



Newton H. Winchell



ⁱ Newton Horace Winchell (Winchell) (1839-1914) was one of the most renowned scientists in the late nineteenth century. Born in 1839 to Horace and Caroline McAllester Winchell he was the youngest of four children and attended public school in Salisbury, Connecticutⁱⁱ. Following his older brother's footsteps he taught his way through college and received his undergraduate and Masters of Arts at the University of Michigan (1867). In 1872 he moved to Minnesota and became the first director and state geologist of the Geological and Natural History Survey of Minnesota, a post he held until 1900. From 1906 until his death in 1914, he worked at the Minnesota Historical Society, where he was in charge of the Department of Archaeology. Winchell published countless number of reports for the Geological and Natural History Survey of Minnesota and Department of Anthropology at the Minnesota Historical Society.

Winchell was highly influenced by his older brother, Alexander, who was chairman of the Geology, Zoology, and Botany at the University of Michigan. In 1870 Alexander was appointed by the governor of Minnesota to examine and report on the salt spring lands located in Belle Plaine along the Minnesota River Valley. Alexander was highly regarded by W. W. Folwell, the president of the University of Minnesota (University) and in 1872 he made the recommendation to hire his brother for the position of State Geologist and Director of the newly established Geological and Natural Survey of Minnesota (Survey). A full history of the Survey has been written by George M. Schwartz and can be found in the [University's Digital Conservancy](#).

Alexander's work in Minnesota did not stop there. Between the years of 1886 and 1887 he also was engaged with the Surveyⁱⁱⁱ. This led to the publication of the Report of Geological Observations made in Northeastern Minnesota^{iv} and The Unconformities of the Animikie in Minnesota.^{vvi}

As director of the Survey, Winchell was responsible for many pioneering studies of Minnesota geology, the majority of which were published between 1872 and 1899 in twenty-four annual reports. As typical of the period, the reports are noteworthy for their length and thoroughness, with individual reports varying from 42 to 504 pages.



First Geologic map of Minnesota



First Geologic Map of the Black Hills

In 1874 the University allowed Winchell to take leave of his position for a couple of months to accompany the expedition of General G.A. Custer to the Black Hills of South Dakota, at which time he prepared the first geological map of the interior of the Black Hills^{vii}. He also studied and estimated the rate of recession of the Falls of St. Anthony. On the assumption that the falls began near Fort Snelling and eroded upriver to its present location in Minneapolis only after the retreat of the ice sheet, he calculated its recession rate by using historic records of its past locations. The evidence was first published in 1877 as an article entitled, "The Geology of Hennepin County," a part of the fifth annual report of the [Survey](#). Later, it was published in detail in volume II of the final report, in 1888. A large glacial boulder with a brass plaque stands at Franklin

Avenue on the west rim of the Mississippi gorge called the [Winchell Trail](#), as a memorial to this feat.

He also prepared a six-volume Geology of Minnesota that was published between [1884](#) and [1901](#) as the Final Report of the Geological and Natural History Survey of Minnesota (Final Report), as well as ten bulletins of the Survey between 1887 and 1894. A total of 39 publications of Winchell's are located on the University's Digital Conservancy's web page.



Boulder and plaque near the Franklin Avenue Bridge, Minneapolis.

With the completion of Winchell's work on the Final Report the Board of Regents of the University decided to discontinue geological investigations and focus on the natural history portion of the Survey. This included further studies on the zoology and botany of the state. Therefore, the funding was directed to those studies and discontinued the geological survey portion of the Survey in 1900.

Winchell then began to devote much of his time to the archaeology of the state (the Survey was reinitiated in 1911 as the [Minnesota Geological Survey](#)). In 1906 he became head of the Department of Archaeology at the [Minnesota Historical Society](#) (MHS) (as successor to Jacob V. Brower), and he began compiling the monumental *The Aborigines of Minnesota*, which was published by the MHS in [1911](#).

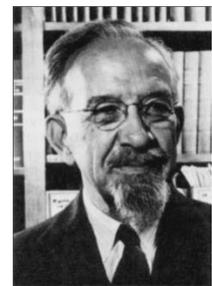
Winchell was very active outside the Survey's activities. He founded a monthly magazine in 1888 called *The American Geologist*, which he edited during its existence till 1905. Winchell was also one of the founders and president (1902) of the [Geological Society of America](#), a chief organizer of The [Minnesota Academy of Natural Sciences](#) (1873), and president of several societies. Between the years of 1909 and 1910 Winchell also studied the geological aspects of the Kensington Runestone.

^{viii}Winchell was also devoted to his family. His wife, Charlotte (Sophia Imus) Winchell, was on the faculty of Albion College Michigan, when they were married in 1864. She was instrumental in editing Winchell's work on various articles and publications. Along with their similar interests, Winchell and his wife had five children: Horace Vaughn (1865), Ima Caroline (1867), Avis (1871), Alexander Newton (1874), and Louise (1881), all of whom shared their mothers and fathers passion for geology.



Horace Vaughn Winchell

Their two sons, Horace and Alexander, went on to become prominent geologists. [Horace](#) was a mining geologist who contributed much to the discovery of ore along Minnesota's Mesabi Iron Range. [Alexander](#) became a professor of geology at the University of Wisconsin. Equally interesting is the fact that Alexander's three daughters married geologists and his son became a professor at Yale University. Ima Caroline Winchell married Frances Newton Story in 1889. Avis Winchell went on to marry Ulysses Sherman Grant, professor of geology at Northwestern University. Louise Winchell went on to marry David Draper Dayton, the son of George Draper Dayton who founded Dayton's department store. Avis Louise Dayton, daughter of



Alexander Newton Winchell

Louise Winchell Dayton, majored in geology at the University of Minnesota; also, Louise's son Leonard Vaughn Dayton majored in geology at Princeton University.

A succinct summary of Winchell's life and career is also available on the Web sites of the [Department of Earth Sciences](#), Newton Horace Winchell school of Earth Sciences and the [Department of Anthropology](#), both at the University of Minnesota.

References

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^{iv} Minnesota Geological Survey, Report 15, August 1887, web access January 2013
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^{vi} The American Geologist, February 1892

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