such importance. An excellent popular introduction to mineralogy is Parker's *Mineralienkunde* which has done much to stimulate mineral collecting by amateurs. The first edition appeared in 1945; the fifth, edited by U. Bambauer, has just come out. Well known is also his work on crystal drawing after his own method (Berlin 1929) and the volume published jointly with C. Burri and E. Wenk, *Die optische Orientierung der Plagioklase* (Basel 1967), which contains the most up-to-date stereograms for the determination of the plagioclases with the universal stage. A project much cherished by Parker was another book on "spherical crystallography." It was to summarize his personal approach and his own methods for measurement, calculation and drawing of crystals. Unfortunately it remains unfinished.

Most of his shorter papers were published in the Bulletin of the Swiss Mineralogical and Petrographical Society, of which he was secretary from 1929–34 and president in 1956–58; the Society offered him a "Festschrift" in 1963 on the occasion of his 70th birthday (*Schweiz. Min. Petr. Mitt.* 1963, **43**, 1–434) which contains also a complete bibliography up to this date.

When the International Mineralogical Association was founded in 1958 in Madrid, Parker was elected its first president, an office which he was highly qualified for. His activity was aptly characterized by Professor D. Jerome Fisher in the above mentioned "Festschrift," from which we quote:

> "With his suave, diplomatic, polylingual abilities, Professor Parker made an ideal chief executive to see that the infant association received the proper nourishment to gain wide acceptance in a minimum time."

This memorial would be incomplete without mentioning that Parker's interests were not confined to professional activities. On the contrary, they were numerous and covered an astonishingly wide field. He was a cultivated man in the truest sense of the word and was highly interested in such varying topics such as classical music, painting, and architecture and did much traveling, especially in Italy. He enjoyed the solving of mathematical problems and was much interested in astronomy. Parker also kept well informed in politics, excelled in photography, and cultivated roses in his garden. His many interests were shared by his wife Saroka, née Wagapoff, who kept him a pleasant and hospitable house where guests felt much at ease, and where endless discussions on the most varied topics took place. None of those who had the privilege to enjoy the hospitality of the Parkers will ever forget those pleasant evenings.

*American Mineralogist, Volume 61, pages 532–534, 1976*

# Memorial of Lewis Stephen Ramsdell
## June 4, 1895–July 14, 1975

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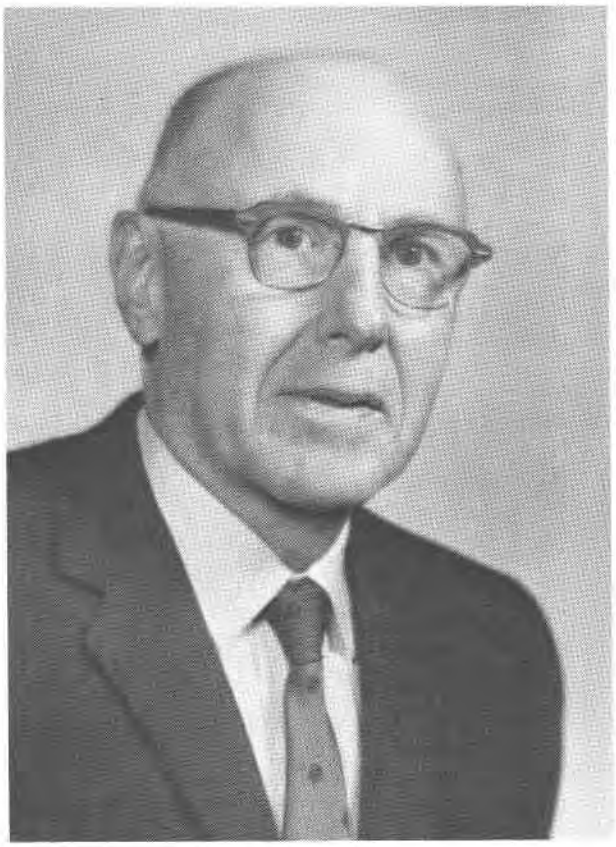
Lewis S. Ramsdell, Emeritus Professor of Mineralogy and former chairman of the erstwhile Department of Mineralogy of the University of Michigan died in Palo Alto, California, on July 14, 1975, at the age of 80.

Born in Clinton, Michigan, Lewis Ramsdell spent essentially his entire academic career at the University of Michigan, first as an undergraduate student (BA, 1917), then as a graduate student (MS, 1919; Ph.D., 1925) and concomitantly and subsequently as a teacher (Instructor, 1919; Assistant Professor, 1926; Associate Professor, 1935; and Professor, 1944). He served as Chairman of the Department of Mineralogy from 1951 until his retirement in 1961. His stewardship of the Department of Mineralogy was its last, for, upon his retirement, the Department was wed to geology, a marriage, if not of love, at least of convenience.

During his 42-year career as a professional mineralogist, Lewis Ramsdell contributed most significantly to science and mankind in three principal domains:

(1) Teaching. Sent by the late Dean Edward H. Kraus to the University of Manchester, England, in 1933 to learn methods in the application of X-ray techniques to crystallography and mineralogy, Rams-



dell, upon his return, initiated a course in X-ray crystallography. To it were attracted not only students of mineralogy but also those of chemistry, physics, and metallurgy, and for many years the Department of Mineralogy maintained a monopoly of teaching efforts in this fundamental scientific technique. Like all the primordial X-ray diffraction apparatus, Ramsdell's was "homemade," consisting of a resurrected dental transformer in uneasy collaboration with other scavenged discards. The successful operation of this contrary contraption blended a compound of patience, skill, time, and good fortune. Nevertheless, as Ramsdell's research record shows, he made it function successfully.

In 1936 Ramsdell also joined his former teachers, Dean Kraus and Professor Walter F. Hunt, in the preparation of the third and revised edition of *Mineralogy,* at that time the most widely used English textbook in elementary mineralogy.

(2) Research. Although his researches were not multitudinous, his completions were particularly fundamental. Especially noteworthy are his contributions in structural crystallography to:

a. The relationships between the polymorphs of silver sulfide, argentite and acanthite.
b. Definition of the phases included in the "black manganese oxide" minerals, a group that required manipulative dexterity and patience owing to their predilection toward inhomogeneity and exceedingly fine grain size. In honor of his researches on this group, one of the new phases he first recognized was later fully described and named *ramsdellite* in his honor by Michael Fleischer and W. E. Richmond (*Econ. Geol.* **38,** 269–286, 1943).
c. Definition of and the fundamental relationships among the numerous polytypes of silicon carbide.
d. Characterization of the structure of the first known high-pressure polymorph of silica, coesite.

3. Service. Professor Ramsdell was one of the charter members of the Mineralogical Society of America. For many years he served the Society faithfully but anonymously, assisting Walter F. Hunt in the chores of editing *The American Mineralogist.* Ramsdell performed much of the thankless but necessary drudgery of galley proofreading. In 1952 he gained official recognition as Assistant Editor of the journal and five years later became Editor, a position he relinquished upon his retirement at the end of 1961. A faithful churchman, he was a devoted member of the Ann Arbor First Methodist Church which he served skillfully as treasurer for ten years (1940–1950). During World War I he served U. S. Army Ordnance.

With the passing of Lewis Ramsdell, the original "front five" of the Department of Mineralogy of the University of Michigan, most of whom played long and vital roles in the affairs of the Mineralogical Society of America, are reduced to a sole survivor, Walter F. Hunt, who, at the time of this writing (December, 1975), remains severely incapacitated.[1]

Founded in 1904 by Edward H. Kraus (*Am. Mineral.* **59,** 402–404, 1974), the department grew first with the addition of Walter F. Hunt whom Kraus suborned from a career in chemistry. With the exception of Kraus himself, all of Michigan's first six mineralogists were "home grown" Ph.D.'s. These included, beyond Hunt, Albert B. Peck (1916, 1920–1943) (*Am. Mineral.* **29,** 121–125, 1944); Edward F. Holden (1921–1925) (*Am. Mineral.* **11,**

[1] Professor Hunt died on December 19, 1975; see memorial in this issue.

57–59, 1926), Lewis S. Ramsdell (1919–1961); and Chester B. Slawson (1920–1964) (*Am. Mineral.* **50,** 551–558, 1965).

Lewis Ramsdell is survived by his widow, Lois (nee Calkins), whom he married in 1920, and by two daughters, Mrs. Betty Mills of Missoula, Montana, and Mrs. Helen Reeve of San Jose, California, and by six grandchildren.

### Publications of Lewis Stephen Ramsdell


1921 (with A A. Klein) Variation in heat treatment of a silica brick in the crown of a tunnel kiln. *J. Am. Ceram. Soc.* **4,** 805–811.

1922 An unusual diamond crystal. *Am. Mineral.* **7,** 158–159.

1924 Crystallographic and optical observations on strychnine sulphate (abstr.). *Am. Mineral.* **9,** 65.

1925 The crystal structure of some metallic sulfides. *Am. Mineral.* **10,** 281–304.

1927 The crystal structure of silver sulfide. *Am. Mineral.* **12,** 25–26.

X-ray data on some sulfide minerals. *Am. Mineral.* **12,** 79.

1928 The crystal structure of cuprous sulfide. *Am. Mineral.* **13,** 115.

1929 (with E. P. Partridge) The crystal forms of calcium sulphate. *Am. Mineral.* **14,** 59–73.

An X-ray study of the domeykite group. *Am. Mineral.* **14,** 188–196.

1930 The crystal structure of tetradymite. *Am. Mineral.* **15,** 119.

1932 An X-ray studies of the system $K_2SO_4$–$MgSO_4$–$CaSO_4$. *Am. Mineral.* **20,** 569–574.

1936 (with E. H. Kraus and W. F. Hunt) *Mineralogy,* 3rd ed.; McGraw-Hill Book Company, ix + 638 p.

1939 Composition, space group and unit cell of hanksite. *Am. Mineral.* **24,** 109–115.

1942 The unit cell of cryptomelane. *Am. Mineral.* **27,** 611–613.

The gnomonic projection in the hexagonal system. *Am. Mineral.* **27,** 819–823.

1943 The crystallography of acanthite, $Ag_2S$. *Am. Mineral.* **28,** 401–425.

1944 The crystal structure of $\alpha$-SiC, type IV. *Am. Mineral.* **29,** 431–442.

1945 Crystal structure of $\alpha$–SiC, type VI. *Am. Mineral.* **30,** 519–525.

1947 Studies on silicon carbide. *Am. Mineral.* **32,** 64–82.

1950 (with C. W. Wolfe) The unit cell of malachite. *Am. Mineral.* **35,** 119–121.

Crystallography. In, *Collier's Encyclopedia.* Vol. VI. P. F. Collier's and Sons, 146–149.

1951 (with E. H. Kraus and W. F. Hunt) *Mineralogy—An Introduction to the Study of Minerals and Crystals.* 4th ed.; McGraw-Hill Book Company, iv + 664 p.

(with J. A. Kohn) Three new polymorphs of silicon carbide, 8H, 75R, and 84R. *Acta Crystallogr.* **4,** 75.

(with J. A. Kohn) Disagreement between crystal symmetry and X-ray diffraction data as shown by a new type of silicon carbide, 10H. *Acta Crystallogr.* **4,** 111–113.

1952 (with J. A. Kohn) Developments in silicon carbide research. *Acta Crystallogr.* **5,** 215–224.

1953 (with R. S. Mitchell) A new hexagonal polymorph of silicon carbide, 19H. *Am. Mineral.* **38,** 56–59.

1954 Mineralogy (and several minor articles). In, *Encyclopedia Americana.*

1955 The crystallography of "coesite." *Am. Mineral.* **40,** 975–982.

1959 (with E. H. Kraus and W. F. Hunt) *Mineralogy—An Introduction to the Study of Minerals and Crystals,* 5th ed.; McGraw-Hill Book Company, ix + 686 p.


*American Mineralogist, Volume 61, pages 534–536, 1976*

# Memorial of Clarence S. Ross
# September 20, 1880–April 19, 1975

GEORGE T. FAUST

*U.S. Geological Survey, Reston, Virginia*

Clarence Samuel Ross died in his sleep at the Potomac Valley Nursing Home in Rockville, Maryland, on Saturday, April 19, 1975. This took from us the last member of the celebrated triumvirate Larsen–Schaller–Ross, whose contributions to mineralogy and petrology were so important. The halls of the former Chemistry–Physics–Petrology wings at the Old Interior Building were not infrequently subject to loud and sometimes heated discussions on pegmatites, dunites, basalts, rhyolites, hydrothermal processes, and Bowen's theory of fractional crystallization. These sessions were frequently continued later at lunch in some nearby cafeteria, and any member of the triumvirate reserved the right to change sides at the drop of a hat.

Ross' investigation of the clay minerals was a benchmark in mineralogy, petrology, and economic geology. In mineralogy, his careful studies laid the basis for the description and characterization of the clay minerals; in petrology, they opened the path to the study of rock alterations involving clay minerals; and in economic geology, they made possible the clarification of the relations of ore deposits in zones of hydrothermal alteration and surficial weathering. Dr. Ross was not merely interested in the descriptive mineralogy of the clay minerals; he strove un-