

Janet Vida Watson, FRS: an appreciation

In May 2009, the lecture theatre at the Geological Society is being named after the late Professor Janet Watson and the purpose of this appreciation is to summarize the debt that the Society and the geosciences community at large owes to this influential geologist. Professor Janet Watson's untimely death in 1985 at the age of 61 brought to an end a distinguished career in the Earth sciences. Her contribution is to be measured not only by the number and range of her own published work, impressive though that is, but also by that of the many postgraduate students whom she guided and who themselves have made their mark on the Earth sciences, and by what she gave to our scientific community in various unrecorded ways such as invited talks to student societies, where she was very much in demand, and, in her quiet and unassuming way, in conversations and discussions with colleagues.

Janet was the daughter of the famous palaeontologist and fish specialist, D. M. S. Watson, FRS. After graduating at Reading University in 1943, she went to Imperial College to study under Professor H. H. Read, who set her the task, along with John Sutton, subsequently to become her husband, of studying the migmatites of the Lewisian. Read himself was a very influential, albeit controversial, figure at that time, who expounded the hypothesis of granitization as a means of transforming sedimentary rocks into granitic gneisses and ultimately into granites. The migmatites of the Lewisian and Moine of Sutherland seemed obvious venues in which these ideas could be tested. There then followed the PhD work on the Lewisian of Scourie and Torridon, which resulted in Sutton and Watson's famous 1951 paper that explained the Lewisian in terms of two 'orogenies', Scourian and Laxfordian, separated by the intrusion of the 'anorogenic' Scourie dyke swarm. Their attempt to use igneous episodes as stratigraphic markers to subdivide the vast swathes of geological time represented by Precambrian basement complexes was a model for much subsequent work. As to the role that granitization played in the formation of the ubiquitous Lewisian gneisses, Sutton's view that the gneisses of Torridon were granitized sediments did not survive the geochemical advances of the 1960s but, interestingly, Watson's position on the Scourie gneisses seems to have been rather more cautious! The following passage from her part of the 1951 paper is typical: 'As regards the pre-metamorphic nature of the acid group [of gneisses] little can be said. The banded gneisses, which must have formed the country rock of the basic and ultrabasic intrusions, could, before the charnockite-forming episode, have been igneous rocks, migmatites or a sedimentary series'; and later: 'the matter must be left open until further work has been carried out'!

These early research activities were followed by a series of papers with John Sutton on various other metamorphic complexes, including those of the Moine, the Dalradian, Tanzania and the Channel Islands. Her work spanned a wide range of themes, and she was the ideal person to study basement complexes in that her interests included sediments, igneous bodies, metamorphism and structure, and she had the ability to integrate information from all these disciplines. She and John Sutton supported and encouraged Vic McGregor and his Greenland work for many years. Much of her later work was carried out with colleagues from the Geological Survey and focused on geochemistry and ore genesis.

One of her numerous PhD students, Rick Sibson, remembers her ability to ask fundamental questions over many areas but often focused in one way or another on her favourite theme: 'Was the Precambrian different?' Another was her prescience; once when asked 'What's next?' her answer was 'I think I'll take another look at the Old Red Sandstone'; she was thinking about post-orogenic collapse long before it became fashionable. Rick valued her gentle encouragement for postgraduates to 'follow their nose' and develop their own lines of thinking, especially important when he was becoming interested in palaeo-earthquakes and had wandered far from the general Lewisian theme of her Outer Isles project. He also recalls her enormous enthusiasm for fieldwork, 'swimming' through North Uist heather and peat-bog like an enthusiastic spaniel.

During the late 1960s when Janet Watson was already a well-known authority, and had recently been awarded the Bigsby Medal by the Society, she still held the post of Research Assistant at Imperial College. This caused the writer some embarrassment when he attempted to secure her appointment as External Examiner for one of his postgraduate students. The University authorities initially said that they could not possibly appoint someone who was 'only' a research assistant, but when shown a copy of the Bigsby Medal citation, they relented! The Bigsby Medal was followed in 1973 with the Lyell Medal, and in 1980 she received the Clough Medal from the Edinburgh Geological Society. She was elected a Fellow of the Royal Society of London in 1979 and served as President of the Geological Society in 1982–1984. Her time as President overlapped with the writer's own spell as Honorary Secretary, when he came to appreciate her calm and reasoned approach to her duties, and the respect in which she was held by all.

Some of Janet Watson's most influential contributions stemmed from her ability to synthesize volumes of information and distil it in a readily understandable form. She employed this gift to good effect in various reviews of the Lewisian, notably the Lewisian chapter in the 1983 edition of *Geology of Scotland*, and in her revision of H. H. Read's *Introduction to Geology*. It is always difficult, in assessing joint publications, to determine the extent of the contributions of each of the authors, and so many of Janet Watson's were jointly authored, particularly those with John Sutton in the early years. However, I believe that her own lucid style of writing comes across in many of these, suggesting that her contribution to the writing was important. Reading her solo-authored works gives a flavour of that style. For example, one of her last published papers was the account in the *Journal of the Geological Society* of 1985 of her 1984 Presidential address to the Society. Titled 'Northern Scotland as an Atlantic–North Sea divide', the concluding paragraphs are a model of clarity: 'The Palaeogene uplift of the Highlands, coming as it did after a long period of apparent stability, records a significant event. The possibility that it was a transient effect of thermal expansion associated with the preceding igneous activity seems unlikely because the high-level stance has been maintained (apart from oscillations connected with glaciation) for 40–50 Ma. The coincidence of uplift both with the separation of Europe from Greenland and with the Tertiary phases of basin inversion in and around Southern

Britain points to shifts in plate motions as the most likely cause.'

So what of her legacy? Her published work of course speaks for itself, but in this writer's opinion, her most important gift to the scientific community is the succession of research students who, guided and inspired by her, swarmed over the Lewisian rocks of the Outer Hebrides and northern Scottish mainland, and

who are now to be found all over the world occupying senior positions in universities and industry. They are her true legacy. It is a fitting tribute to name the Geological Society's lecture room in her memory, and I can think of no-one who better deserves that honour.

Graham Park
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