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Nevada, Iowa, about 1890. Ole K. Hill, Story County recorder, lived in Nevada—and died there in 1883 of leprosy.

# Leprosy in Iowa

## *The Tale of Ole K. Hill*

by Richard M. Caplan

**J**UST AS PERSONS IMMIGRATE, so do diseases. Thus it happened that a small number of persons carrying the disease we call leprosy came to Iowa in the middle 1800s. They were persons emigrating from the western part of Norway, where as many as 7 percent of the population may then have been infected. Many persons today think

that leprosy is a disease of the tropics, perhaps because most of the 12 to 15 million persons now infected live in the tropical or subtropical areas of Asia, Africa, or Latin America. The disease is still a problem, however, in the high-mountain country of Nepal, more related to circumstances of poverty with its attendant crowding, malnutrition, and suboptimal sanita-

tion than to terrain, temperature, or altitude. And in the Middle Ages there may have been as many as 20,000 hospitals for people with leprosy in Europe, certainly including Scandinavia, and even north of the Arctic Circle.

Although the disease had vanished from much of Europe by the nineteenth century, the area near Bergen on Norway's west coast was still a locus of many patients. That nation's main leprosy hospital was located there, directed by Dr. Armauer Hansen. In 1873, when medical bacteriology was yet in its infancy, Hansen discovered that a bacterium caused the disease. (In tribute to the doctor's contribution to the understanding of leprosy, and of infectious diseases in general, the disease is now known as Hansen's disease. This name also attempts to avoid the enormous stigma that has been attached over the centuries to the names "leprosy" and "leper.")

Because the incubation period of Hansen's disease usually lasts several years, or even several decades, the infection could easily have been transported to the United States by persons who had no knowledge of their condition. And thus instances of Hansen's disease appeared in population centers of Norwegian immigration into the upper Midwest. In Iowa, Norwegians had settled in northeastern Iowa (especially Winneshiek County), central Iowa (northern Polk County and Story County), and north-central Iowa (Mitchell, Worth, and Winnebago counties).

An 1886 report on Hansen's disease in Iowa, Minnesota, Illinois, and Wisconsin listed by name eight men who had died of leprosy in Iowa. Seven had died between 1863 and 1877, all in Winneshiek County. Because Iowa required death certificates starting in 1880, more can be learned about the eighth man, Ole K. Hill, who died in Nevada, Iowa, in 1883.

Hill had served as county recorder of Story County, having been elected as a Republican in 1874 and re-elected in 1876 and 1878. His handsome, florid signature yet adorns the records of land sales and mortgages for those years. His illness apparently began to interfere with his work and he did not stand for re-election in 1880. The obituary notices in the Nevada newspapers clearly suggested he had

suffered a lingering illness with much debility for months or years, during which he was nursed by his wife. (In those instances in which the illness leads to death, it usually occurs by gradual impairment of nerve function especially in the hands and feet, causing loss of sensation, which allows injury, ordinary infection leading to loss of fingers and toes, loss of weight, and ultimately, blood poisoning or pneumonia. Skin and deeper structures of the hands and feet are injured, burned, and infected, and become resorbed in the healing process; the notion of the skin simply "falling off" is incorrect.) Hill died August 17, 1883, just short of his thirty-ninth birthday. His death certificate, signed by Dr. P. Farrar, listed the cause of death by an ancient name for leprosy, "elephantiasis graecorum" and called it a complication of leprosy. The duration of the illness was given as ten years.

In a letter dated February 21, 1885, Dr. Farrar wrote to the secretary of the State Board of Health, "I have ascertained that Ole K. Hill came from Olen (pronounced nearly like 'Airlen'), District of Bergen, Norway, in the year 1866. . . . In Norway his occupation was that of a fisherman. . . . A sister (I think) died of it there many years ago. . . . His father, mother, one brother and two sisters, live in this county (farm name-Haugé), and betray no symptoms of the disease."

Hill's prominence as former county recorder led to longer-than-usual obituaries in *The Nevada Representative* and the *Story County Watchman*, as well as formal, highly commendatory resolutions of condolence from three lodges in which he was active. The *Nevada Representative* said, "Mr. Hill was born in Norway September 22d 1844 and removed to this country in the summer of 1866, when he was twenty two years old. Although a man grown on arrival here, he at once assiduously went to work to acquaint himself with our language. To accomplish this he attended school at Des Moines several months, and because of his earnest desire and diligence he acquired such knowledge of the language of the country of his adoption that soon it could scarcely be detected from his talk that he was of foreign birth." In 1870 at census-time he was working as a helper in a variety store in Cambridge, Iowa. In

December 1871, "he married R. Kate Kinsell, with whom he lived happily until his death." Census records indicate that she and her parents were from Pennsylvania. There is no record of any children born to the couple. (The anglicized name "Hill," common among Norwegian families of this area, likely derives from the Norwegian original, Hauge/Haugen, meaning hill/s.)

It seems unlikely that the diagnosis was made or confirmed, in a modern clinical sense, by Farrar, who signed the death certificate. More likely is that Hill was acquainted with the manifestations of the disease from his earlier years in the highly endemic area around Bergen.

The infection never appeared among the Norwegian population born in this country. This fact was enormously important to Norwegian doctor Armauer Hansen's struggle to persuade the scientific world that the disease was a transmissible infection due to the organism *Mycobacterium leprae*, which he had described, and that it was not an inherited condition, which most medical authorities of the time firmly believed. So important was this observation that Hansen traveled to Minnesota in 1888 specifically to examine the offspring of émigrés with leprosy. He assured himself that none showed evidence of involvement. More years were necessary to completely bury such causative speculations as heredity, miasma, eating contaminated fish, or especially, divine retribution for moral lapse. Hansen's disease or even suspicion of it, perhaps more than any other historically known illness, has carried an enormous stigma perpetuated in Western society by biblical passages and artistic images. Even today, however, sin-plus-punishment remains a highly popular explanation for all sorts of medical afflictions, a too-ready answer for "Why me?" or "Why them?"

After Hill's death in 1883, it appears that there were no more instances of Hansen's disease in Iowa until after World War II. Since then, twelve cases of leprosy have appeared in Iowa. Two of these were native Iowans who had lived for several years in parts of the world where Hansen's disease is still prevalent. The other patients were mostly from India and southeastern Asia. The illness had come to an end in Norway and its émigrés much earlier.

Scientists long believed that Hansen's disease could be transmitted only by human-to-human contact. In recent years, however, researchers have proved that the same bacterium can infect both humans and animals. The first proven instance of Hansen's disease in a non-human primate appeared in a chimpanzee imported to the University of Iowa as a research subject from Sierra Leone, an area where many humans have the disease. The nine-banded armadillo, which has migrated into Texas and Louisiana from northern Mexico, also can be infected, and probably represents an animal reservoir from which humans can acquire the infection. Because the armadillo appears to be the only animal that can be infected easily, it also has provided for the first time an excellent opportunity for further research (including drug trials that could not ethically be performed on patients) and for the development of a vaccine.

The hazard of this infection in Iowa remains minuscule, and drugs can now usually control the infection. In other parts of the world, however, the threat is still serious. In fact, in 1991 the World Health Organization resolved to eliminate Hansen's disease as a public health problem by the year 2000. This would eradicate the disease that crossed the Atlantic with European immigrants a century ago, and that cut Iowan Ole K. Hill's life short at age thirty-eight. □

#### NOTE ON SOURCES

News items or obituaries for Ole K. Hill appeared in the *Story County Watchman* (Aug. 17, 24, and 31, 1883) and the *Nevada Representative* (Aug. 22 and 19, 1883). The report on Hansen's disease in Iowa, Illinois, Minnesota, and Wisconsin was part of W. M. Gibson, *Reports on Leprosy to His Hawaiian Majesty's Government* (Honolulu, 1886), pp. 198-205. The first national disease registry ever attempted, the Norwegian national leprosy registry, begun in 1856, was still active at least until 1971. In 1856, the registry tallied 2,858 patients, the highest number alive at any time. See L. M. Irgens and T. Bjerkedal, "Epidemiology of Leprosy in Norway: The History of the National Leprosy Registry of Norway from 1856 until Today," *International Journal of Epidemiology* 41 (1973): 81-89. Other useful sources include W. L. Washburn, "Leprosy among Scandinavian Settlers in the Upper Mississippi Valley, 1864-1932," *Bulletin of the History of Medicine* 24 (1950): 123-48; R. M. Caplan, "The Importation of Leprosy into Iowa," *Iowa Medicine* (forthcoming); and J. R. Leininger, K. J. Donham, and W. M. Meyers, "Leprosy in a Chimpanzee: Postmortem Lesions," *International Journal of Leprosy* 48 (1980): 414-21.