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MEMORIAL

HELEN N. TAPPAN LOEBLICH (1917–2004)

On 18 August 2004, the paleontology community lost a major figure with the passing of Helen Tappan Loeblich. Born on 12 October 1917, in Norman, Oklahoma, Helen Tappan went on to become an international leader in the field of micropaleontology. She earned her B.S. degree in 1937 at the University of Oklahoma, Phi Beta Kappa, and received the Sigma Gamma Epsilon Scholarship Award for Outstanding Senior in Geology. An M.S. degree followed in 1939. It was during this time at the University of Oklahoma that she met her soulmate, Al Loeblich Jr., whom she married on 18 June 1939, thus beginning a lifelong scientific collaboration that resulted in major advancements in paleontology.

They then transferred to the University of Chicago, where Helen received her Ph.D. in Geology in 1942. With the expectation that she would work for an oil company, she focused both of her M.S. and Ph.D. theses on Texas and Oklahoma mid-Cretaceous foraminifera.

That same year, while teaching at Tulane University in New Orleans, Louisiana, Al received orders to report for military duty. Helen assumed all of Al's teaching responsibilities and became the first woman faculty member of Tulane's College of Arts and Sciences (1942–1943). At the end of World War II, the Loeblich-Tappan family found themselves in Washington, DC where Al obtained a position as curator of Invertebrate Paleontology and Paleobotany at the United States National Museum. Helen resumed her earlier work with the United States Geological Survey (USGS), this time with the Navy Oil Project in the naval petroleum reserve of the Alaskan North Slope.

During 1953–1954, the Smithsonian Institution sent Al to Europe to collect foraminiferal samples and to study collections in major European museums as background for Helen and Al's work on the *Treatise on Invertebrate Paleontology*'s foraminifera volume. Helen was forced to take a leave of absence from the USGS because of their policy of not allowing personnel to work outside

the United States. She obtained a Guggenheim Fellowship and, with their four children and Al's mother, spent a year traveling throughout Europe, collecting more than two tons of rocks and examining many historical collections of foraminifera. Helen illustrated with a camera lucida the type specimens they studied.

From 1954–1956 Helen was an honorary research associate of the Smithsonian Institution and in 1957, the Loeblich-Tappan family moved to California where Al headed a micropaleontological program at the Chevron Oil Field Research Company. Helen continued to work part-time for the USGS and in 1958 began teaching at UCLA, becoming a full-time faculty member in 1966, full professor in 1968, and vice chairman of Geology from 1973–1975.

During her years at UCLA, Helen advised, mentored, and inspired numerous students, many of whom went on to achieve prominence in geology, paleontology, micropaleontology, and palynology. Her graduate students specialized in Cretaceous and Cenozoic foraminifera, Miocene diatoms, Cretaceous coccoliths, Cretaceous and Tertiary dinoflagellates, chrysophyte cysts, and radiolaria, as well as Paleozoic acritarchs and prasinophytes. Such a wide range of topics is testimony to Helen's breadth and knowledge in the fields of micropaleontology and palynology.

During her lifetime Helen served on many editorial and society boards as well as various committees. She also received numerous awards, including the 1982 Woman of Science Award from the UCLA Medical Center Auxiliary, the Paleontological Society Medal in 1983, the Raymond C. Moore Medal for "Excellence in Paleontology" in 1984, and the 1987 Woman of the Year Award in Natural Science from the Palm Springs Desert Museum, to name a few.

Helen will probably be best remembered for her many landmark and seminal papers and books as well as her prodigious scientific output, both as sole author and in collaboration with Al. Together or individually, Helen and Al published 272 scientific papers or books between 1937 and 1994. Clearly it is impossible to mention all of Helen's important papers, but a few are worth noting. Their 1957 paper "Correlation of the Gulf and Atlantic Coastal Plain Paleocene and lower Eocene formations by means of planktonic Foraminifera" won Best Paper Award in the *Journal of Paleontology*. The two-volume *Treatise on Invertebrate Paleontology, Part C. Protista 2. Sarcodina, chiefly 'Thecamoebians' and Foraminiferida* (1964), is a landmark publication in which they classified foraminiferida on the basis of external wall characteristics. Their two-volume book *Foraminfiera Genera and Their Classification* (1987) is their magnum opus in foraminiferal research. In it, they revised foraminiferal classification by considering the internal wall structure and studying the type species of almost all valid genera in the literature. This book received the 1988 Award of the Association of American Publishers for the best professional and scholarly book in the field of Geography and Earth Science. Helen was also very proud of her book *The Paleobiology of Plant Protists* (1980) and that year it was voted the book publisher's best nonfiction book.

Helen was certainly an achiever of the highest order. Her research and publications were rigorous, scientifically grounded, and always first-rate. She was a superb writer and editor and improved the manuscripts of numerous students and researchers. She demanded excellence, not only from herself, but also from her students and colleagues, and was rarely disappointed. She instilled in her students a strong work ethic and commitment to be the best they could.

In spite of her many scientific accomplishments and honors Helen was a very humble woman who was kind to everyone. She was quiet and soft-spoken, and led by example. She was extremely generous with her time and expertise, and always had time for her students. I remember many occasions when Helen would put aside a paper she was writing to help one of her students with their research. One could not ask for a better advisor than Helen. In addition, Helen and Al had one of the most comprehensive reprint collections in micropaleontology and palynology and it was always open to students and the numerous visiting scientists she and Al hosted.

Apart from her scientific achievements, Helen was an excellent artist. She illustrated all of her papers and designed and made the printing blocks for their Christmas cards, which showed their current research specimens adorned in a holiday theme. In addition, she designed the bookplates for their extensive library and designed the fiftieth anniversary stamp of the Society of Economic Paleontologists and Mineralogists (now the Society for Sedimentary Geology).

Helen had an enduring commitment to education and encouraged lifelong learning. Her legacy includes not only the advancements she made in the field of paleontology, but also the students she mentored who have carried on her work. Like Joe DiMaggio's 56-game hitting streak, Helen Tappan's record of accomplishments and achievements, both personally and professionally, is one that will be hard to top, and may never be broken.

To commemorate Helen's accomplishments in the field of foraminiferal research and her commitment to education, it is fitting that her daughter, Elizabeth Loeblich (who kindly made available to me many facts and remembrances for this memorial), has established a scholarship and research fund in her and Al's name. Tax-deductible contributions may be sent to:

Alfred R. Loeblich Jr. & Helen N. Tappan Loeblich Scholarship & Research Fund
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