

ogical Society, which continued until 1968. She was devoted, efficient, and thrifty in the management of the Society's business. While performing these duties, Marjorie became very friendly with many of the foreign members of the Society, and she made frequent trips to Europe where these associations bloomed into close personal friendships.

Mineralogical Abstracts, the joint publication of the Mineralogical Society of Great Britain and the Mineralogical Society of America, was also one of her special interests, and she was an organizer for papers published in the United States.

Marjorie was an active participant in many scientific societies. She was a fellow of the Mineralogical Society of America, the Geological Society of America, the Washington Academy of Sciences, and the American Association for the Advancement of Sciences. She was a member of the Geological Society of Washington; the American Geophysical Union; the Mineralogical Association of Canada; the Association of Earth Science Editors; the Geoscience Information Society; the American Institute of Mining, Metallurgical, and Petroleum Engineers; the Geochemical Society; the Geological Society of London (Fellow); the Mineralogical Society of Great Britain; Societe française de Mineralogie et Cristallographie; the Schweizerische Mineralogische und Petrographische Gesellschaft; and the Mineralogical Society of Japan. She was very active in the International Mineralogical Association and served as secretary for several years.

Marjorie bought a house on Luzerne Avenue in Silver Spring, Maryland, and for about ten years the back porch and cellar of her home served as the office of the Mineralogical Society of America. For many

visitors and friends from Canada and Europe this was a convenient and very enjoyable place to stay when they were in or passing through Washington, D.C. Marjorie was also involved in the local community affairs of the Montgomery Hills area of Silver Spring. Marjorie is survived by two sisters, Miss Elsie A. Hooker and Mrs. Vera H. Heidrich of Flushing and Addison, New York.

In addition to the publications cited in the memorial, the following citations of papers by Marjorie are of interest:

1. Bibliography of Clarence S. Ross: *Am. Mineral.*, 38, 1272-1275, 1953.
2. Bibliography of Waldemar T. Schaller: *Am. Mineral.*, 38, 1276-1283, 1953.
3. Ten-year supplement to the bibliographies of Clarence S. Ross and Waldemar T. Schaller: *Am. Mineral.*, 48, 1410-1412, 1963.
4. The origin of the volcanological concept nuée ardente: *Isis*, 56, 401-407, 1965.
5. (with R. R. Schrock) Memorial to Frederick K. Morris (1885-1962): *Geol. Soc. Am. Proc.* 1966, 329-335, 1968.
6. (with E. P. Henderson) Memorial to Frank L. Hess (1871-1955): *Am. Mineral.*, 54, 624-634, 1969
7. "Catocin Schist" analysis—its true identity: *Geol. Survey Research 1970, U.S. Geol. Surv. Prof. Pap.* 700-D, D106-D107, 1970.
8. (with Helen L. Foster) Memorial to Dorothy Carroll: *Am. Mineral.*, 57, 631-634, 1972.

The Mineralogical Society of America has lost a devoted worker and friend.

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Memorial of Jun Ito¹ September 25, 1926-June 6, 1978

PAUL B. MOORE

*Department of the Geophysical Sciences
University of Chicago
Chicago, Illinois 60637*

Jun Ito died at A. M. Billings Hospital (The University of Chicago) after a long and painful illness. A

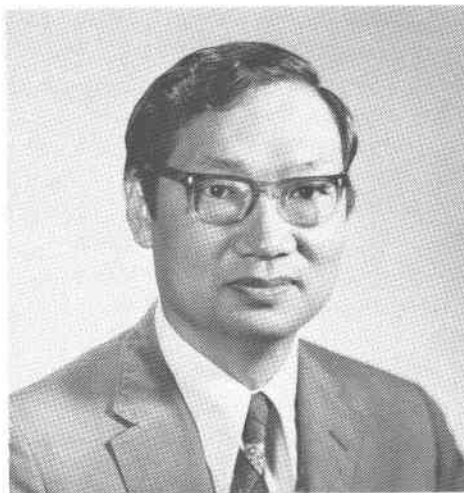
¹ To receive a bibliography of 87 publications, order Document AM-79-104 from the Business Office, Mineralogical Society of America, 2000 Florida Ave., NW, Washington, DC 20009. Please remit \$1.00 in advance for the microfiche.

recurrence of the cancer for which he had been operated on in 1972 appeared 18 months prior to his death, and he courageously underwent chemotherapy and continued his methodical activities with single-minded devotion, pursuing his research to the very end. In a memorial service, Professor O. J. Kleppa

(who was Director of the James Franck Institute during Jun Ito's first two years at Chicago) encapsulated most sensitively this tragic event: "As a scientist and as a man he showed us by his example how to work, and how to live, and in the end—how to die."

Indeed, Jun Ito was cut short in the midst of a rich and productive life. Some of his most brilliant achievements were realized within the past decade: complete wet-chemical analyses of unusually complex phases (mcgovernite, kraisslite, wyllieite and hendricksite), crystal growth (protoenstatite, orthoenstatite, idocrase), and study of complex systems (CaO-PbO-ZnO-SiO_2). His splendid achievements in successful crystal growth of seemingly intractable phases deluged him with requests for samples from geophysical laboratories throughout the world. Many of his papers are coauthored with other workers and dealt with their problems, but is it not ironic that in many cases the most demanding and difficult aspect of the project was realized in *his* laboratory? Jun Ito, so scrupulous, so modest, so intent upon his task, kept abreast of the analytic literature and ever improved his techniques. As upon a metaphorical magnificent Cavallé-Coll organ, he had a vast arsenal of techniques and "stops" at his command: general knowledge of the behavior of the elements in aqueous solutions over a range of Eh and pH values, systematic evaluation of major and minor elements present through emission spectrographic analysis, determination of water content from a variety of techniques, deciphering formal valences of first transition series metals, and the quantitative determination of troublesome components such as Li_2O , BeO , B_2O_3 , Mn_2O_3 and As_2O_3 . Atomic absorption analysis and X-ray diffraction analysis were also important tools in some of his projects.

The war years interrupted Jun Ito's educational career, and during those difficult times he contributed to feeding his family by growing vegetables in a small garden lot. In 1945 his scientific education began at the First Imperial College in Tokyo. During this period he was a skilled rugby player, an activity that gave him great satisfaction. Four years later he went to the University of Tokyo where he obtained a Master's degree in mineralogy in 1953, followed by an Instructorship the following year. While at the University of Tokyo he suffered from serious tuberculosis and had to convalesce for two years. During the early stages of his illness to maintain his strength, Jun did much climbing, including Mt. Fuji, and continued his rugby practice. His father, Tei-ichi (renowned crystallographer and 1968 Roebling Medalist), wanted



Jun to be a mineral chemist in the United States working with Clifford Frondel at Harvard, and this began a very fruitful period of five years (1955–1960). During this time he married Yoko Ohsato, an outstanding opera singer then on tour in the United States with an opera company, and presently teaching voice in Tokyo, who bore him two sons, Kenneth (Ken) and Elliott (Elli) also living in Tokyo. The wedding reception was held in the Frondel home, where festivities included a full house with guests dividing attention between the newlyweds and the finale of the World Series. A long and close contact was to develop between Cliff and Judy Frondel, and Jun. But visa problems forced the Ito family to return to Japan, where Jun continued study and lecturing at the University of Tokyo, obtaining his Doctorate (in mineralogy) in 1962 with a thesis centering on the analytical techniques of the complex tourmaline mineral group.

In 1965 he returned to Harvard, where he remained as Research Associate with a brief stay at the National Bureau of Standards until 1974, when the Materials Research Laboratory in the James Franck Institute (The University of Chicago) offered him a post as Senior Research Associate and Professional Chemist. But after Jun returned to the United States, Yoko remained in Tokyo with the children since her talent in teaching voice at a private school and her relative unease in the United States made a more permanent return trip impossible. Their marriage ended in divorce, but Yoko always expressed a fondness for Jun and she didn't remarry. In effect, Jun became more and more a self-made man. During 1971 he married Jean Rogers, a former secretary to Cliff Frondel and Connie Hurlbut, who presently

lives in Chicago with their lively and alertly intelligent son, John Paul.

Jun's Chicago years were equally productive. Growth of single crystals of refractory silicates and aluminates and thorough wet-chemical analyses of new or hitherto inadequately described mineral species attracted his scientific attention. Several papers were incomplete at his death, including studies on boron-rich humites, micas, and amphiboles from the Franklin marble. Jun often commented on the close interactions he had with students at Harvard, something he perhaps missed at Chicago owing to spatial

separation from the other mineralogists. But he attended departmental seminars and interacted with the group on the electron and ion probe analytic facilities through providing wet chemical analyses and a subsequent arsenal of standards. Devoted to his family and always rich with humor and abundant with dedication to his work, the loss of one of the most creative analytic chemists in the world and the very special human warmth, sensitivity, and sensibility left a pronounced gap in the mineralogic community.

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Memorial of Leo Neal Yedlin March 20, 1908–October 7, 1977

PAUL E. DESAUTELS

*Department of Mineral Sciences, Smithsonian Institution
Washington, D. C. 20560*

The death of Leo Neal Yedlin on October 7, 1977 brought about the loss of an amateur mineralogist whose practical knowledge of mineral specimens and mineral species was truly phenomenal. This knowledge ultimately earned him recognition as a Fellow of the Mineralogical Society of America and many good friends among professional mineralogists. His own private collection of microscopic mineral mounts, which he bequeathed to the Smithsonian Institution, numbered approximately 20,000 specimens representing innumerable worldwide occurrences and over 800 species. Its contents clearly reveal a broad knowledge of crystal morphology, habit differences, compositional differences, mineral paragenesis, and mineral esthetics. His extraordinary collection of mineralogical books was the source of much of this knowledge.

Born on March 20, 1908, Neal's youth was spent in Brooklyn, New York. At Boys' High School of Brooklyn he was an outstanding student and athlete and even became president of the student body. He and some of his friends very early fell under the influence of the Brooklyn Childrens Museum where dedicated curators, such as Jack Boyle, introduced

