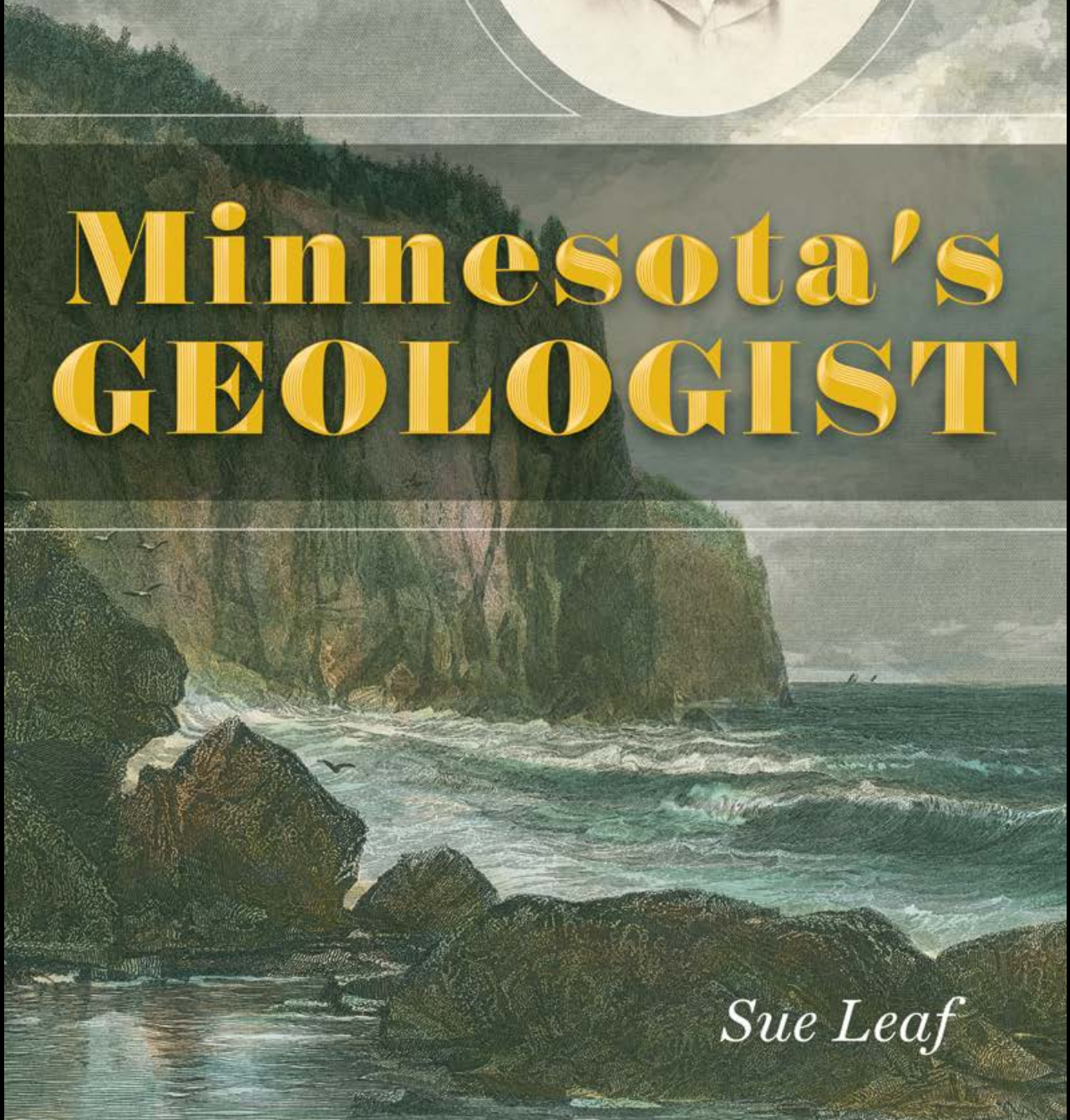


The Life of
Newton
Horace
Winchell



Minnesota's GEOLOGIST



Sue Leaf

A BOOK DISCUSSION GUIDE

for *MINNESOTA'S GEOLOGIST: The Life of Newton Horace Winchell*
by Sue Leaf

PRAISE FOR THE BOOK

“Sue Leaf has done a great service for the people of Minnesota and beyond by telling the story of Newton Horace Winchell so thoughtfully and beautifully. Readers of *Minnesota's Geologist* will be rewarded with new insights into why the world around us functions as it does. This is a book that I've been hoping for.”

—**HARVEY THORLEIFSON**, director, Minnesota Geological Survey

“*Minnesota's Geologist* is an engaging biography of a pioneering scientist and a vivid tour through Minnesota's landscape. Sue Leaf weaves the geology and natural history of the state seamlessly through the narrative of Winchell's life and boundless curiosity. The reader travels with Leaf, following Winchell's steps through Minnesota and beyond.”

—**JULIE BARTLEY**, Gustavus Adolphus College

“A fascinating and delightful story of Newton Horace Winchell's personal and professional life, from a sixteen-year-old schoolteacher to the director of the Minnesota Geological Survey. Follow him throughout the state as he studies the varied geology of Minnesota. Sue Leaf conducted thorough research, and this book will be appreciated by everyone, not only geologists!”

—**RICHARD W. OJAKANGAS**, professor emeritus, University of Minnesota Duluth

“Imagine being hired to map Minnesota's geology, by canoe, horse, or train—in just twenty years! Newton Horace Winchell embarked on this mission when both he and the field of geology were young, and Sue Leaf lets you tag along. She blows dust off of his annual reports, adds detail with letters and newspapers, and deftly places Winchell in American Progressive Era history and Minnesota in earth history.”

—**CARRIE JENNINGS**, research and policy director, Freshwater Society

ABOUT THE AUTHOR

Sue Leaf is author of *The Bullhead Queen: A Year on Pioneer Lake*; *A Love Affair with Birds: The Life of Thomas Sadler Roberts*; and *Portage: A Family, a Canoe, and the Search for the Good Life*, all published by Minnesota. She also wrote *Potato City: Nature, History, and Community in the Age of Sprawl*. Trained as a zoologist, she writes on environmental topics and is editor of the newsletter of the Wild River Audubon Society of east-central Minnesota.

ABOUT THIS BOOK

At twenty, Newton Horace Winchell declared, “I know nothing about rocks.” At twenty-five, he decided to make them his life’s work. As a young geologist tasked with heading the Minnesota Geological and Natural History Survey, Winchell (1839–1914) charted the prehistory of the region, its era of inland seas, its volcanic activity, and its several ice ages—laying the foundation for the monumental five-volume *Geology of Minnesota*. Tracing Winchell’s remarkable path from impoverished fifteen-year-old schoolteacher to a leading light of an emerging scientific field, *Minnesota’s Geologist* also recreates the heady early days of scientific inquiry in Minnesota, a time when one man’s determination and passion for learning could unlock the secrets of the state’s distant past and present landscape.

Traveling by horse and cart, by sailboat and birchbark canoe, Winchell and his group surveyed rock outcrops, river valleys, basalt formations on Lake Superior, and the vast Red River Valley. He studied petrology at the Sorbonne in Paris, bringing cutting-edge knowledge to bear on the volcanic rocks of the Arrowhead region. As a founder of the American Geological Society and founding editor of *American Geologist*, the first journal for professional geologists, Winchell was the driving force behind scientific endeavor in early state history, serving as mentor to many young scientists and presiding over a household—the Winchell House, located on the University of Minnesota’s present-day mall—that was a nexus of intellectual ferment. His life story, told here for the first time, draws an intimate picture of this influential scientist, set against a backdrop of Minnesota’s geological complexity and splendor.

DISCUSSION QUESTIONS

1. What are the benefits of having a geological eye?
2. Although he never self-identified as a feminist, Winchell had remarkably progressive attitudes towards women. Identify influences shaping his thought.
3. What can we learn about Winchell in his pursuit of a college degree?
4. What was the appeal of geology over public education for Winchell?
5. How did the American westward expansion in the late nineteenth century influence the burgeoning field of geology?
6. How did Minnesota benefit from having a geological survey connected to a research institution, the University of Minnesota?
7. In forming the Academy of Natural Science, Winchell was repeating occasions from his past when he'd formed literary/scientific societies for the public. How did such groups benefit him? The community?
8. Why do you think Winchell downplayed the discovery of gold in the Black Hills?
9. Winchell pinpointed many obstacles to white settlement of Minnesota. Name three. How does this land use compare to native American use of natural resources?
10. In what ways did Winchell connect Minnesota's geology to the wider world?
11. In Winchell's eyes, how was state funding of land-grant universities democracy in action?
12. How did Winchell and the state legislature differ in their interest in North Shore geology? Can you foresee future difficulties in these divergent views?
13. What personality characteristics did Winchell rely on for pursuit of scientific knowledge?
14. In what ways was Winchell uniquely positioned to serve as editor of *The American Geologist*?

15. Winchell embarked on a year-long study in Paris at age 55. What does this say about the man?
16. How might Minnesota's scientific scene have changed had the Board of Regents pursued Winchell's proposal of a geology museum? Have you visited a university geology museum?
17. In what ways was Winchell pre-adapted to take over Brower's work at the historical society?
18. Why do you think Winchell discounted expert linguists' opinion when he deemed the Kensington Runestone authentic?
19. Discuss the intellectual jockeying that marred Winchell's effort to be a voice in archaeology. Why do you think professional rivalry among disciplines exists?

MORE INFO:

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