

## Wallace Spencer Pitcher

Wallace Pitcher, (or Wally, as he was generally known), who died in the Wirral on 4 September 2004, was born in London on 3 March 1919, and became the leading and most distinguished British expert on granites, their emplacement mechanisms, the geology of Donegal and the Donegal granites, and, with John Cobbing, the geology of the Peruvian batholith. He was elected an Honorary FRSE in 1993. A full account of his life will be found in a special Pitcher issue on granites in the *Transactions of the Royal Society of Edinburgh: Earth Sciences* and also in the *Proceedings of the Geologists' Association*, **117**, 311-319 (2006).

His childhood was spent in Acton, west London. He showed an early interest in fossils, collecting his first London Clay fossil by the age of 10 and, by his early twenties, he was an amateur expert on the Tertiary fauna of the London Clay. At 17, a post as an apprentice assayer for George T. Holloway & Co. gave him a training in chemical analysis. Concurrently, he enrolled as a part-time student for a degree in chemistry and geology, which combined his main interests, at Chelsea College, London. However, the Second World War interrupted these studies and he entered the army. Because he had given his profession as a 'chemist,' this was misunderstood as a 'pharmacist' and he spent the next five years as a medical orderly in the Royal Army Medical Corps. Because of a leg injury he worked in the Pathological Laboratory. He gained promotion to a sergeant, but was invalided out of the Army in 1944, and in 1945, aged 26, with a grant to study full-time, he returned to complete his degree at Chelsea. He graduated in 1947.

In 1947, Professor H. H. Read FRS of Imperial College (IC) was seeking to fill a Demonstratorship in Geology with someone able to cope with teaching their somewhat boisterous, and at times, belligerent, ex-servicemen students, while also wanting someone who would work with him in studying the origin of the granites of Donegal. Read, a petrologist, was world famous for his trenchant views on the origin of granite by transformation of metamorphic rocks into granite by element movements (granitisation) rather than being derived as a magmatic rock. Read needed a chemical geologist to be able to elucidate the granitisation process. The analysis of silicate rocks was a slow and skilled job that required much chemical practice to obtain reliable results, so Wally's experience was wanted. Robert M. Shackleton, who was already working in Donegal, showed Read that the mapping of the Donegal Granite by the Geological Survey of Ireland in the 19<sup>th</sup> Century had revealed an apparent succession of metamorphic rocks enclosed by, and gradually disappearing into, the (Main) Donegal Granite, possibly being transformed into granite. Read appointed Wally and was his supervisor, but Wally was left to choose his own PhD area in Donegal, albeit with the guidance and approval of Shackleton. So, during the Easter break in 1948, accompanied by Stella Scutt, whom Wally had married in August 1947, he first went to Donegal with Shackleton, and started a major 25 year programme of research into the geology of Donegal and its numerous granites. Eventually, dozens of researchers, many but not all from IC, would become involved.

Wally held the post of Demonstrator for one year (1947-48), an Assistant Lectureship for two (1948-50), and then a Lectureship in Geology at IC for five years (1950-55). He was a meticulous teacher, very well-liked by his students as he went to great trouble to prepare his lectures, practicals and field trips carefully. He continued his involvement with the Geologists' Association and led many day excursions on the geology of London and its surroundings.

His own PhD (1951), on Thorr Granodiorite, marked the beginning of a flood of accounts dealing with the Donegal project and was rapidly followed by his 1953 study of the Rosses Granitic Ring Complex. In order to understand the emplacement of the Donegal Granites, and their influence on their envelopes, structural and metamorphic, it was early appreciated that the metamorphic country rocks had to be mapped in detail, as well as the granites. This, plus the generally magnificent rock exposure, enabled detailed interpretation. Read was by now approaching retirement and had heavy administrative duties and so Wally effectively ran the Donegal project. Later, the new results obtained from the detailed mapping in Donegal, combined with new work from Connemara and Scotland, enabled the first correlation of the whole Dalradian sequence from Scotland to Connemara to be completed.

Wally enjoyed field work and he established great rapport with the people of Donegal. The kindly homesteaders would invite him into their small cottages (often still thatched, without electricity or running water and quite unlike their modern replacements), for tea and 'craic', usually tea, boiled eggs and soda-bread with animated conversation.

To prove Read's view of the granitisation origin of some or all of the granites, it was necessary to have chemical analyses of the granites and of the country rocks and of their intermediates that were supposedly part way to being chemically changed into granite. Wally was the first in the UK to set up rapid methods of silicate analysis involving colorimetric and flame photometric methods, which markedly increased the speed of completion of rock analyses. Ironically, as the Donegal work progressed it became apparent that virtually all the Donegal granites had been intruded as magmas with no granitisation and it fell to Wally's diplomatic skills to persuade the strongly

dogmatic Read that the results of the project had been to demonstrate the opposite of his often expressed and firmly-held views! The summary of the Donegal results appeared in 1972 in the great book whose title reflected what had been found, not what had been looked for: *The Geology of Donegal; a study of granite emplacement and unroofing* (Pitcher & Berger 1972), together with the most detailed geological map of Donegal ever produced. This confirmed Wally's stature as the leading British expert on granites and their emplacement.

In 1955 Wally moved to King's College London as Reader in Geology, and then in 1962 to the George Herdman Chair of Geology in the University of Liverpool, where he remained until after his retirement in 1981. From Liverpool, Wally initiated a major study of the Peruvian batholith, involving arduous field work, again with a number of other researchers, but in particular with Dr John Cobbing, of the now-named British Geological Survey. The field work was carried out at high altitudes, often under extreme heat, using tents, horses, walking and Land Rovers in an arid region (the opposite of Donegal!), with very primitive facilities, which was not easy for a man approaching 60. The topography enabled the three-dimensional shape of the tops of some of the constituent plutons to be observed in a way not possible in Donegal. This study of a supra-subduction zone batholith related to the Pacific margin generated many papers culminating in a 1985 book: *Magmatism at a Plate Edge: the Peruvian Andes*.

Wally gradually became the leading British, and an internationally regarded, geological statesman on granites. With the Circum-Pacific Plutonism Project, he travelled the world examining granites of different types and ages.

Wally was a big man physically, but a calm, generally unruffled, hard-working, rather ponderous-speaking, impeccably-mannered, gentlemanly-type. Despite the substantial administrative load of running one of the biggest Geology Departments in the country, he gave major service to the geological profession in a variety of ways. He became a member and then Chairman of the NERC Geological Sciences Research Grants Committee, serving from 1974 to 1981. He was President of Section C of the 1979 British Association Meeting, but most of all he was significantly responsible for extricating the Geological Society from the 1960s mess that threatened the Society's existence. Wally then became a Secretary (1970-3), Foreign Secretary (1974-5), and then President (1977-8). This was a very heavy commitment with the numerous meetings involved, as return between London and the Wirral involved a minimum of 9 hours travel. He also kept the Society from falling apart as successive Specialist Groups were formed and instead it became the 'umbrella' under which many groups clustered. He received the Lyell Fund in 1956, the Bigsby Medal in 1963, and the Murchison Medal in 1979, from the Geological Society.

Wally was a founder member and Aberconway Medallist (1983) of the Institution of Geologists. He was a life-long member of the Mineralogical Society, which he joined in 1949, and of the Geologists' Association from 1942, eventually (1973) becoming an Honorary Member. He was a Fellow of the Institution of Mining and Metallurgy. He was the recipient of many honours, being an Honorary Fellow of the Geological Society of America (1982), Honorary MRSA (1977), Honorary FRSE (1993) and apart from an earned DSc (London 1964), held Honorary DSc degrees from Dublin (1983) and Paris-Sud (1993). He was awarded the Silver Medal of the Liverpool Geological Society (1964) and the University Medal of Helsinki in 1986.

Wally was Head of the Geology Department in Liverpool from 1962 to 1978. As the financial cuts of the '70s began to affect student field work, staffing and research, running the Department became a much more burdensome matter, requiring strategic and manipulative administration quite unlike the traditional Professorial priority of research and teaching. Wally did not like or excel at this and running the Department did not give the satisfaction it had previously. The calls to represent the Department extra-murally brought much reflected glory to it, but clashed directly with the need to be on the ground, bean counting, and he resigned as Head of Department in 1978. Wally volunteered for formal early retirement in 1981 at age 62 and obtained a Leverhulme Emeritus Fellowship (1981-3) to write up the Peruvian work.

After this Wally, working from home, and helped by his wife, combined his enormous knowledge and experience of granites and of the published literature on granites, to produce another major book, *The Nature and Origin of Granite* (1993). This went into a second edition in 1997 when he was no less than 78, a considerable achievement. He remained active in research, especially over Donegal geology, and attending the Liverpool Geological Society's meetings, right to the end. He was a courteous, hard-working, productive, kindly and modest man who would have been the first to deny charismatic brilliance, but whom many remember with great affection.

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