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## MEMORIAL OF DOROTHY CARROLL

April 7, 1907-January 30, 1970

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It was in the early summer of 1952 that many of us in the Washington area became acquainted with Dorothy Carroll. The Geochemistry and Petrology Branch of the U. S. Geological Survey was establishing a sedimentary petrology laboratory. Several of us assisted in selecting



DOROTHY CARROLL

equipment for the new laboratory and it was then we learned that the laboratory would be headed by Dorothy Carroll who, for the year just prior, had been a Research Fellow from Australia at Bryn Mawr College. My personal introduction to Dorothy came very soon afterward when my Branch Chief gave me a specific assignment; namely, to find the way whereby Dorothy, as an alien, could become an employee of the U. S. Government and assume this position for which she had noteworthy qualifications. As I was then in the midst of my own arrangements to attend the International Geological Congress in Algiers

and to participate in a long field excursion, I was not overly eager to take on an additional task, particularly one that I did not know exactly how to tackle. But Dorothy was optimistic and together

we set forth. In the next few days we discovered many things about immigration, and fortunately, we also learned that she was eligible to be an exchange research scientist from Australia for a period of one year with no need for some other scientist to go to Australia to complete the "exchange".

Once established in the new laboratory quarters at the Agricultural Research Center in Beltsville, Maryland, outside of Washington, Dorothy organized the laboratory personnel and work in typical non-sense fashion, inaugurated procedures for examining the variety of sedimentary materials that began to arrive, and initiated a series of reports. Her chief complaint then, as later, was about the lengthy process of conveying manuscripts through the editing channels. Dorothy was in the habit of doing things promptly and getting them done and over with, and it bothered her that others did not operate on a like schedule.

The following year, in the fall of 1953, Dorothy suggested our sharing a house. It was during our year's sojourn in the house that I learned of the simply enormous amount of energy that Dorothy could draw on continuously. After a full day of laboratory work she would come home, scan the daily paper briefly, have dinner, and then devote the evening to professional writing in the quiet of her room. On Saturday mornings she could never quite understand my sleeping as late as nine or ten o'clock and then "wasting time" over a leisurely breakfast. By that time she had finished her weekly laundry, washed her car, cleaned her room, and done half a dozen other household chores. But she resented the intrusion of these duties into time she wanted to devote to professional writing, and as she preferred to do the writing at home rather than use laboratory time, she decided to return to living in an apartment by herself.

In 1954 Dorothy planned to visit Europe and then immigrate to the United States on quota. She had intended to do this in 1953 and had even applied for an immigrant visa, but when other things intervened she had remained an exchange scientist for a second year. In July she went off to Europe, attended the International Sedimentological Congress, and then went on to London preparatory to returning only to find that she was far down on the list of British citizens awaiting entry visas. Weeks passed with no perceptible advance up the list. Her office worried that she would run short of funds; Dorothy only worried that she was not getting any work done! But she was not at a loss for long. Well acquainted in London where she had done her graduate work, she soon learned that H. B. Milner was working on a new edition of his book *Sedimentary Petrography*. When he

learned of her situation, she soon found herself responsible for and happily at work on two chapters, one of which was the hundred-page chapter on *Clay Minerals*. Not long afterward, the Department of State realized that her 1953 visa application was still valid; up she shot to the top of the list and in less than a week was back home. Three years later, having completed the residence and other requirements, she became an American citizen.

These recollections by Marjorie Hooker of Dorothy in the midst of her career point out several of her outstanding characteristics; her drive, energy, impatience to get things done, as well as her competence as a scientist. But all of this might be expected if we look at her earlier life.

Dorothy was born June 7, 1907 in Western Australia. She was the eldest of four children and a second-generation Australian. Her mother's family was from England and her father's of Scotch-Irish background. Her father was the local manager of a stock company and his area was practically the entire southwest corner of Western Australia. The family lived by the sea in a large house and there was plenty of room for stables for horses and cows, and for dogs, cats, and other pets. Much of the family life centered around agricultural shows, stock sales, and outdoor life.

Dorothy was brought up in what she described as a very "Victorian" manner with great stress on education, good manners, a sense of duty, and a love of books, painting, and music. Whatever she undertook had to be done as perfectly as possible, and she firmly believed that anyone could accomplish what he set out to do if he tried hard enough. She also believed that a woman could do as well, if not better, than a man.

After obtaining a science scholarship to the University of Western Australia, Dorothy had to take her first degree in arts, majoring in zoology, because her high school had been unaware of the mathematics entrance requirement. After entering the Science Faculty, geology became her main interest, and she was one of the earliest women to obtain an Honors Degree. This led to a scholarship to complete her doctoral work at the University of London in the Imperial College, and in 1936 she became the first woman from Western Australia to obtain a Ph. D. in geology.

Dorothy returned to Australia and lectured at the University of Western Australia until 1941 when she joined the Government Chemical Laboratories of Western Australia as a mineralogist, and remained there until after World War II. During these years she found time for many extra-curricular activities—Secretary of the University Red

Cross, Secretary of the Women's College Fund Committee, which resulted in the founding of St. Catherine's University in Western Australia, and driving an ambulance for the St. John's Ambulance Service.

After the exhausting years of the war, she had an urge to move on (this was rather typical, for she believed that if you weren't moving forward you were going backward) and accepted a position as Secretary to the Linnean Society of New South Wales in Sydney and also held a lectureship at the University of Sydney. Several years later, she accepted the research fellowship at Bryn Mawr College, which was to give her the opportunity to explore chemical-geological relationships in sediments and soils, an aspect that her earlier work had not touched on as it dealt primarily with mechanical analysis. She found Bryn Mawr an interesting experience, but was rather horrified at the attitude of many of the American undergraduate girls of putting in time until marriage, an attitude that she had not previously encountered in the Australian and English universities.

In 1958 when the space occupied by the Sedimentary Petrology Laboratory reverted to the Department of Agriculture, the laboratory was moved to the Geological Survey quarters in Denver, Colorado, but Dorothy chose to relinquish her position as its head and remain in Washington. She then began working on laboratory methods for disposal of radioactive waste and ion exchange problems. In 1963, she moved to the Survey quarters in Menlo Park, California to set up a laboratory for the examination and study of marine sediments, and when the laboratory was discontinued in 1967, she continued research in clay mineralogy there.

Even though dedicated to her research, Dorothy was by no means oblivious to other interests and activities. She was an excellent cook but she gave one the feeling that she considered it more or less a waste of time; she could knit a sweater quickly; she did beautiful needlework; she liked traveling and meeting new people, made friends easily, enjoyed helping various projects, and was most generous with her time for others. After moving to California, she learned to play the recorder although her talents were certainly not in that direction and it was hard on her neighbors and friends. Along with this new interest, she had a small garden and joined a garden club which gave her a great deal of pleasure. Wherever she lived, Dorothy took an active part in church affairs and in California, she belonged to the Menlo Park Presbyterian Church.

Normally a robust, healthy individual, Dorothy had a most trying experience her last year in Washington which was finally correctly diagnosed as a cyst on the cerebellum and which was successfully

operated. She was not one to give into illness or be incapacitated by it and her recovery must have been more than half due to sheer force of will. It is regrettable that she could not have conquered her final illness—cancer—by the same means.

Dorothy's extensive bibliography reflects the chronologic development of her career and by itself speaks for her scientific accomplishments.<sup>1</sup> She was a Fellow of the Geological Society of America and the Mineralogical Society of America and a member of numerous other scientific organizations including the Geochemical Society, Clay Minerals Society, Society of Economic Paleontologists and Mineralogists, Soil Science Society, Mineralogical Society (London), and Association Internationale pour l'Etude des Argiles.

<sup>1</sup>To obtain a copy of a bibliography of her writings, order NAPS Document Number 01711 from National Auxiliary Publications Service of the A.S.I.S., c/o CCM Information Corporation, 866 Third Avenue, New York, N. Y. 10022; remitting, in advance \$2.00 for microfiche or \$5.00 for photocopies, payable to CCMIC-NAPS.

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## MEMORIAL OF HANS CARL EISENREICH CLAUSEN

May 11, 1898–June 4, 1971

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Hans Carl Eisenreich Clausen died in Copenhagen on June 4th, 1971. He was born on May 11th, 1898 in Frederikssund, Denmark. He studied mineralogy and crystallography at the University of Copenhagen under Professor O. B. Bøggild and acquired his M.Sc. in 1924. After study visits to Norway (to V. M. Goldschmidt) and to Sweden he was appointed to the staff of the Mineralogical Museum of the University of Copenhagen, and from 1948 until his retirement he also held the post of lecturer in mineralogy and geology at the University. In the twenties he established an X-ray laboratory at the museum and initiated studies of clay minerals and feldspars, but gave it up; the ground was not yet prepared for such advanced