Obituary

Dorothy Hill (1907–97)

Geologist with a passion for ancient corals, and the first woman to reach the pinnacles of Australian science

Dorothy Hill, who died on 24 April aged 89, maintained a remarkable association with the University of Queensland, in her native Brisbane, over a period of 70 years — in turn as student, teacher, administrator and benefactor. The scientific world will remember her as the twentieth century's authority on Palaeozoic corals; Australia will remember her as the country's most acclaimed woman scientist of her era.

As a first-year undergraduate she was influenced towards geology by the teaching of Professor H. C. Richards, who became her mentor. She chose to pursue palaeontology in particular because it was an acceptable profession for a woman in Australia in the 1920s, because there was work to be done and because it did not require expensive equipment. Her passion for corals came, not from the nearby Great Barrier Reef, but from a holiday encounter with a small Lower Carboniferous reef in the Wide Bay district of Queensland. In 1930 she won a scholarship to Cambridge University, and during the next seven years studied the Carboniferous corals of Scotland and Queensland and, more importantly, undertook an original review of coral morphology.

Coupled with a prodigious taxonomic and biostratigraphic evaluation of Australian fossil coral faunas during the period 1937–42, this work established Dorothy Hill as the pre-eminent worker in the field. Her research with W. H. Bryan on spherulitic crystallization in hexacorals

pioneered study of coral microstructure, which she introduced as a classification tool that remains widely used today; and her *Re-interpretation of the Australian Palaeozoic Record, Based on a Study of the Rugose Corals* of 1943 significantly advanced Australian stratigraphy, settling some long-standing disagreements on the ages of various strata.

After four years' war service as an officer in the Women's Royal Australian Naval Service, during which she worked on codes and cyphers, Dorothy Hill was invited by Ray Moore to contribute to the Anglo-American *Treatise on Invertebrate Paleontology*; this would occupy her for the next ten years and yielded the first comprehensive understanding of the Coelenterata. Concurrently, the Shell company began oil exploration in Queensland. Hill considered the Bowen Basin to be a good bet and began, with several postgraduate students, a study of the Permian brachiopods to establish a much-needed stratigraphy. Recognizing a lack of co-ordinated geological information for most of Queensland, together with Commonwealth and state geological surveys she became personally involved in fieldwork across the state to complete the reconnaissance mapping at 1:250,000; she also set out to compile a 40-mile-to-the-inch geological map and, with Alan Denmead, the chief government geologist, a volume on the geology of Queensland. These last two projects greatly influenced Australian geology, and resulted in a huge increase in mineral exploration activity for which Dorothy Hill helped train a stream of able young geologists.

Richards, her early mentor, had become president of the Great Barrier Reef Committee, and in 1946 he invited her to be the secretary of this body. In a 1942 paper, they had together described and interpreted two bores through the reef, and Richards had pushed strongly for a field station to be established on the reef at Heron Island. After his death in 1947, Dorothy Hill demonstrated her practical and administrative skills in supervising the erection and equipping of the station, which is still a major centre for reef research.

In the early 1960s she began a study of the extinct Cambrian phylum, *Archaeocyatha*, publishing on large Antarctic collections made by the British Trans-Antarctic Expedition and, in 1972, producing an authoritative and comprehensive volume on the group for the *Treatise on Invertebrate Paleontology*. During the early 1970s she began revision of Palaeozoic corals, of which known genera had doubled in 20 years mainly

from work in the Soviet Union and China. Her two revised volumes of the coral *Treatise* (1981) are not merely a compilation of the work of others, but the distillation of 50 years of her own intellectual enquiry. This zenith of her scientific achievements will remain the definitive treatment for some time.

As with so many people who lived through the Great Depression, Dorothy Hill found waste repugnant. Her students learned how to use a minimum of words and to fit the maximum number of specimens into a plate of fossil illustrations. She had no time for those who merely collected fossils, or even went further and studied and described them but did not contribute this knowledge to the literature. She set out to assemble a base of accurate knowledge for future generations to build on and she expected her students to share that aim.

In her own words Dorothy Hill was not a women's liberationist in the militant sense, believing that it is better to achieve by example rather than by force. What an example she set! She was the first woman to graduate from the University of Queensland with a gold medal, the highest accolade for an undergraduate; first woman president of the Royal Society of Queensland, 1949; first woman professor at an Australian university, 1959; first woman fellow of the Australian Academy of Science, 1956; first (and only) woman president of the Australian Academy of Science, 1970; first woman elected president of a professorial board at an Australian university, 1971; and first Australian woman fellow of the Royal Society, 1965. These 'firsts' are but a sprinkling of the many honours bestowed on her by government, scientific and cultural organizations in recognition of a career of sustained brilliance that was dedicated to science and public service.

Dorothy Hill lived a rich but quiet life, taking her greatest pleasure from overcoming intellectual challenges. Always gracious and patient, she had a ready wit and got on well with colleagues and students who in turn responded with commitment and loyalty. She rarely sought publicity and her name is not well known even in Australia. However, among scientists, the scale of her contributions is more widely understood — she inspired generations of them and encouraged many women into scientific careers. Her place among Australia's most eminent sons and daughters is assured.

Peter A. Jell

Peter A. Jell is at the Queensland Museum, PO Box 3300, South Brisbane, Queensland 4101, Australia.