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Memorial of Carl Tolman 1897-1995

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Carl Tolman was a geologist, educator, administrator, and, after "retirement," a foreign service officer. Most of his long life, which spanned nearly 45 percent of the existence of the U.S. as a country, was devoted to professional service. Carl was a fellow of the Mineralogical Society of America, and he served as councilor from 1939 to 1942 and as vice president in 1946. Carl succumbed to a stroke on February 13, 1995. He is survived by his wife, Irene.

Born May 7, 1897, in the Northwest Territories of Canada, now a part of the province of Alberta, Carl had not thought much about geology until he got an early practical lesson. Restless and patriotic, Carl had enlisted as a private in the 175th Battalion of the Canadian Expeditionary Force in June 1916. The following year, during an engagement in France, he helped rout enemy soldiers from a section of their trench. Orders were to dig a new trench a few hundred yards beyond, but Carl and his companions could not dig the new trench because the site was on a hard layer of chalk.

Ignorance of geology can be dangerous. The troops had to retreat for the night into the captured section of trench. The next day, instead of expected reinforcements, enemy soldiers appeared in the section of trench where Carl was, and during the encounter, Carl was badly wounded in the head, neck, and side by shrapnel from a rifle grenade. He barely survived but recovered enough to be taken to a prisoner of war camp in Thuringia, Germany, from which he was sent to do farm work. The farmer found him physically weak and feeble-minded (Carl did not know the language) and sent him back to the prisoner of war camp. He was sent to another farm and, later, to a logging camp. Following the November 11 armistice, Carl was shipped to England and five months later returned home in ill health. He was given a disability pension and offered one year of schooling. Possessed, as he put it, by "an insane desire to become an educated man," Carl enrolled in a refresher course for high school graduates wanting to enter college. Never having been to high school, or any school for nine years, Carl had only one year to catch up. The effort further weakened him, but he passed the matriculation examination for college.

After a year's study at Victoria College, Carl enrolled in the new University of British Columbia, where, although still weak and chronically ill, he chose geology as his major field. These days, the less robust have the option to do geology in the laboratory, but Carl was a geologist of the old school when such opportunities were rare. Determined to succeed, he joined a Geological Survey of Canada field party as a student assistant to map regions in the Cascades of southern Canada. This meant entering the mountains by pack train, then hiking and climbing for a few days at a time from base camp, carrying equipment, food, and blanket. There were times, Carl said, when he did not think he would make it. He did his job, nevertheless, and after two summers regained his health entirely. In 1924, he graduated with first-class honors in geology and was awarded the Leroy McKenzie prize. He continued with the Canadian Geological Survey as a student assistant, then worked as a summer geologist while in graduate school at Yale, from which he obtained his M.S. in 1925 and, just ten years after the trench incident, his Ph.D. in 1927.

Carl intended to become a Canadian Geological Survey professional, but no position was open when he graduated. He accepted an assistant professorship, however, at Washington University in St. Louis. He remained at Washington University for his entire professional life and rose through the ranks there to the highest possible level:

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assistant professor, 1927; associate professor, 1939; professor, 1945; chairman of Geology and Geological Engineering, 1945; dean of the Graduate School, 1946; vice chancellor and dean of Faculties, 1954; chancellor, 1961; and active Emeritus professor of geology from 1965 until his death. In 1969, Washington University conferred on Carl the honorary degree of Doctor of Science. We celebrate his 68 years of service to the university.

Carl's specialties were economic, engineering, and Precambrian geology. He worked in many parts of the U.S. and abroad. While at Washington University, he continued scientific and professional association with the Geological Survey of Canada and, from time to time, was associated with the Quebec Bureau of Mines, the Missouri Geological Survey, the U.S. Geological Survey, and numerous mining organizations in the U.S., Canada, and abroad. His work in Canada was widespread and ranged from geological exploration to detailed geological mapping and mineral deposit investigation. His master's degree research was based on field investigations of the Chilco Lake district on the eastern flank of the Coast Range of British Columbia. His Ph.D. dissertation was based on work in the Sudbury region of Ontario. Much of his work centered on the great Precambrian Shield of Canada and on the Saint Francois Precambrian terrain of Missouri. His work in Missouri was recognized in 1962 by the award of an honorary Doctor of Science degree by the Missouri School of Mines (now the University of Missouri, Rolla), and his pioneering studies of Precambrian geology by the Carl Tolman Symposium at the 1981 national meeting of the Geological Society of America. Of particular value are his classification of granites of the Saint Francois region, studies of the high-temperature mineralization of the Silver Mines area, and studies of the Graniteville pegmatites.

Deeply loyal to both Canada and the U.S., Carl became a U.S. citizen in 1940. Ever patriotic, he took leave from the University during World War II to serve as minerals specialist to the Foreign Economic Administration, a government organization charged with obtaining critically needed mineral supplies. On reaching the compulsory retirement age of 68 in 1965, he still felt in his prime, so he took a position with the U.S. Department of State for two years as Science Attaché in Tokyo, where he was responsible for fostering and reporting on science and related matters in Japan, Korea, Taiwan, the Philippines, and Hong Kong. Following that, he served the United Nations in the Philippines as manager of a program to train mining engineers and to help establish graduate studies in geology at the University of the Philippines, where he held the rank of visiting professor of geology. After that, he retired "conventionally," i.e., he remained active but without formal assignment or obligation.

For the past two decades, Carl's quiet presence supported us as we restrengthened the geosciences at Washington University. An extremely successful professional, he showed us optimism, perspective, selflessness, and a deep sense of sharing and responsibility, qualities deserving of respect and crucial to human survival, qualities that are heroic and, therefore, unfashionable in recent times. Fashions come and go; lives such as Carl's inspire continuously. Carl's experiences and achievements affirm the value of a life of quiet strength and courtesy and the ingrained assumption that one's life can matter.

Selected bibliography of Carl Tolman[1]

(1925) The geology and ore deposits of the Chilco Lake area (Canada). M.S. thesis, Yale University.
(1927) The geology of the Big Eddy Lake area, Sudbury District, Ontario. Ph.D. dissertation, Yale University.
(1927) Biogenesis of hydrocarbons by diatoms. Economic Geology, 22, 454–474.
(1929) The Birch Lake batholith, Ontario. American Journal of Science, 17, 403–424.
(1932) The Opemiska granitic intrusive, Quebec. Washington University Studies in Science and Technology, series 7, 83–110.
(1932) An early pre-Cambrian sedimentary series in northern Quebec. Journal of Geology, 40, 353–373.
(1931) Quartz dikes. American Mineralogist, 16, 278–299.
(1933) The geology of the Silver Mines area, Madison County, Missouri. Missouri Bureau of Geology and Mines, 57th Biennial Report of the State Geologist, 1931–1932, Appendix 1, 29 p., 6 pl., incl. geol. map.
(1933) Silver-lead-tungsten mineralization at Silver Mine, Mo. Geological Society of America Bulletin, 44, 103–104.
(1935) (with S.S. Goldich) The granite, pegmatite, and replacement veins in the Sheahan Quarry, Graniteville, Missouri. American Mineralogist, 20, 229–239.
(1936) (with H.L. Koch) The heavy accessory minerals of the granites of Missouri. Washington University Studies, New Series No. 9, 11–50.
(1937) (with J.E. Gill and H.M. Bannerman) Wapussakatoo Mountains, Labrador. Geological Society of America Bulletin, 48, 567–585.
(1939) (with E.S. Bastin, C.H. Behre, Jr., G.M. Fowler, A.W. Giles, G.M. Kay, K.K. Landes, J.P. Lyden, A.C. McFarlan, E.T. McKnight, R.C. Moore, J.D. Ridge, L.C. Robinson, W.A. Tarr, and S. Weidman) Contributions to a knowledge of the lead and zinc deposits of the Mississippi Valley region. Geological Society of America Special Paper, 24, 156 p.
(1939) (with K.K. Landes) Igneous rocks of the Mississippi Valley lead-zinc districts. Geological Society of America Special Paper, 24, 71–103.
(1945) (with R.E. Stoiber and R.D. Butler) Geology of quartz crystal deposits. American Mineralogist, 30, 245–268.
(1949) (with F.S. Robertson) High-potash volcanic rocks, St. Francois Mountains, Missouri. American Mineralogist, 34, 282.
(1969) (with F.S. Robertson) Exposed Precambrian rocks in Southeast Missouri (Contribution to Precambrian Geology No. 1): Missouri Geological Survey and Water Resources, Report of Investigations No. 44, 68 p., incl. geol. map 1:125,000 scale.

[1] For a copy of the complete bibliography of Carl Tolman, request Document AM-96-603 from the Business Office, Mineralogical Society of America, 1015 Eighteenth Street NW, Suite 601, Washington, DC 20036. Please remit $5.00 in advance for the microfiche.