

OBITUARY FOR JOSEPH V. SMITH



Joseph Victor Smith died of pneumonia at the Beth Israel Medical Centre in Boston on 6 April 2007, at the age of 78. He was born on 30 July 1928 and raised on a hill farm in the Peak District of Derbyshire in the north of England. With the encouragement of his mother and uncle, both teachers at a school not noted for its academic successes, Joe won an open scholarship to Cambridge where he obtained a first-class honours degree in physics. After post-graduate work on the crystallography of calcium silico-carbonate minerals, he spent some time at the Geophysical Laboratory in Washington where he was

influenced by W.S. Mackenzie (who, Joe said, gave him his lifelong interest in feldspars), Hat Yoder and Felix Chayes. After a brief return to Cambridge, Joe went to Penn State where he began work in earnest on feldspars and also became involved, via his consultancy with the Union Carbide Corporation, in zeolites – the molecular sieves that have proved so successful in improving the yield of gasoline from oil and producing phosphate-free detergents. He moved to the University of Chicago in 1960, becoming a full professor at the early age of 32.

One of his early achievements in Chicago was the building of one of the first operating electron microprobes. In those early days, there was considerable scepticism as to whether such probes would ever deliver meaningful results, but its routine use these days is a legacy of a few imaginative pioneers, one of whom was Joe. He was concerned not just with the numbers obtained but also with what they meant; for example, he noted the low Ca concentrations in mantle olivine, due to high pressures, compared with the higher amounts in its volcanic equivalent. In 1965, Joe started the Short Courses in Mineralogy, run in conjunction with the annual meetings of the Geological Society of America. These, and the accompanying Reviews in Mineralogy, published by the Mineralogical Society of America (the first 40 being edited by Paul Ribbe), continue to the present day with the added involvement of the Geochemical Society. In 1969 Joe became a Principal Investigator in the Apollo Programme, which led him to another interest: planetary geology and mineralogy. As if this were not enough, in the early 1970s he became involved in research on upper mantle mineralogy. His later interests included threats to mankind from meteorite collisions with the Earth and global conflict, but these went hand-in-hand with his fundamental interest in new technology and what it could do for mineralogy and crystallography. He became interested in the role of mineral surfaces in the origin of life, a subject on which he wrote an article for *Elements* (Volume 1, issue 3). He was involved with Bob Clayton in setting up the ion probe at the Enrico Fermi Laboratory at the University of Chicago. Another major achievement was when he organised a multi-institutional, multi-disciplinary group of scientists and founded the Consortium for Advanced Radiation Sources to use the Advanced Photon Source at the Argonne National Laboratory. His research has resulted in over 400 publications in most of the major journals and includes his three encyclopaedic books on feldspars.

Among the many honours he received for this work were his election to the fellowship of the Royal Society of London and the National Academy of Sciences, and the award of the prestigious Roebling Medal of the Mineralogical Society of America and the Murchison Medal of the Geological Society of London.

So much for Smith the scientist. What of Smith the man? He was one of the most multi-faceted men I have met. Intensely curious, he was interested in literature, art and music; one of the pleasures of visiting Chicago in the autumn was the weekly trips downtown with Joe and Brenda to hear concerts of the Chicago Symphony Orchestra. He was



Joe and Brenda Smith collecting weathered feldspars at Shap in the north of England in 2000

also a prodigious reader, and not only of the scientific literature. He lived life intensely and, being an extremely dedicated and well-organised man, he was sometimes held by students to be a hard taskmaster. Those who knew him better recognised that this was only because he took it for granted that students and collaborators should be prepared to work as hard as he did himself. I can say personally that his rigorous working to deadlines was good for our collaboration. Even off duty, Joe's unbridled energy meant that he could hardly relax completely and, in the early days when the Derbyshire farm was still in family hands, he returned to England each summer, not only to show his daughters the rural and architectural heritage of Britain, but also to help his father and his brother with the hay making. He was very loyal to family and friends. In later years, he and Brenda spent weekends at their lovely home on the shore of Lake Michigan in the Indiana Dunes Park, where they took great pleasure in entertaining friends from many parts of the world – but there were always jobs like installing a new rain-butt and fence-making to be done.

With his passing, the mineralogical community has lost one of its most productive and influential members. All the same, I like to imagine Joe is up there building another probe, just to find out what the Pearly Gates are really made from!

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