

Memorial of Henry O.A. Meyer 1937–1995

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Henry Oostenwald Albertjin Meyer (58) died peacefully at his home in West Lafayette, Indiana, on June 15, 1995. Henry will be greatly missed by his friends and colleagues, and his untimely death from cancer has left a void among those who study diamonds and kimberlites that will not be easily filled.

Henry O.A. Meyer, as he preferred to be known, was educated in England and subsequently attended University College (London), where he received a B.Sc. (Hons.) in 1959. Subsequently, he embarked upon a Ph.D. program, which involved studying evaporite deposits in the Appleby area of northwest England. Although Henry's research interests drastically changed direction, he retained a love for this beautiful part of England and had even contemplated retirement there. Subsequent to the completion of his Ph.D. (1961) Henry was employed as a lecturer in engineering geology (1962–66) at Westminster Technical College (London) and held the position of honorary research assistant (1961–66) in the Department of Chemical Crystallography, University College. In the latter post, under the influence and guidance of the late Dame Kathleen Lonsdale, he came to appreciate the beauties of diamond while simultaneously being subjected to the rigors of X-ray crystallography. Evaporites were forgotten and Henry was steered into the research field in which he achieved his international reputation. As a result of his studies of inclusions in diamond by X-ray methods, he was awarded a Carnegie Corporation Fellowship at the prestigious Carnegie Institute of Washington. Here, from 1966 to 1969, using the then new technique of electron

microprobe analysis, he produced the first compositional data on silicate and sulfide inclusions in diamonds and ushered in a whole new subdiscipline of diamond mineralogy. Subsequently, Henry became senior postdoctoral resident research associate (1969–71) at NASA Goddard Space Flight Center (Maryland). Here, he continued his diamond studies and was one of the fortunate few who examined material returned by the Apollo missions. His contributions to lunar science continued after 1971 when he was appointed associate professor in the Department of Geosciences, Purdue University (West Lafayette, Indiana), but his real passion remained with diamonds. Henry was promoted to professor at Purdue in 1974, where he remained until his death.

During his time at Purdue, Henry broadened his research interests to include the petrology of primary and secondary diamond deposits and studies of upper mantle xenoliths. Henry was still studying diamonds in 1995, using laser and CL techniques, unheard of when he commenced his studies some 30 years ago. One of his major contributions to diamond-inclusion studies was the development of a mechanical device for crushing diamonds allowing extraction of the tiny inclusions in an unaltered state. Prior to this invention inclusions were freed by burning the diamond in oxygen, a technique that frequently resulted in either considerable changes in composition or destruction of the inclusions.

In addition to being a productive research scientist, Henry was very active in many other fields. He never shirked his teaching duties and was a father figure to many of his graduate students. He maintained an exceptionally well-run microprobe facility, so well-run in fact that his original, 1971 model MAC 500 microprobe was, until its recent replacement, still running like new; this "antique" microprobe even now lives on as a memorial to Henry by having a new lease on life in Novosibirsk!

Henry held many executive positions with the Mineralogical Society of America (secretary, 1983–87; administrator, lecture program, 1989–95); the American Geological Institute (past president, 1989–91; president, 1988–89; vice-president, 1987–88; governing board, 1980–83; executive committee, 1984–86; finance committee, 1984–86, 1987–89); and the International Mineralogical Association (secretary, commission on gem materials, 1983–95; council, 1990–95). In addition, he played a major role in the organization of the 2nd and 5th International Kimberlite Conferences and, even while severely ill in March 1995, was active in the organization

of the 6th. Henry coedited the Proceedings of the 2nd and 5th Kimberlite Conferences and served on the Editorial Review Board of *Gems and Gemology*. In addition to this heavy load of administrative work Henry found time to act as a consultant to many companies that were engaged in exploration for diamond deposits.

Henry will be remembered by the scientific community for his outstanding contributions to diamond-inclusion studies. His colleagues will remember him as a charming, dapper person who never uttered a word of complaint or criticism of others, and one who remained unflappable in the most frustrating situations. His friends will remember him as a skilled carpenter, lover of fine food and wine and all the comforts of life. Henry would never travel third class if he could go first! An oenophile he was particularly enamored of the wines of California. His predilection for good food and wine remains one of my strongest recollections of him. In particular, I remember with fondness the time we were on an exceptionally poorly organized field excursion in central France; while other participants drank warm pop and ate sandwiches of uncertain origin, a disgusted Henry insisted that he, his wife, Helen, and I partake of lamb noisettes and the local red wine at a nearby restaurant—we had the better lunch! Henry also had a fondness for huge 12-egg pavlovas—curiously, he liked to eat these at breakfast!

In short, Henry was a bon-vivant who loved life. The world is a poorer place without him, but at least his place in the history of science is assured. He will be greatly missed by his colleagues and friends but most of all by his wife, Helen, and their five children, Henry Jr., Austin, Duncan, Gabrielle, and Matthew.

SELECTED BIBLIOGRAPHY OF HENRY O.A. MEYER

- (1968) Chrome pyrope: An inclusion in natural diamond. *Science*, 160, 1446–1447.
- (1972) with Boyd, F.R. Composition and origin of crystalline inclusions in natural diamonds. *Geochimica et Cosmochimica Acta*, 36, 1255–1273.
- (1975) Chromium and the genesis of diamond. *Geochimica et Cosmochimica Acta*, 39, 929–936.
- (1976) Kimberlites of the continental United States: A review. *Journal of Geology*, 84, 377–403.
- (1977) Mineralogy of the Upper Mantle: A review of the minerals in mantle xenoliths from kimberlite. *Earth Science Reviews*, 13, 251–281.
- (1985) Genesis of diamond: A mantle saga. *American Mineralogist*, 70, 344–355.
- (1987) Inclusions in diamonds. In P.H. Nixon, Ed., *Mantle xenoliths*, p. 85–92. Wiley, New York.
- (1989) with Mitchell, R.H. Mineralogy of micaceous kimberlites from the New Elands and Star Mines, Orange Free State, South Africa. *Geological Society of Australia, Special Publication 14*, 83–96.
- (1994) with Zhang, A., Milledge, J.H., and Mendelsohn, M.J. Diamonds and diamond inclusions from Liaoning and Shandong Provinces China. In Meyer and Leonardos, Eds., *Proceedings of the 5th International Kimberlite Conference*, p. 98–105. CPRM Special Publication 1B.