

Memorial to Esther Richards Applin 1895-1972

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The death of Esther Richards Applin on July 23, 1972, was a tremendous loss to the geological profession in general and to micropaleontology in particular. As one of the pioneers of the biostratigraphic application of microfossils in the oil industry, Esther's ability to recognize faunal zones and make accurate correlations on the basis of the microfauna convinced her skeptical colleagues, as well as oil company managers, of the practicality of applied paleontology; it also helped to found a new profession. Her interest in and devotion to this profession contributed to a long and happy life for her and a solid foundation of careful research for stratigraphic paleontology.

Esther was born in Newark, Ohio, on November 24, 1895, the daughter of Gary F. and Jennie DeVore Richards. Her father was a civil engineer, and the family lived in Newark and other cities in Ohio, including Columbus and Massillon. They then moved to Fort Des Moines, Iowa, in the early 1900s when her father was employed by the Quartermaster Corps of the U.S. Army to construct the buildings at Fort Des Moines. In 1907, the year after the San Francisco earthquake, her father was transferred to California to direct the erection of the prison on Alcatraz Island, and from 1907 to 1920 Esther's home was on the island, from which she commuted by ferry to attend Girls' High School in San Francisco and later the University of California at Berkeley. She graduated with honors in paleontology in 1919 and spent that summer working as a paleontologist for the Rio Bravo Oil Company in Houston, Texas. In the fall of 1919 she returned to Berkeley and in 1920 was awarded an M.A. degree in paleontology, geology, and physiography.

Esther's professional career as a micropaleontologist really began in 1920, when she was hired by E. T. Dumble, vice-president and general manager of the Rio Bravo Oil Company, to take charge of the company's paleontological laboratory in Houston and carry on investigations of fossils present in samples recovered from oil wells drilled in the Gulf Coast. By then it had become apparent that the macrofossils which she had studied at Berkeley were too badly broken in well cuttings to be identifiable as to species, so she turned her attention to the microfossils, especially the Foraminifera. At that time the literature on the forams was not extensive, and little was available in Houston, so Esther had to devise methods of separating microfossils from cuttings, mounting them for study, and tentatively identifying them before determining faunal associations and ranges. She worked closely with her friends, Alva Ellisor and Hedwig

Kniker, on making microfossils useful in subsurface stratigraphy and correlation, and together the three girls helped to launch the field of applied micropaleontology.

In 1923, in Houston, Texas, Esther Richards married Paul L. Applin, a young geologist who had been educated at Dartmouth and Yale, and so began a life of both professional and domestic partnership. Esther continued working for the Rio Bravo Oil Company until 1927, when the Applins moved to Fort Worth. During this period in Houston, she also worked on a contract basis for several other oil companies in Houston and in Mexico, but found time in 1926 to serve on the committee which organized the Paleontology Section of the American Association of Petroleum Geologists; this section later became the Society of Economic Paleontologists and Mineralogists (SEPM). Last but not least, in 1926 her daughter Louise was born, and in 1927 her son Paul, Jr., was born.

In spite of the additions to the Applin family, Esther continued her work as a consulting paleontologist and subsurface geologist in Fort Worth, concentrating her research on the surface and subsurface stratigraphy of the Coastal Plain in Texas, Arkansas, Louisiana, and Florida, with digressions into South Dakota, until 1944. In 1942, she also accepted an appointment as assistant professor of geology at the University of Texas at Austin, a post which she held until 1945.

However, by 1942 she was beginning to devote her attention to the subsurface formations of Florida, so when in 1944 both Paul and Esther Applin had joined the U.S. Geological Survey and moved to Tallahassee, Florida, she was well prepared to study the surface and subsurface paleontology and stratigraphy of the Southeastern States, with special emphasis on the Mesozoic formations. The Applins worked as a team, Esther studying the microfossils and providing the correlations while Paul worked out the regional structure. When the rush to explore for oil in northern Florida subsided and major oil companies began to close their offices in Tallahassee in 1951, the Applins moved to Jackson, Mississippi, with no interruption in their research, and continued to publish definitive papers on the stratigraphy and structure of the Southeastern States. In addition, Esther continued her studies of the Foraminifera and either alone or with others wrote numerous papers about them. She retired in 1962 from the Geological Survey but continued working after retirement.

The above sketchy chronological outline of a long and very full life barely suggests the rich personality that was Esther Richards Applin. In these days of raucous talk about Women's Liberation, Esther stands as an example of a truly "liberated" woman who made an outstanding reputation in a profession dominated then and now by men, before most of the more vocal advocates of "Women's Lib" were born. Not only did she contribute significantly to basic and applied micropaleontology, she also brought up two children with outstanding success. In fact, she had two careers—that of micropaleontologist and stratigrapher, and that of wife, mother, and homemaker—and was superlative at both. To do this required tremendous amounts of energy, which Esther had in abundance. To her family she gave bounteous love, strength of character, and her always bright outlook on life. To her profession she brought a quick, highly intelligent, and inquiring mind. She did not suffer fools gladly, but was always more than willing to contribute her time and fund of knowledge to the earnest but inexperienced student who came to her for help. Her work was also her hobby, and I

suspect that, although grateful for the recognition that came her way, she would have worked just as hard without it.

Esther enjoyed life and had the happy faculty of turning an incident which must have been embarrassing or uncomfortable at the time into an amusing story or interesting anecdote. Her descriptions of logging samples on oil rigs in the early days, when she was the only woman among the crew of drillers and roustabouts, were fascinating, and some of her stories about hotel accommodations in small southern towns were enough to make one wonder about how good the "good old days" really were. Her tale of entering the lobby of the most magnificent hotel in Tuscaloosa with sample bags on her feet because her boots were wet and muddy was typical of her strong sense of practicality and ability to laugh at herself.

Esther was a Fellow of The Geological Society of America, a charter member of the Society of Economic Paleontologists and Mineralogists, and a member of the Mississippi Geological Society. In recognition of her contributions to micropaleontology and Coastal Plain stratigraphy, she was made an honorary member of the Mississippi Geological Society in 1966 and an honorary member of the SEPM in 1971.

In 1960, the Gulf Coast Association of Geological Societies presented her with a plaque in honor of her accomplishments. In the words of her citation, prepared by E. H. Rainwater, "The geological ages and regional correlations of many subsurface formations, which Gulf Coast geologists accept without question, were first established by this eminent paleontologist. . . . It is no exaggeration to state that Mrs. Applin, world renowned, has contributed through publication, teaching, lectures, and stimulating discussion more to the knowledge of Gulf Coast stratigraphy than any other person."

On her retirement from the U.S. Geological Survey in 1962, she received a Citation for Meritorious Service from the U.S. Department of the Interior which noted that, "The data obtained and the conclusions reached in her studies have been applied extensively by many geologists in their search for oil and gas in the Gulf Coast region. Publication of significant regional geologic studies conducted jointly with her husband, Paul L. Applin, immediately preceded the period of maximum successful exploration for oil and gas in the region."

Esther was elected to Phi Mu sorority when she was an undergraduate at the University of California, and she is listed in "Who's Who of American Women" and "American Men and Women of Science." She is survived by her husband, Paul L. Applin; their son, Col. Paul L. Applin, Jr.; their daughter, Mrs. Emmett Lawless, Jr.; 12 grandchildren; two great grandchildren; and her sister, Miss Helen Richards. To her family and to her many friends, her life provides her eulogy.

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