

## Obituary

### Sir Frederick Henry Stewart, 1916–2001



Born in Aberdeen in 1916, Sir Frederick Stewart ('Fred') died in Oban on the 9<sup>th</sup> of December 2001. After schooling at Fettes College and Robert Gordon's College, he read Geology at Aberdeen University. Postgraduate research at Cambridge on the petrology of the Belhelvie gabbros, Aberdeenshire, led to his PhD in 1941. Subsequently he was employed as a mineralogist with ICI research laboratories at Billingham-on-Tees. There, instructed to examine rock cores after an unsuccessful attempt to drill for oil at Eskdale, Yorkshire, he found mineralogical fascination in the Permian evaporites. This led to the identification of the first significant quantities of K-bearing chlorides in the UK, a discovery of strategic importance in wartime Britain. Appointed Lecturer in Geology at Durham University in 1943, he went on to publish a series of papers on the English Permian evaporites. The contrasts and parallels that he recognized between the progressive crystallization of cooling basaltic magma and evaporating seawater provided considerable intellectual stimulation. Fred described over eighty

mineral species from the evaporites and, in 1953 he received the Mineralogical Society of America Award. At the presentation of the award, W.T. Schaller noted that Fred's researches were of such excellent quality that they constituted 'an outstanding contribution within the fields of the Society'. In 1954 he published a comparison of the Permian evaporites of Texas and New Mexico with those of northern England. The evaporite research culminated in a U.S. Geological Survey Professional Paper on Marine Evaporites in 1963. Evaporites did not, however, monopolize Fred's mineralogical interests: for example, apart from continued research on the Belhelvie gabbro cumulates, he also gave a first description of sulphatic cancrinite from the Borolan syenites. A close friendship with Lawrence Wager stemming from their time together at Durham University, led to an enthusiasm for renewed work in the Scottish Tertiary Volcanic Districts and involvement with the Skye granophyres.

Fred was appointed to the Regius Chair of Geology and Mineralogy in the University of Edinburgh in 1956, from which he retired in 1982.

He was elected a Fellow of the Royal Society of Edinburgh in 1961 and of the Royal Society of London in 1964. As Regius Professor of Geology, Fred Stewart set about building up the Grant Institute of Geology in Edinburgh. He rapidly tripled the size of this university department and, by the mid 1960s, received enough funding to build and equip an experimental petrological unit (the first of its kind in Europe). The high-temperature and high-pressure laboratories were capable of examining the behaviour of rocks formed in the Earth's mantle. The unit was chosen by NASA for the analysis of Apollo 11 and subsequent lunar samples. In 1965 Fred became Dean of the Faculty of Science, overseeing the birth of Science Studies, Geophysics, Microbiology, the development of Integrated Biology and Engineering Science as well as the siting of the new Institute of Geological Sciences (now the British Geological Survey offices) adjacent to the university science campus.

In 1967, while still Dean he was appointed a member of the Council for Scientific Policy and, for the next twelve years, he spent much of his time in London. Fred Stewart became Chairman of the Natural Environment Research Council in 1971 and became involved in the emotional separation of the Nature Conservancy from the NERC. In 1973 he was made a member of the Advisory Board of Research Councils and, a year later, Chairman of the Board. In that capacity he was responsible for advising the Secretary of the

Department of Education and Science on science policy including the funding of the ARC, MRC, NERC, SERC, SSRC, the British Museum (Natural History) and the Royal Society. Fred was Chairman of sub-committees on post-graduate support, the dual-support system and energy research and was heavily involved in modifying the excesses of the Rothschild Report. Recognition of his services came with conferment of a knighthood in 1974 and honorary degrees from five universities.

Fred Stewart retired in 1982 to live with his wife, Mary, at Loch Awe in Argyll. He was a keen fisherman and had a great love for the Scottish hills. Despite elevation to high office he remained, as ever, an enthusiastic field-man and collector. His splendid collection of minerals and fossils (notably of zeolites from Skye and Devonian fish fossils from Caithness) has been bequeathed by Mary to the Royal Museum of Scotland in Edinburgh.

Fred Stewart's successful career may be attributed to a remarkable combination of high intelligence, patience, charm and incisiveness. He was a delightful companion and will be remembered with love and affection by many, including his former students and colleagues. Fred Stewart married Mary Rainbow in 1945. Mary, writing under the name Mary Stewart, is a celebrated novelist and survives him.

B. G. J. UPTON