American Mineralogist, Volume 75, pages 1451–1452, 1990

Memorial of Gunnar Kullerud
November 12, 1921–October 21, 1989

LYLE F. ALBRIGHT, SOLOMON GARTENHAUS, MICHAEL E. LIPSCHUTZ
Purdue University, West Lafayette, Indiana 47907, U.S.A.

Gunnar Kullerud was born in Odda, Norway. He met his wife-to-be, A. Joan Reading, while on a trip to the United States from Canada, and they were married a year later on March 29, 1947. They had five children. Unfortunately, following a protracted illness that began in the middle 70s, Joan died. Gunnar was subsequently remarried to Ruth Foster, the widow of Joseph Foster, professor of chemistry, on November 27, 1981.

As a youth, Gunnar lived a vigorous and active life. Among other adventures, as a young teenager he sailed a small boat from his home in Norway to England and on his father's instructions returned home the same way. He was a middle-distance track star of considerable renown and actually planned to represent Norway in the 1940 Olympic Games. He studied opera and seriously considered a career in that field. Unfortunately, he had to defer these and other plans at the outbreak of World War II. It is likely that if the war had not intervened, he may not have chosen geology as his profession. His experiences in the war brought him into many remote areas of Norway, where he developed a deep love for the land.

In 1939, while the Hitler-Stalin pact was in force, he volunteered for the Finnish army and served against the invading Russians. Following the Nazi occupation of Norway, he joined the Norwegian underground and overtly fought against the occupiers of his homeland. He played an important part in several major battles against the Nazis in the northern part of Norway and helped several individuals escape to Sweden. Eventually, he went to England, where he joined the Norwegian Air Force, being stationed first in England and then in Canada. He was a bomber pilot and flew a number of sorties into Nazi Europe.

Gunnar received his formal education at the Technical University of Norway, where he received his Ph.D. in 1948. He was a postdoctoral fellow and a research associate at the University of Chicago from 1948–1952. He received a D.Sc. from the University of Oslo in 1954. From 1954–1970 he was a senior staff geochemist at the Geophysical Laboratory in Washington. He came to Purdue in 1970 as a full professor and served as department head of the Geoscience Department for six years. He remained on the faculty until his death, just two and a half weeks before what would have been his 68th birthday.

He was a prolific researcher. During his career he wrote more than 300 technical research papers and 30 chapters in books on a variety of subjects, including phase equilibria of mineral systems, economic geology, meteorites, moon rocks, coal chemistry, and X-ray analytical methods. He was a coeditor of *Mineralium Deposita* for 20 years and served on the editorial board of *Chemical Geology* for more than 15. He was a fellow of the Geological Society of America and of the Mineralogical Society of America and a member of some ten professional and honorary societies. He was a visiting professor at 15 universities and research establishments abroad, including ones in Australia, Canada, Czechoslovakia, Japan, Norway, the People's Republic of China, Poland, Taiwan, and West Germany. In addition, he presented numerous invited talks and colloquia at some 100 universities and research institutes in 20 countries and was a consultant

0003–004X/90/1112–1451$02.00

to mining companies and research laboratories in a number of countries.

His honors were many. In 1964 his colleagues named the newly discovered mineral kullerudite ($NiSe_2$) in his honor. He received the Andre H. Dumont Medal from the Geological Society of Belgium in 1965, was elected a member of the very prestigious Cosmos Club in 1968, and became a member of the National Academy of Science of Norway in 1977. He received an honorary doctorate, Doctor Technicas Honoris Causa, from the Norwegian Institute of Technology in 1982, and was elected a member of the Royal Norwegian Academy of Science and Letters in 1983. He was an honorary collaborator of the Division of Meteorites of the Smithsonian Institution, a member of the President's Advisory Committee at the University of Toronto from 1967–1970, was appointed a member of the Argonne National Laboratory Energy Advisory Board in 1975, and was named an alternate Purdue representative to the United States Committee of the World Energy Conference in 1974. He is cited in more than a dozen biographical works, including *Who's Who, International Who's Who, Dictionary of International Biography,* and *Notable Americans.* Very recently he was honored by being asked to write a biography of V. M. Goldschmidt, the founder of modern geochemistry, on the centennial of his birth. Gunnar was engaged in this task when he succumbed to his final illness.

He is survived by his wife Ruth; his five children, Finn, Bjorn, Kari Dalton, Marit Sue Best, and Ingrid; by his three stepchildren, Ann Lohn, Gregory M. Foster, and Michael C. Foster; by his seventeen grandchildren, and by his twin sisters, Aud Lie and Liv Bauck, who live in Norway.

Selected bibliography of Gunnar Kullerud

A Bibliography on Meteorites. H. Brown, G. Kullerud, and W. Nichiporuk. University of Chicago Press, 686 p. (1953).

The FeS-ZnS system: A geological thermometer. G. Kullerud. Norsk Geologisk Tidsskrift, 32, 61–147 (1953).

The temperature of deposition of sphalerite-bearing ores in the Caledonides of northern Norway. G. Kullerud, P. Padget, and F.M. Vokes. Norsk Geologisk Tidsskrift, 35, 121–217 (1955).

The Fe-S system. G. Kullerud and H.S. Yoder, Jr. Carnegie Institution of Washington Year Book 56, 187–195 (1957).

Sulfide systems as geological thermometers. G. Kullerud. In P.H. Abelson, Ed., *Researches in geochemistry,* p. 301–335. John Wiley and Sons, Inc., New York (1959).

Pyrite stability relations in the Fe-S system. G. Kullerud and H.S. Yoder, Econ. Geol., 54, 4, 533–572 (1959).

Equilibria in sulfur-containing aqueous solutions, in the system Fe-S-O, and their correlation during ore deposition. H.L. Barnes and G. Kullerud. Econ. Geol., 56, 648–688 (1961).

The Ni-S system and related minerals. G. Kullerud and R.A. Yund. J. Petrol., 3, 126–175 (1962).

Polymorphism in digenite. N. Morimoto and G. Kullerud. Am. Mineral., 48, 110–123 (1963).

The sulfur-rich portion of the Fe-Ni-S system. L.A. Clark and G. Kullerud. Econ. Geol., 58, 853–885 (1963).

Metamorphic conditions of ore and country rock of the Bodenmais, Bavaria sulfide deposit. W. Schreyer, G. Kullerud, and P. Ramdohr. Neues Jahrb. Mineral., Abhandl., 101, 1–26 (1964).

Review and evaluation of recent research on geologically significant sulfide-type systems. G. Kullerud. Fortschritte der Mineralogie, 41, 221–270 (1964).

Polymorphism on the Cu_5FeS_4-Cu_9S_5 join. N. Morimoto and G. Kullerud. Zeit. Krist., 123, 235–254 (1966).

Phase relations in sulfide-type systems. G. Kullerud. In S.P. Clark, Ed., Handbook of physical constants, Revised Edition, Section 14, p. 323–343. Geol. Soc. Am. Memoir 97 (1966).

Thermal stability of assemblages in the Cu-Fe-S system. R.A. Yund and G. Kullerud. J. Petrol., 7, 454–488 (1966).

The Fe-Pb-S system. R. Brett and G. Kullerud. Econ. Geol., 62, 354–369 (1967).

Sulfide studies. G. Kullerud. In P.H. Abelson, Ed., Researches in geochemistry, v. 2, p. 286–321. John Wiley and Sons, Inc., New York (1967).

The central portion of the Fe-Ni-S system and its bearing on pentlandite exsolution in iron-nickel sulfide ores. A.J. Naldrett, J.R. Craig and G. Kullerud. Econ. Geol., 62, 826–847 (1967).

Phase relations in the Cu-Fe-S, Cu-Ni-S, and Fe-Ni-S systems. G. Kullerud, R.A. Yund and G.H. Moh. Econ. Geol. Monogr., 4, 323–343 (1969).

Phase relations in the Cu-Fe-Ni-S system and their application to magmatic ore deposits. J.R. Craig and G. Kullerud. Econ. Geol. Monogr., 4, 344–358 (1969).

The lead-sulfur system. G. Kullerud. Am. J. Sci., Schairer Vol. 267-A, 233–256 (1969).

Phase relations in the system Cr-Fe-S. A. El Goresy and G. Kullerud. In Peter M. Millman, Ed., Meteorite research, p. 638–656. Dordrecht, Holland, D. Reidel Publishing Co. (1969).

Phase equilibrium conditions in the ternary Fe-Mo-S system in relation to natural minerals and ore deposits. B. Grover, G. Kullerud and G.H. Moh. N. Jb. Miner. Abh., 124, 3, 246–272 (1975).

Lafayette meteorite: petrology and opaque mineralogy. N.Z. Boctor, H.O.A. Meyer and G. Kullerud. Earth and Planetary Science Letters, 32, 1, 69–76 (1976).

Kullerud, G. Monoclinic pyrrhotite. Bull. Geol. Soc. Finland, 58, 1, 293–305 (1986).

Kullerud, G. Ore Petrology. In Encyclopedia of physical science and technology, Vol. 9, p. 740–764. Academic Press (1987).