

ROBERT MACKENZIE

Robert Cameron Mackenzie was born on the farm of Western Seafield, Tarbat, some 30 miles northeast of Inverness, northern Scotland, on 7 May 1920. He was educated at Tarbat Old Public School and then at the Tain Royal Academy. From there he proceeded to the University of Edinburgh where he graduated with a First Class Honours degree in Chemistry in 1942. Robert was awarded a PhD at the same university in 1944 for studies in gas-phase reaction kinetics, and then began his long and productive association with the Macaulay Institute for Soil Research in Aberdeen.

Robert's early work at the Macaulay Institute was concerned with laboratory studies of clays, especially their pre-treatment for identification ion by X-ray diffraction. In 1948, he set up a separate section to deal specifically with physico-chemical investigations of soils and, when several laboratory sections were amalgamated in 1959 to form a Department of Pedology, he was appointed Head - a position he retained until his retirement from the Macaulay in 1983. In recognition of his original contributions to clay mineralogy, Robert was awarded a DSc degree from the University of Edinburgh in 1957.

Robert has been associated with many developments in the methodology of laboratory investigations, not least in thermal analysis. When at an early stage in his career at the Macaulay Institute the opportunity arose to assess the research potential of differential thermal analysis, he took up the challenge with enthusiasm. Much of his early work formed the background to the monograph *The Differential Thermal Investigation of Clays*, published by the UK Mineralogical Society in 1957, of which he was the editor. Although Robert was later to edit an extended work on DTA for Academic Press (volumes 1 and 2 published in 1970 and 1972), this monograph long remained one of the main reference books on thermal analysis, and the 1995 accounts of the Mineralogical Society show that copies are still being sold nearly 40 years on. Robert's methodical filing and assessment of DTA results at the Macaulay Institute also formed the basis of the SCIFAX punched-card data index published by Cleaver-Hume Press in 1965. In addition to these major contributions to the science of thermal analysis, his publication list contains well over 130 scientific papers and review articles on clays and thermal analysis, the two main themes of Robert's outstanding career. Productivity did not cease with retirement, as evidenced by the series of papers which appeared in the late 1980s and early 1990s with different collaborators on the interaction of clays with calcite on heating.

His achievements in these two fields have led to widespread national and international recognition. Robert is a Fellow both of the Royal Society of Chemistry and the Royal Society of Edinburgh. He received the first Mettler Award in 1968, the Netzsch-GEFTA Award in 1982 and the ICTA-DuPont Award in 1985. A tribute of particular personal satisfaction was the receipt of the 15th SAC Gold Medal, awarded by the Analytical Division of the Royal Society of Chemistry, in 1980. Other distinctions include the award of 'Archiginnasio' of the city of Bologna during the International Clay Conference there in 1981, the Emanuel Boricky Medal from the Faculty of Science, Charles University, Prague, during a European Clay Groups' meeting in 1983 (to add to the Sixth Centenary Medal presented to him in 1981), and appointments as the first Distinguished Member of the UK Clay Minerals Group in 1983 and the first Honorary Member of the International Confederation for Thermal Analysis (ICTA) in 1988. Robert's scientific reputation, coupled with that of the Macaulay Institute itself, led to a large number of visits from scientists overseas, both of a passing nature and for longer periods of attachment and for collaborative research. He was also in demand for lecture tours and advisory visits, and held Visiting Professorships at the Universities of Cairo, Riyadh and Jordan.

However, it is perhaps through his work for ICTA (now ICTAC) that Robert has become best known to the international thermal analysis community, having been associated with this organization since its inception in 1965 at the first International Conference on Thermal Analysis at Aberdeen (of which he was the joint organizer) and its subsequent formal establishment in 1968. Robert was Treasurer 1965-1980, Chairman of the Nomenclature Committee 1965-1982, and Secretary of the Standardization Committee 1966-1972. He has also actively participated in the work of the Publications Committee, being Editor-in-Chief and subsequently Managing Editor of both ICTAC News and Thermal Analysis Abstracts. What is quite remarkable is that this long and valued service to ICTAC has been carried out in parallel with equally devoted work for other bodies associated with thermal analysis and clays. Robert was the first Chairman of the Thermal Methods Group of the Royal Society of Chemistry (1965-1967), remaining on this committee as a coopted member until 1994, where his knowledge of precedents and eagle-eye for typographical errors in the minutes of meetings was utilized to the full. He was Chairman of the Nomenclature Committee of the Association Internationale pour l'Etude des Argiles (AIPEA) from 1958 to 1966 and was its President from 1978 to 1981. Robert also served as Secretary (1949-1956) and Chairman (1972-1975) of the Clay Minerals Group, and as Editor of the Group's journal, *Clay Minerals Bulletin*, from 1959 to 1964 (and he is still a member of the Editorial Board of its successor *Clay Minerals*). He has been involved in the organization of many international conferences - often as convenor of the scientific programme - where his efficient and diplomatic approach has been a notable asset. Robert's flair for languages, based on a traditional grounding in Latin, has also been invaluable for enlarging and consolidating his international contacts and furthering his scientific work,

notably his correspondence with colleagues from Russia in the early days of thermal analysis. Robert's knowledge of Latin has also been useful in another of his major interests, the histories of thermal analysis and clay mineralogy, where he has made many contributions over the years, the most recent being a paper on the development of ICTAC for the Proceedings of the 10th ICTA Congress in 1992.

Robert's varied national and international activities, coupled with his approachability and constant willingness to advise on all aspects of his science, have resulted in a tremendous number of friends throughout the world. For some time after retirement he continued to renew these friendships by conference attendance and also through his love for travel, for instance driving annually on holiday with Hilda from Aberdeen to Positano in Italy - a matter of a mere 1600 miles each way. Sadly, Robert has been seen much less frequently at meetings recently as his health and Hilda's are increasingly confining them to Aberdeen.

Robert, your presence at scientific meetings is sorely missed, and the contributors to this volume acknowledge not only your major contribution to thermal analysis and the geosciences but also, for many of us, your formative influence on our careers in thermal analysis. It is with pleasure that we dedicate this volume to you.

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