geophysics benefited from Adam's help and guidance. Where his keenly critical faculty sometimes stifled research projects which he or others had initially thought plausible, it bore rich fruit when combined with his painstaking editing of student writing in promoting their geophysical training. It was typical of Adam to take so much time over this – he really cared for students in an involved, practical way which endeared him to postgraduates, and undergraduates too. As a teacher he was so thorough and clear in his presentation that sometimes students would be lulled into a false sense of understanding, to be revealed as error in later projects, but always carefully corrected in his comments. He had a particular interest in the teaching of geology to civil engineering students. The distillation of many years' experience is to be found in a text-book "Geology for civil engineers". It may have surprised Adam, but not others, that the book of which he was co-author has become a standard teaching text in many universities and in many countries. As well as being a Senior Adviser of Studies, he was a member the University Appointments Committee and worked very hard with the Careers Office and external employers in finding jobs for students. Many members of staff also gained from his sound counsel and encouragement. He had a rare facility for rapid analysis and for then presenting people with what he saw as the obvious options from which to attempt solutions to their

problems, he was cautious of criticism but intolerant of misused authority and would, rarely, bubble over with indignation as he fought the cause of the injured. He put his help for others before self-advancement: a model of altruism. He also had a broad view of life and diverse interests, and read avidly. He stimulated debate in a wide range of matters in the Department's common room and, from his Fabian viewpoint, nearly always had an answer - he was departmental lead pundit!

The breadth of his interests, his perception of how scientists and projects could be fitted into a large framework, together with his benevolent attitude in critical appraisal, won many invitations to external examining (especially MSc courses at Leeds and Durham) and committee work in the Royal Society and Natural Environmental Research Council.

Adam's keen sense of professional responsibility credited the Geological Society of Glasgow with a large measure of support over many years. He was an editor of the Transactions of the Society from 1959; a founder editor of the Scottish Journal of Geology begun in 1965; President of the Society during 1967-70 and at various times Vice President or Council Member. These bald facts do scant justice to uncountable contributions in all aspects of the Society's affairs and while I remember especially those velvet-gloved questions posed to visiting speakers on wintry Thursday evenings, others no doubt would recall his interest in the "amateur" membership often expressed by his company on summer field excursions.

Adam Cumming McLean was born in Ayr on 19th December 1926. He was educated at Ayr Academy and graduated with First Class Honours in Geology at the University of Glasgow in 1948. He joined the Royal Dutch/Shell Group of oil companies and worked as a seismologist in Venezuela and the Netherlands. He returned to the University in 1954 to take up a Lectureship and was promoted to Senior Lecturer in 1962.

Adam will be sorely missed by us all. To Beatrice, an associate member of the Society, and to Colin, Eileen and Alan, we extend our condolences.

**J.H.**

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