

Memorial of Thomas Brennan Nolan 1901–1992

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Thomas Brennan Nolan, seventh Director of the U.S. Geological Survey and a research economic geologist with the U.S. Geological Survey for 68 years, died suddenly on August 2, 1992, of an embolism. He was a Life Fellow of the Mineralogical Society of America, which he joined in 1926.

While in high school, he read a book on metallurgy that so stirred his interest that, when he entered Yale in 1918, he took this subject as his major field; he received a Ph.B in 1921. A required course in elementary geology by Professor Alan Bateman, however, persuaded Tom Nolan to become a geologist. Attending Yale graduate school on a scholarship, he studied with Bateman, W. E. Ford, C. O. Dunbar, Charles Schuchert, Adolph Knopf, and C. R. Longwell; he received his Ph.D. in 1924 for a dissertation on the Spring Mountains, Nevada, which led to his lifelong interest in Basin and Range geology.

Adolph Knopf hired Tom as a junior geologist with the U.S. Geological Survey in the summer of 1924 to assist with the study of the Mother Lode gold district in California. Nolan subsequently studied Au deposits in Utah, Nevada, and Arizona and wrote publications on the Eureka, Gold Hill, Tonopah, Tuscarora, and other mining districts. He evaluated potash brines in the Great Salt Lake Desert, Utah, and he also evaluated various dam sites in Puerto Rico. Just before and during World War II, he was heavily involved with on-site supervision of resource appraisals of strategic minerals, especially W and Mn in the western states. He then held major administrative responsibilities in the U.S. Geological Survey, serving as Assistant Director from 1944 to 1956 and as Director from 1956 to 1965. While Director, he continued his field studies in the Eureka district each summer because, as he put it, "I think the thing I rather enjoyed most, even though I was supposed to be in mining geology, was geologic mapping. It was nice to be able to put some lines on a map and know what they meant." A sort of latter-day shillelagh he designed, a long-handled, medium-weight, hammer-shaped sledge called a Nolan hammer, is still a great favorite among Survey hard-rock geologists.

As Director, Nolan led the U.S. Geological Survey through its postwar diversification into such research efforts as studies of volcano and earthquake hazards, evaluations of the effects of underground nuclear-weapons testing, marine-science investigations, international cooperative investigations, photogeologic studies of the Moon, assessment of mineral resources in wilderness areas, 1:24000 topographic mapping, and design and op-



eration of a national network for collection of water data. During his directorship, the Survey established regional centers across the country and increased significantly in prestige and size.

Nolan was keenly aware of the long-range economic, social, and political implications of the heavy consumption of nonrenewable mineral resources by only a small proportion of the world community. He considered possible scientific and technical responses in his presidential addresses to the Society of Economic Geologists (1950) and to the Geological Society of America (1962) and in important papers delivered at conferences concerned with resources for the future. He strongly believed that technological discoveries could extend the resources available or develop suitable substitutes for many of them. He also believed that geologists were too little involved in bringing their vital geologic knowledge to play in the formu-

lation of national policies. He was certain that the geologist's concern with time and appreciation for the dynamic nature of the environment and the inevitability of change were not properly factored into either the public's or the politician's decision making with regard to minerals, water, topographic maps, and land use, and he tried by persuasion and example to change that.

His sound judgment in understanding the long-range uses and growth of geologic science was complemented by his outstanding ability to attract and select very capable scientists to lead and manage the Survey's research efforts. Throughout his life, he interacted with these leaders and other colleagues with his quiet ways and gentle manners that earned him wide respect and numerous honors and awards. Grateful colleagues named nolanite, an iron vanadium oxide mineral, in his honor, and several invertebrate fossils and a mountain peak in Antarctica also bear his name.

Tom Nolan held a great interest in birds throughout his life and enjoyed bird watching with his late wife "Pete," the former Mabelle B. Orleman, and many colleagues and friends across the world. His knowledge of and first-hand insights into long-range needs for habitats and goals for nature preserves and naturalists' organizations were freely shared. His love of birding sustained his participation on bitterly cold Christmas counts until he was in his late 80s.

The long, distinguished public service career of this gentle man of vision serves as an example for all.

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