The special committee of the General Faculty to prepare a memorial resolution for Archie W. Straiton, professor emeritus, electrical engineering, has filed with the Secretary of the General Faculty the following report.

John R. Durbin, Secretary
The General Faculty

IN MEMORIAM
ARCHIE W. STRAITON

Archie Waugh Straiton, Ashbel Smith Professor Emeritus, was born in Arlington, Texas, on August 27, 1907, and passed away on July 22, 2000, at the age of 92.

He received a BS in electrical engineering and an MS in physics from The University of Texas at Austin in 1929 and 1931, respectively. He then took a teaching job at Texas A&I College in Kingsville, where he remained for four years. He returned to UT Austin to continue his graduate study and received a PhD in physics in 1939.

In 1943, Dr. Straiton joined the faculty of the Department of Electrical Engineering at UT Austin, where he had a distinguished career as teacher, researcher, and administrator. In 1945 he founded the Electrical Engineering Research Laboratory at the Balcones (now Pickle) Research Center and served as its director until 1970. Over the years the center provided the facilities for the funded research activities of many UT faculty, and many undergraduate and graduate students.

Dr. Straiton was a pioneer in the study of how radio waves interact with various constituent gasses of the earth’s atmosphere. His measurements of the absorption of millimeter wave signals by oxygen and water vapor are still considered to be the definitive database for the field of millimeter wave propagation. These studies also led to the development of specialized instruments that were used for both local and remote sensing of the micrometeorological properties of the atmosphere itself. Data obtained from these instruments provided a better understanding of the dynamics of the wind, temperature, and humidity in the atmosphere. Professor Straiton regularly published the results of his research findings and was author or coauthor of well over 100 technical articles.

Dr. Straiton was also responsible for the design and construction of a 16-foot parabolic antenna with reflector surface tolerances so small that it could operate effectively as a radio telescope at millimeter wave frequencies. At the time it was constructed this antenna had the largest ratio of aperture diameter to surface tolerance of any radio telescope in the world. In addition to being used to map the radiation profiles of the sun and planets in our solar system, the telescope was used at the McDonald Observatory site by radio astronomers from all over the world in the discovery of many new millimeter radio wave sources throughout the universe.

Dr. Straiton’s achievements as both a researcher and an educator received national recognition when he was elected to membership in the National Academy of Engineering. This was followed by his receiving the prestigious Edison Medal from the Institute of Electrical and Electronic Engineers (IEEE), a professional organization of which he was also named a Fellow. The citation for the Edison Medal reads “for an outstanding
career in electrical engineering with significant contributions in the field of radio propagation and astronomy, and in engineering education.” At the University he received a Presidential Citation and was named a Distinguished Engineering Graduate.

Dr. Straiton was an outstanding teacher at both the undergraduate and graduate levels. During his tenure on the faculty many, if not most, of the graduate students in electrical engineering took his popular course on electromagnetic theory. He was extremely active in graduate student supervision. At the time of his retirement he had supervised more graduate students than any other faculty member in the department. His teaching accomplishments were recognized by the University when he received a lifetime teaching excellence award.

Dr. Straiton gave unselfishly of his time to the University, the community, and his profession. He served as chair of the Department of Electrical Engineering, and was acting vice president and dean of the Graduate School from 1972 to 1974. He served on numerous committees and advisory boards of the IEEE and other organizations, including the National Bureau of Standards and NASA. He was also a member of the board of directors of Southwest Research Institute in San Antonio. In the community he served as chairman of Austin’s Energy Conservation Commission. He was an active member of the University Area Kiwanis Club and served a term as its president. Following his retirement he became an active member and participant in LAMP, the acronym for “Learning Activities for Mature People.”

Over the years Dr. Straiton made substantial monetary donations to the University. Following the 1983 death of his wife, Esther, Dr. Straiton made a donation to establish an endowed presidential scholarship in her memory. Several years later he donated funds to establish a second endowed presidential scholarship in memory of his close associate and research partner, Charles W. Tolbert. He also made donations to the Department of Electrical and Computer Engineering.

Dr. Straiton was a humble and caring man. He cared for his students, his faculty colleagues, and his family. He was always calm and seemed never outwardly bothered by any situation. He never raised his voice or said a bad word about anyone. He gave with his whole heart and he did not expect anything in return; he was the perfect example of a kind gentleman. He will be greatly missed. At the time of his death, he was survived by his two daughters, Janelle and Carolyn, and their husbands, six grandchildren, and ten great-grandchildren.