At a meeting of the Faculty of Arts and Sciences on December 9, 1997, the following tribute to the life and service of the late Marland Pratt Billings was spread upon the permanent records of the Faculty.

MARLAND PRATT BILLINGS

During the last half of the nineteenth century and the first third of the twentieth, geologists in this country suffered from a "One-Hundredth Meridian Complex" - namely that most of the geology east of that meridian had already been done, and that what hadn't wasn't worth doing, and was probably too complex and too inadequately exposed to be deciphered. The West was where the excitement was, where the best exposure was, and where untold natural resources were to be found. Well-advised budding geologists accordingly went there, both for much of their training, and for their later investigations. Marland Billings heard this conventional wisdom, and accepted some of it, but was never completely convinced that it was entirely true. As a consequence he sparked a rebirth of Appalachian (and especially New England) geology that has continued to this day.

Marland was born March 11, 1902, in Boston, son of George Bartlett Billings and Helen Agnes McDonough. He attended Roxbury Latin School, and went from there to Harvard where he received an A.B., magna cum laude, in 1923, an A.M. in 1925, and a Ph.D. in 1927. His doctoral thesis was a study of the younger igneous rocks in the eastern White Mountains of New Hampshire. Marland spent the next year, 1927-28, as an Instructor at Harvard. This was also the first year of a visiting professorship held by Leon Collet of the University of Geneva, whose lectures had a considerable influence on Marland. During the following summer Collet took several Harvard faculty and graduate students on a geological grand tour of the Alps, providing an opportunity for Marland to become acquainted, first-hand, with the techniques then being employed in Europe for the study of complexly deformed and metamorphosed terranes, such as those of the New England Appalachians.

In the fall of 1928 Marland joined the faculty at Bryn Mawr College where he spent the next two academic years, working each of the following summers with the United States Geological Survey, the first in Montana with Hugh Miser, and the second on the high plateaus of Utah with E. M. Spieker. In the fall of 1930 Marland returned from Bryn Mawr to Harvard, still, to the surprise of his friends, a bachelor. His appointment at Harvard was as Assistant Professor, and in the following years he rose through the academic ranks, to become Professor in 1946.
Although Marland had thoroughly enjoyed his western experience (more or less obligatory for young geologists of that day), and gained much from it, he remained intrigued by the thought that something could indeed be done with the tangled geologic record in his native New England. From his doctoral research he knew that the dense forests concealed a sufficient amount of exposed outcrop, and he also knew that the Swiss and other Alpine geologists had made considerable headway with the more grandly exposed, but similar, terranes of the Alps, much more like New England, geologically, than were the Rockies. Although his doctoral research was concerned with plutonic and volcanic rocks now known to be essentially coeval with the times of the dinosaurs, Marland had been fascinated by the more ancient rocks (Paleozoic and possibly older) into and upon which the younger igneous rocks had been emplaced. He accordingly began fieldwork, in the summer of 1931, in the area about Littleton, New Hampshire, where there were recognizable Paleozoic fossils, and where the deformation and metamorphism were relatively mild.

The choice was strategic in that Marland was able to establish a stratigraphic succession of early and mid-Paleozoic rocks, and show that by using techniques developed in similar terranes in Europe and the British Isles, these dated rocks could, in fact, be traced into the more highly deformed and recrystallized rocks that underlie much of upland New England. Much rock, once believed to be ancient Precambrian, proved to be as young as Devonian. The first results were published in 1937 by the Geological Society of America in a now classic paper entitled "Regional metamorphism of the Littleton-Moosilauke area, New Hampshire." New England geology, once scorned, soon became popular, and remains so to this day. Current visitors and researchers come from west-coast universities, Europe, Japan, and even Down Under. The bulk of the work, from the thirties through the fifties, however, was carried on by Marland and his students and close associates. Among these (at last) was Katharine Stevens Fowler, a Bryn Mawr graduate, whom he married in 1938! Marland and Kay spent many happy years continuing the New Hampshire work together.

Their marriage, on the other hand, is said to have been a disappointment to some. Several of Marland’s early graduate students were women. It has been reported that one summer Marland and some students were camped out in the White Mountains, and that one of the women had succeeded in manoeuvering Marland away from the campfire to a lookout commanding a fine view over much of New Hampshire. She supposedly sighed and said "Isn’t it beautiful!" to which Marland is said to have answered "Yes, and thank God it’s all Devonian!" The tale is perhaps apocryphal, but most agree that Marland could have said it. His many students remember him with affection for his salty speech and quick-witted, often bawdy humor. His standards for performance were high, and his dissatisfaction with error and inefficiency was immediately apparent. Some secretaries were terrified, others adored him.

During World War II Marland served in 1944 with the U. S. Office of Field Service in the South Pacific, assessing strategic nickel deposits in New Caledonia. At Harvard he served as
Chairman of the (then) Division of Geological Sciences, 1946-1951, and as Curator of the Geological Museum. He was a member of the Mineral Resources Committee of New Hampshire, from 1935, and for much of that time was de facto State Geologist. From 1958 he was Consultant to the Metropolitan District Commission and did the geological studies before and during the driving of the water supply and other tunnels through the bedrock beneath Boston.

Marland’s pioneering work in complex metamorphic terranes was recognized by honorary degrees from Washington University, St. Louis (1960), and the University of New Hampshire (1966). Election to the National Academy of Sciences in 1968 was followed by the publication of a festschrift volume that same year. Marland was president of the Geological Society of America in 1959, and received the Society’s highest award, the Penrose Medal, in 1987. He was president of the Boston Geological Society in 1940, and vice president of the American Association for the Advancement of Science in 1947. Other memberships included the American Academy of Arts and Sciences, the Mineralogical Society of America, the Seismological Society of America, the American Association of Petroleum Geologists, and the Societe Geologique de France. Marland was the author of numerous papers on New England Geology, and of a widely used textbook: Structural Geology, first published in 1941.

The New England Intercollegiate Geological Conference, a gathering for field trips at the height of fall color, has been held more or less annually since the turn of the century. Marland, an active participant, missed few. The most recent meeting, in the Mount Washington area of New Hampshire, took place shortly before Marland’s death. The guidebook to the 1996 meeting was dedicated to Marland and Kay, and marked the fiftieth anniversary of an earlier meeting there that was led by Marland.

Marland and Kay were long-time residents of Wellesley and part-time residents of Randolph, North Hampton, and Bartlett, New Hampshire. Marland died October 9, 1996 in Peterborough, New Hampshire. He is survived by his wife, Katharine*, a son and daughter-in-law, George Bartlett and Rachel (True) Billings, and two grandchildren, Marland and Heather, all of Peterborough. A daughter, Elizabeth (Billings) Neilson, died in 1990. Kay’s autobiography Stepping Stones, published in 1996 by the Connecticut Academy of Arts and Sciences, provides many fascinating details of her life with Marland.

Respectfully submitted,

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*Mrs. Billings died in December 1997