Memorial to Wilton Newton Melhorn (1920–2003)

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Wilton Newton Melhorn, professor emeritus at Purdue University, passed away on 25 November 2003. He died at Home Hospital in Lafayette, Indiana, from a hideous disease called Progressive Supranuclear Palsy (PSP), a relative of Parkinson's Disease. Unable to care for himself, he spent the last three and one-half years of his life in extended care at the hospital. He was 83 years old at the time of death.

Bill was born on 8 July 1920, in Sistersville, West Virginia, to Ralph W. and Pauline V. Melhorn. He grew up in Owosso, Michigan, where he attended grade school and high school, but he always felt that West Virginia was his true home. His father, a geologist, died when Bill was still a young man, which left a huge void in his life.



Melhorn graduated from Michigan State University

with a B.S. degree in geology (1942), then obtained an M.S. in meteorology from New York University (1943). He returned to Michigan State for an M.S. degree in geology (1951), followed by a Ph.D. from the University of Michigan (1955), where his dissertation was directed by Professor James A. Zumberge. At Michigan, he served as a teaching fellow for three years.

Bill's first geology position was as a part-time student employee with the Michigan Geological Survey, where he worked in subsurface stratigraphy (1940–1942). During the summers of 1941 and 1942, he was employed by the Oliver Iron Mining Company doing underground mapping and supervising diamond drilling,

During World War II, from 1942 to 1946, Bill was an on-board meteorologist with the U.S. Army Air Force in Hawaii and the Philippines. He subsequently served in the Air Force active reserve (1946–1960) and then in the inactive reserve until 1966. He retired from the Air Force with the rank of major.

Upon his discharge from active duty in the Air Force, Melhorn returned home to Michigan to work as a hydrogeologist with the Michigan Geological Survey (1946–1949), followed by a year with the U.S. Weather Bureau as a hydrologist-climatologist. He then returned to graduate school, first at Michigan State and then the University of Michigan.

In 1954, Bill joined the faculty of Purdue University as assistant professor in the School of Chemical and Metallurgical Engineering. Two years later, he was promoted to associate professor in the School of Civil Engineering. From 1966 to 1970, he held a joint appointment in the Department of Geosciences (which he founded) and the School of Civil Engineering, where he served as head of the Division of Engineering Geology (1966–1967). From 1967 to 1970, Bill served as head of the Department of Geosciences, and in 1970, he was promoted to (full) professor in the Department of Earth and Atmospheric Sciences (called the Department of Geosciences until 1986). Bill retired in 1991 and was named professor emeritus. He served on the department's Graduate, Library, Field Camp, Map Collections, and AMS Search committees.

His all-university committee service included the Military Affairs Committee, the University Water Resources Council, and the Committee on Collective Bargaining. Bill also held the title of Research Geologist in the Laboratory for Application of Remote Sensing (LARS) at Purdue from 1968 to 1974.

While employed as a field geologist with the Indiana Geological Survey (summers, 1955– 1958), Bill met Bonnie Leigh Beck, a widow with two young children. She was the next-door neighbor in Bloomington to another geologist with the survey, who introduced them. They were married in Bloomington on 21 August 1961. Bonnie died in 1993.

During the early 1960s, Bill was associated with the University of Illinois as a visiting associate professor (1960–1961), as a visiting lecturer at the geology field camp in the Big Horn Mountains of Wyoming (summer, 1961), and as a senior lecturer during the summers of 1963–1965. He served as an adjunct professor at Mackay School of Mines at the University of Nevada–Reno from 1973 to 1982, as a visiting research fellow at the Desert Research Institute (1971–1972), and as director of the geology field camp during the summers of 1973 and 1975.

Professor Melhorn's principal professional interests were geomorphology, glacial geology, and geohydrology. But during his tenure at Purdue, he taught more than 15 different courses, including geomorphology, glacial geology, meteorology, geohydrology, economic geology, historical geology, and soil mechanics. His students were extremely important to him; his daughter Kris recalls that some were invited to their home frequently for dinner. He directed 29 graduate theses, 17 of them Ph.D. dissertations. Nils Johansen, one of Bill's students, wrote, "Bill was much more than just a professor; we spent many hours just talking about ideas of landscape development and geologic processes, and always, we related this knowledge to how I could use this information in my work as a geotechnical engineer."

Bill received well over a million dollars in grants and contracts, including research grants from the Geological Society of America (GSA; Penrose Grant), the National Aeronautics and Space Administration, and the National Science Foundation by award from the American Museum of Natural History. Among the more significant of these awards were three grants from the Environmental Protection Agency for inventorying, mapping, and monitoring groundwater resources in Indiana, and several from the Purdue University Water Resources Research Center (WRRC). He co-authored more than a dozen technical reports, the majority of them for the WRRC. These dealt with a variety of geohydrology subjects, including groundwater use and replenishment, aquifer characteristics, fluvial processes, hydrogeology of glacial deposits, computer programs for stream network analyses, and the systematic development of methodologies in planning urban water resources for medium-sized communities.

Public service played an important role in Bill's life. He was a member of the Advisory Committee on Water Resources for the Water Resources Commission of the Indiana General Assembly. He was appointed by the governor to the Indiana Hazardous and Solid Waste Facility Site Approval Authority, serving on this group for ten years as a member and vice chairman. He acted as consultant to the Indiana Attorney General and the Indiana Port Commission.

Dr. Melhorn also served as a consultant on geologic problems to other public organizations, private companies, and numerous individuals. These included the City of Valparaiso, Indiana (groundwater); the Cook County, Illinois, Highway Commission; Environmental Consultants, Inc., Dallas, Texas; California Nuclear, Inc. (subsurface disposal of solid low-level radioactive waste); the Martin Company, Baltimore, Maryland; and Black and Decker (Apollo, lunar coring, and MoLab projects).

Bill joined the GSA in 1955 and was elected a Fellow in 1960. He regularly attended both annual and sectional meetings of the Society and authored or co-authored more than a dozen papers at these meetings. In 1982, and again in 1989, Bill co-led geomorphology-glacial geology

field trips at meetings of the North-Central Section. For the 1983 GSA Annual Meeting in Indianapolis, he was the principal organizer of a symposium on the geology and hydrogeology of the Teays-Mahomet Bedrock Valley System. GSA Special Paper 258, of which he was the senior editor, stands as a landmark publication on that subject.

Bill was also an active participant in the Midwest Friends of the Pleistocene, seldom missing the annual spring field excursion. In 1956, he co-led the meeting with Jim Zumberge, his Ph.D. mentor, to examine the red till in northwestern Lower Michigan, which was well known for many years to Midwestern glacial geologists as "the Valders of Melhorn." In 1983, he co-led the trip in the Wabash Valley with Ned Bleuer and others. Bill's first Friends trip was in 1953. In 1993, on one of Bill's last trips, six of us celebrated our professional friendship at the buried Two Creeks Forest Bed in eastern Wisconsin, where we had met forty years earlier, to the very day. On this same 1993 trip, I remember Bill by my side at several of the stops, making witty remarks while supporting my geological arguments and conclusions, particularly with regard to the genesis of red-till units.

Dr. Melhorn was an extremely active member of the Indiana Academy of Science, which he joined in 1955. In 1969, he was elected a Fellow. He served the academy in many capacities: as chair of the Geology and Geography Section (1969), as a member (1979–1982) and chair (1983–1985) of the Committee on Fellows, as a member of the Publications Committee (1967–1982), as president (1988), as executive officer (1992–1993), and as chair of the Amendments Committee and parliamentarian (1995).

In addition to GSA, the Friends of the Pleistocene, and the Indiana Academy of Science, Bill was a member of the American Association for the Advancement of Science, the American Association of Petroleum Geologists, the American Meteorological Society, the American Quaternary Association, the Archeological Institute of America, the Association of American Geographers, the Clay Minerals Society, the Geoscience Information Society, the Michigan Academy of Arts, Science and Letters, the National Association of Geoscience Teachers, the Society of Economic Paleontologists and Mineralogists, the National Speleological Society, Sigma Xi, Sigma Gamma Epsilon, the Society for Archaeological Sciences, and the Explorers Club.

Although many of his professional colleagues were seemingly unaware of it, Bill possessed a delightful, albeit somewhat unusual, sense of humor. We corresponded frequently over the years, and I was always amused by his humorous remarks coupled with a masterful use of the English language. I particularly remember his entertaining letters when we, as senior editors of separate GSA Special Papers, were having a private race to see which volume would be completed first. Many Quaternary geologists will readily recall a hilarious event at a North-Central GSA meeting about twenty-five years ago when Bill presented an extemporaneous bogus paper that left a large audience, including the executive director of GSA, reeling in their seats with unabated laughter.

Nils Johansen recounts two stories that illustrate Bill's wonderful sense of humor. The first occurred on a field trip to Baraboo, Wisconsin, as the group was walking across the upland adjacent to Devils Lake one foggy morning. A discussion led to the theory that peneplanation was the product of basal erosion by a cloud cover, with one of the supporting arguments being that clouds do not occur below ground! The second occurred on a field trip in the karst area of southern Indiana, where it was theorized that there is a correlation between the number of sinkholes and the lower quality of geologic education at Indiana University, located south of the glacial margin, as compared to that at Purdue University located in the glaciated sink-free northern part of the state. (Persons familiar with the rivalry between Purdue University and Indiana University will appreciate this humor the most.)

Stamp and coin collecting were Bill's hobbies. His daughter writes that "he became fascinated with stamps as a young boy and thus began a life-long addiction which he continued

until he could no longer look through the catalogs. While he was in extended care, he had some of his stamps and a couple albums with him. He would love to look through his box of loose stamps, which drove the nurses crazy because more of the stamps fluttered to the floor than went in the box." His favorite sport was apparently baseball. As a pitcher, Bill played ball in college and had aspirations of playing in the minor leagues, a hope that never materialized.

Bill was a member of the Masonic Lodge in Michigan and the Scottish Rite Valley of Indianapolis. In 1989, he was honored by the governor of Indiana when he was named a Sagamore of the Wabash for his many years of devoted service to the state.

Wilton N. Melhorn is sadly missed by his students, his professional colleagues, and his family. He is survived by two daughters, Kristina (Joe) Payne of Thorntown, Indiana, and Kimberly Ogg of Indianapolis, and by three grandchildren. His sister Marilyn and wife Bonnie preceded him in death.

I gratefully acknowledge the help of Bill's daughter Kris in writing this memorial. I also thank Ned Bleuer for his assistance.

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