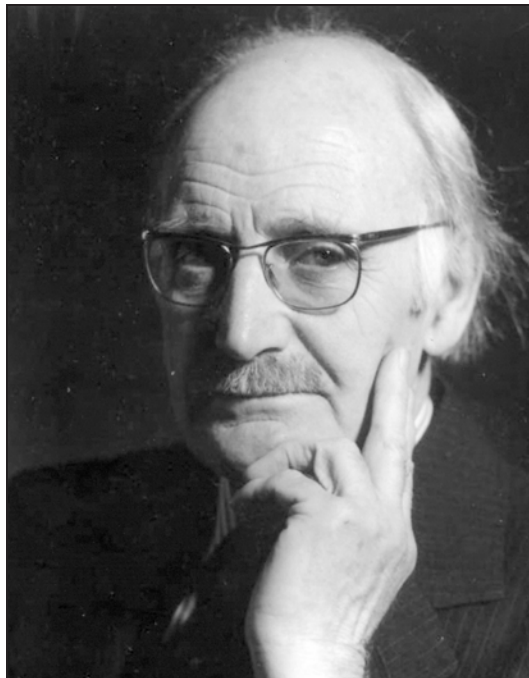


Obituary

WILLIAM ALEXANDER DEER 1910–2009



Alex Deer was born into a world of empires soon to be torn apart. His earliest memory was of the sun blotting out as the sinister bulk of a zeppelin passed over on its bombing run into the Mersey docks. Home was in Rusholme, a working class suburb of Manchester, where he was brought up in a strictly Baptist family. If he was later to abandon the more ascetic features of his upbringing, he retained for life the self discipline and sense of duty it instilled.

An avid reader from an early age, in his mid-teens he came across in the local library a copy of Darwin's *Origin of Species*. Reading this through seems to have been his epiphany, determining his ambition to become a natural scientist. His was hardly a privileged family, but with an excellent state school education, and scholarship aid, he was able to graduate from Manchester University and start his first research project, on the diorites of Glen Tilt – pushing his bike from Rusholme to

the field area and lodging with a gamekeeper's family. His first stroke of luck came on applying for a Strathcona scholarship to Cambridge. The admissions tutor at St. John's College, James Wordie (the geologist on Shackleton's 1914 expedition and Elephant Island castaway) spotted and supported the application; so in 1934 Alex came to Cambridge as a Johnian and one of the first research students in C.E. Tilley's newly assembled Department of Mineralogy and Petrology.

L.R. Wager now enters the story. Although only four years older than Alex, Laurence was already a seasoned explorer, on Shipton's 1933 expedition the highest attainer up Everest, and the veteran of two Greenland expeditions. On Gino Watkins' British Arctic Air Route Expedition (BAARE) of 1930, Wager had discovered what we now know as the Skaergaard intrusion (with its remarkable igneous layering briefly mistaken

to be the Devonian sandstone sequence); he was eager to return to conduct a serious study, and after consulting in Cambridge, chose Alex as collaborator. An overwintering expedition was planned. Funds had to be raised in the old way, bit by bit, by begging letters to wealthy well-wishers, provisions coming *gratis* from manufacturers in exchange for advertisement. The problem of transport was solved through a friendship forged by Wager on BAARE: the wealthy August Courtauld chartered the ship *Quest* to take the party, his *quid pro quo* being participation in the Wager-led first ascent of Greenland's highest mountain, the 12,200ft peak now known as Gunnbjørns Fjeld.

Alex first cut his Arctic teeth laying food dumps over the climbing party's 90-mile approach route and then at Skaergaard organizing erection of two prefabricated huts against the coming winter. The overwintering party, with Alex, comprised Wager and his botanist brother with their wives, the doctor and mountaineer E. Fountaine, and zoological collector P. Chambers. Two families of Inuit hunters tutored them in survival skills, keeping the party in fresh meat and providing and caring for the dogs. Throughout their 14-month stay, Wager was to keep up a cracking pace of investigation; for efficient field working, Alex had rapidly to become a proficient skier, rock-climber and handler of dog teams. First priority was given to the detailed examination of the Skaergaard intrusion and to mapping as much of Kangerdlussuag as could be reached by short journeys during finer weather.

At other times, thin sectioning, mineral separations and microscopic work were done in the confined conditions of the base. Routes up the glaciers into the hinterland were explored and dumps laid in anticipation of longer sledging explorations for the spring. These were carried out in two parties, one led by Alex, with Fountaine, travelled up on to the ice cap around the head of Kangerdlussuag, naming the Triangular Nunataks and the Hutchinson Plateau before continuing through the mountain region west of the fjord. This trip narrowly escaped disaster after a critical supply dump concealed by an unseasonably heavy snowfall was missed and the famished huskies refused to pull. Only Alex's desperate langlauf dash to the next dump and return with pemmican restored their motive power. Wager's relentless drive and Alex's enthusiastic support led to the expedition's remarkable achievement in

producing a geological survey of some 35,000 km² of difficult country, some small parts in detail. It is a tribute to Alex's character that after a year in that unforgiving environment, he returned from the Arctic a firm friend with his famously perfectionist and exacting leader.

With his PhD completed in 1937, Alex's Skaergaard laboratory study continued unabated at Manchester in his position as Assistant Lecturer; however, award of a Senior 1851 Exhibition enabled return to Cambridge where in 1939 he was elected a Research Fellow of St. John's College. The results of his collaboration with Wager, published in the summer of 1939 as *The Petrology of the Skaergaard Intrusion*, is a monumental classic of 20th Century petrology, the careful integration of meticulous field observing with top rate laboratory investigation setting standards previously unmatched. Although the work strongly supported N.L. Bowen's experimentally derived ideas of igneous liquid evolution by crystal settling, Wager and Deer deduced a trend of iron enrichment in later Skaergaard liquids rather than the silica increase required by Bowen's theory of granite derivation from basaltic magma. Although their arguments have been contested on the grounds that the rocks they analysed represented cumulate aggregates, not liquids, their main carefully argued conclusion that most granitoid bodies must have formed from crustal material by melting or contamination – largely passed over at the time – attunes closely with modern concepts.

In all things, timing is of the essence. The outbreak of war, only months after publication, blunted the impact of the Skaergaard memoir and put Alex's research career on abrupt hold. As a University teacher he was in a reserved occupation and initially joined a small cell of Cambridge scientists engaged in rather Laputan inventions for winning the war. Soon dissatisfied with this ethereal activity, he accepted a commission in the Chemical Warfare Section of the Royal Engineers, undergoing the demanding induction of a gas officer at Porton Down which included personal exposure to all of the battlefield gases of WW1. Transfer in 1941 to the Operations Staff took him to the Middle East with the British force protecting vital oil installations and while stationed at Isfedeh found himself tasked with organizing at short notice the local manufacture of 200,000 pairs of skis in anticipation of a winter war against a German thrust through the Caucasus! Stalingrad ending that threat, Alex

was posted to Bombay for the organization of a new Indian Corps and in early 1944 was thrown with it into the desperate and bloody battle of Kohima which finally denied the Japanese their fiercely fought entry to India. Seconded to Mountbatten's Staff in Ceylon for planning the projected invasion of Japan, he travelled widely in wartime Australia, and it was only after the Japanese collapse that he was able to return to Britain – as a Lieutenant Colonel, and to a desk in Whitehall.

Alex could have remained at the War Office with a peacetime commission but preferred to return to Cambridge. His stipend as a University Demonstrator was only a quarter of his military income. Now with a family to support, he moonlighted as junior bursar (later tutor) of St. John's College, gaining some note as an energetic moderniser of the rather primitive facilities in that ancient institution.

In 1950 Alex accepted election to the Chair of Geology at Manchester. The previous incumbent had spent much of his time in external consulting and at Alex's induction the Vice-Chancellor remarked "I hope, Deer, we'll see more of you than we did of your predecessor." In fact Alex regarded consulting as incompatible with his University duties. (He did, however, feel obliged to act when asked, as expert witness for the Manchester Municipality.) The 1950's was a period of rapid University expansion and Alex made full use of the zeitgeist in the building of a top-rate Department. Support by the Langworthy Professor of Physics, P.M.S. Blackett, in gaining University funding was important in realizing Alex's plans and illustrates the esteem in which he was held. The hydrothermal laboratory run by W.S. McKenzie, the first high-pressure experimental facility in Britain, added greatly to the growing reputation of the Department. During this period Alex, noting the lack of a modern compendium of mineral data for petrological use, conceived the idea which with the collaboration of colleagues Bob Howie and Jack Zussman grew into the monumental *Rock-Forming Minerals* (DHZ), the indispensable resource of petrologists for more than a half century.

The retirement in 1961 of C.E. Tilley from the Chair of Mineralogy and Petrology brought Alex back to Cambridge. The department which he inherited had attained a position of high repute under its old leader but its cutting edge research was sustained in spite of infrastructure barely changed over 30 years of depression, war, and

austerity. Alex's way with bureaucracy soon had funds flowing but also drew him inexorably into higher administration. Appointed to the General Board of the University, he chaired its committee on future development, orchestrating the far-reaching recommendation (the *Deer Report*) that building expansion should be directed to the west of the city – a prospect strongly opposed at the time. Alex also now became deeply immersed in the planning for a return expedition to Greenland.

Following the monumental 1935–9 Skaergaard project, Wager and Deer had considered extending their study to the layered intrusions described by Ussing on the much more accessible west coast. After the war the Danes decided to keep this work for themselves, but Alex in 1948 did mount a mini-expedition to explore the possibility of related intrusions on the Greenland-facing coast of Baffin Island. As assistant he took his pupil Chris Brasher, later Olympic medallist and founder of the London marathon. Alex later confessed that he had nearly rejected the eager but spare young man, as promising insufficient stamina for the enterprise!

Meantime the slow laboratory progress on Skaergaard material had pointed the need for further field clarification and now in 1953 with public funds more freely available, Wager and Deer were able to make a summer return with a combined Oxford and Manchester party. A decade later, planning began for a much more ambitious expedition. Funding was secured from NERC and an Alesund sealer chartered for transport. The death of Wager in November 1965, however, left Alex with the sole responsibility for organizing this Oxford and Cambridge expedition which he duly led during the following summer. Unusually favourable ice conditions enabled completion of mapping of all the intrusions in the Kangerdlugssuaq area. A major object was the investigation of the 'Hidden Zone' at the base of the Skaergaard intrusion. A drill rig was set up at the lowest exposed part of the body and the two-man drilling team recovered 380 m of core before the drill bit jammed irretrievably in broken rock. With this unsatisfactory conclusion the project was thought to be a failure, and immediate laboratory study of the core was concentrated on purely mineralogical aspects. Subsequently it has become clear that the floor of the intrusion had in fact been reached; the vast hidden zone estimated by Wager and Deer does not exist. The drilled material under active investigation is today yielding detailed insight

into the pulsed chamber filling and crystallization of this celebrated body.

On his return from Greenland, Alex was inducted as Master of Trinity Hall where he presided over an extensive building programme. In 1971 he assumed Cambridge University governance as Vice Chancellor, serving at a difficult time of student unrest. In this period he also served on the Council of NERC, was chairman of its Grants Committee (1966–71), and a Trustee of the British Museum (Natural History) from 1967. Three spells of service on the Council of the Mineralogical Society culminated in election as President for 1967–70. During his subsequent Presidency of the Geological Society, he instituted the ‘President’s Evening’ which has evolved into the current annual President’s Day fest. That Society awarded him its Murchison Fund (1945) and Medal (1974). Other distinctions include Fellowship of the Royal Society (1962) and Honorary DSc, Aberdeen University, 1978. An ultimate mineralogist’s accolade was accorded when Alex’s old friend from the 30’s, Stuart Agrell, named Deerite from the Laytonville blueschist quarry. A typical Agrellian touch was the simultaneous naming of Howieite and Zussmanite to celebrate the fellow stalwarts of

Rock-Forming Minerals. DHZ, indeed, was to occupy much of Alex’s time after retirement in 1977. The 1962 1st edition of five volumes, replaced serially from 1978 by a greatly expanded 2nd edition, is now an Encyclopaedia of 11 volumes. Until well into his 91st. year, Alex was a familiar figure in the Departmental library, tirelessly working his share of the opus.

During his distinguished career, Alex Deer moved freely in the circles of the great, yet remained always a private man of simple tastes. Family life was important. With Margaret Kidd, whom he married in 1938, he had three children – David, Stephen and Diana. After Margaret’s death in 1971, he married Rita Tagg. As a young man, Alex had shown talent with the violin; for several years in retirement he lived at Aldebrough in Britten country and at a ripe age he became a competent performer on the bassoon. He took pleasure also in visual arts, valuing particularly the talented paintings of his daughter and his wife. In later years confined to his Cambridge flat by physical infirmity, he maintained a vivid interest in outside affairs, remaining a cheerful and convivial companion with formidable recall and acuity to the last.

GRAHAM CHINNER