he snapped, "I'll give you five hundred dollars for it," and the sale was made. It was moments like this that Martin relished and made life for him an exciting adventure.

Martin became interested in artificial coloration of diamonds in 1940. During that period he and Harry Berman conducted experiments with the Harvard cyclotron. After the war he continued his experiments at the University of California (Berkeley) with Joseph E. Hamilton and Thomas M. Putnam of the Crocker Laboratory. The results of their work, "Effect of heavy charged particle and fast neutron irradiation on diamonds," was published in *The American Mineralogist* in 1952.

In early 1942 Martin volunteered for service in the United States Army. He received a direct commission as Captain and rose to the rank of Lt. Colonel. He was assigned to the Bomb Disposal School at Aberdeen, Maryland, and eventually became commanding officer of the school. Because he was fluent in German he was from time to time detailed to the Intelligence Service for special assignments. Because of his knowledge of mineralogy, one of these assignments was, in 1944, to go into German-occupied France and bring out several tons of Madagascar tourmaline urgently needed for piezoelectric plates for making pressure gauges. Shortly before V-E Day he was assigned to a team whose mission it was to interrogate German scientists and get them into the American sector. Upon his discharge he was decorated with the Legion of Merit.

Upon his return to civilian life Martin moved to Los Angeles and went into the wholesale diamond business. However, this highly competitive business was not to his liking and he returned once more to dealing in minerals. He travelled the world over countless times in the ensuing years, seeking out important specimens, buying or exchanging for individual pieces or entire collections. The best of these he offered to the museums he was dedicated to serve. The balance he would dispose of as quickly as possible to other dealers, meanwhile planning his next trip.

Martin also had an uncanny ability to judge the value of gemstones, both finished gems and rough. This made it possible for him to find financial backers for his travels and purchases. Some of his trips were primarily to buy gems and gem rough. But always, even on these trips, he managed to ferret out many choice mineral specimens, and in this he found his greatest pleasure.

Martin Ehrmann had a great zest for life. He loved what he was doing. He had an infectious outgoing personality, was a great raconteur, and a gracious host. Many of you reading this account will remember the parties he gave at the many GSA meetings he attended, given not with any thought of business gain, but because these were his friends and he liked to have them around him. He was indeed a remarkable man and will be sorely missed by his countless friends all over the world.

American Mineralogist, Volume 59, pages 415–417, 1974

Memorial of Harry Hammond Hess
May 24, 1906—August 25, 1969

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Harry Hammond Hess was born in New York City on May 24, 1906, the son of Julian B. and Elizabeth E. Hess, and suffered a fatal heart attack on August 25, 1969, while chairing a committee of the Space Science Board of the National Academy of Sciences. Between these two dates Harry Hess lived one of the most diverse, interesting, and successful lives in the earth sciences. After graduating

from Yale in 1927, he spent two years as a geologist in northern Rhodesia, received his Ph.D. from Princeton University in 1932, taught at Rutgers University during the year 1932–1933, spent the following year at the Geophysical Laboratory, and joined the Princeton Geology Department in 1934. With the exception of the war years and sabbatical leaves, he spent his entire career between 1934 and his death at Princeton. In 1950 he succeeded A. F. Buddington as chairman of the department and relinquished the chairmanship to J. C. Maxwell in 1966.

These are the bare bones of the man's career. Previous memorials by Buddington (1970), James (1973), and Girdler (1969), and sketches by Donnelly (1971), McVay (1969), and Shagam (1973) add most of the important datum points and reflect the intense loyalty and devotion which Harry Hess evoked in so many of his colleagues and students. This memorial will not attempt another recital of the same facts but will focus on those aspects of his life which I was privileged to share between 1950 and 1969.

As a mineralogist Harry Hess will be remembered best for clarifying the phase relations within the pyroxene quadrilateral.[1] However, his studies of pyroxenes and of the plagioclase feldspars were less directed at these mineral groups themselves than at the information they contain regarding the origin and crystallization of basic and ultrabasic rocks. His memoir on the Stillwater Complex is one culmination of his mineralogy, but he reached out continuously beyond the basalts, gabbros, layered intrusives, and serpentinites to their place within the grandeur of the orogenic cycle. His experience with Vening Meinesz measuring gravity at sea in 1931 followed by active duty in the Pacific as Captain of a troop transport and the discovery of sea mounts drew Harry Hess into oceanography, particularly the relationship between oceanic trenches and adjacent mountain ranges. After World War II he and many of his graduate students mapped considerable portions of the Caribbean. Initially the work was frustrating. In the late fifties Harry complained that he felt he knew less about the geology of the area then than 15 years earlier. But during this period he developed the concept of ocean floor spreading, which was so strikingly confirmed by Vine and Matthews' discovery of the significance of magnetic striping of the ocean floor and by Morgan's development of the geometry of plate tectonics.

During much of his most active period of research Harry carried the burden of the chairmanship of the Geology Department at Princeton. Despite the impression that the Department was saved from imminent collapse only by the unswerving devotion of Miss M. Law, the Departmental Secretary, Harry always made the large decisions superbly well, and frequently endeared himself by his warm understanding. In my first encounter with him I expressed my concern about giving a graduate course as an Instructor at the tender age of 23. He fixed me with a firm gaze and replied that he would not be hiring me if he did not expect my lectures in ten years would be better than those during the coming fall. Needless to say, I accepted the assignment.

During the following years two additions were made to Guyot Hall, a basement extension fondly dubbed the Hess-hold, and a new wing, largely for geophysics and geochemistry. The basement extension was designed in part by Harry himself and the architectural drawings were presented proudly at a departmental faculty meeting. We all admired them and tried to make suitably profound comments. Only John Maxwell succeeded, when he suddenly exclaimed: "Hey, Harry, there isn't a john in the place." The oversight was corrected, but is still immortalized by the somewhat odd sanitary facilities of the basement extension.

Harry's work on behalf of the Department was almost overshadowed by his activities on University committees, as a ranking Navy officer, for the Mohole project, and within the space program. To each assignment he brought a quiet competence and a superb sense of the important issues.

His honors were many. He was elected to the National Academy of Sciences in 1952 and later to the American Philosophical Society and to the American Academy of Arts and Sciences. He was an honorary Foreign Member of the Geological Society of London, the Geological Society of South Africa, and of the Sociedad Venezolana de Geologos. In 1966, he was elected a foreign member of the Accademia Nazionale dei Lincei and awarded the Feltrinelli prize. During the same year, he received the Penrose Medal of The Geological Society of America. In 1969, Yale University awarded him an honorary Sc.D. He served as President of two sec-

[1] A bibliography of his publications, prepared by A. F. Buddington, has been published in *The Geological Society of America Memorials*, Volume **1**, pages 18–26 (1973).

tions of the American Geophysical Union: Geodesy (1951–1953) and Tectonophysics (1956–1958); also as President of the Mineralogical Society of America (1955) and of The Geological Society of America (1963). Posthumously he was awarded, (1969), the Distinguished Public Service Award by the National Aeronautics and Space Administration.

Those of us who knew Harry Hess well will always measure others against his memory.

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American Mineralogist, Volume 59, pages 417–419, 1974

Memorial of Thomas Newkirk McVay
February 16, 1891—August 12, 1971

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Department of Engineering, University of Alabama

After a long and distinguished career of teaching, consulting, and research work in the fields of ceramic engineering and related areas, Dr. Thomas N. McVay died on August 12, 1971, at Tuscaloosa, Alabama.

Thomas Newkirk McVay, son of Aliquippa and Edwin Grant McVay, was born at Hawkins Station, Pennsylvania, on February 16, 1891. When he was five years old his family moved to Illinois. His collegiate work was accomplished at the University of Michigan and at the University of Illinois at Urbana, Illinois, where he received his three degrees, Bachelor of Science, Master of Science, and Ph.D. in Ceramic Engineering. While attaining these degrees he acquired industrial experience through intervening periods of employment at various ceramic companies in West Virginia and in the Middle West.

He entered the teaching profession at the University of Illinois in 1922 after his graduation from the Ceramic Engineering Department in 1914 and a period of employment in the ceramic industry. In 1928 he resigned from the University of Illinois to

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