

## BOOK REVIEW

C. THOMAS SHAY. 2022. **Under Prairie Skies: The Plants and Native Peoples of the Northern Plains.** (ISBN-13: 978-1-4962-2338-8, pbk). University of Nebraska Press, 1225 L Street, Suite 200, Lincoln, Nebraska 68588-0630, U.S.A. (**Orders:** nebraskapress.unl.edu). \$29.95 US, 312 pp., 52 color photos, 5 b&w photos, 14 illustrations, 11 maps, 1 table, 1 graph, glossary, 1 appendix, index, 6½" × 9".

In a book that synthesizes archaeological, botanical, ecological, and traditional knowledge, C. Thomas Shay's *Under Prairie Skies* runs readers through the history of the North American Great Plains, the land's plants, and its people.

Shay has loosely organized his work into three main sections which blend into one another. First, Shay covers the glacial geology and climactic history of the region and its present-day ecosystems. He transitions into recounting specific archaeological and botanical explorations of the region and the scientific techniques used to date and process excavated materials. Finally, he details how Native inhabitants of the Plains used plants in their daily lives.

Exploring the geographic area comprised of present-day Iowa, Minnesota, North Dakota, South Dakota, Manitoba, and Saskatchewan, Shay sets the stage of his book by situating the plains in their geologic context—detailing the slow sculpting of the region through the melting of glaciers and ice masses after the Ice Age. The glacial melt resulted in the transportation, compounding, and dumping of sediment that would lead to the formation of soil for much of this region. The Great Plains' landlocked location places it squarely in the crosshairs of icy drafts from the Canadian Arctic and moist upward drafts from the Gulf of Mexico, creating volatile weather patterns that manifest as droughts, floods, severe thunderstorms, and tornadoes. Shay points to how Native Americans, as observant inhabitants of these plains for thousands of years, recorded weather, celestial, and climactic events using winter counts, or pictorial calendars painted on tanned bison hide.

Shay's personal field and lab work experiences as an archaeology graduate student and a professor are woven throughout the book, shedding light on the scientific processes behind archaeological excavation and the processing of finds. In searching for evidence of plants used by Native peoples over the millennia, Shay and his colleagues engaged in a variety of extraction methods at various field sites. One method was the collection of soil samples near riverbanks. Once collected, sample materials were placed in water flotation tanks to separate lighter plant remains, like charred seeds and charcoal, from heavier soil material. Another method Shay used to track the distribution of plants living in the Plains was extraction of plant pollen grains from frozen lakes. He runs through a quick and easy-to-follow explanation of radiocarbon dating and points to how innovations from light microscopes to scanning electron microscopes have facilitated with the identification of seeds. Through his various accounts, Shay reveals how archaeological excavation relies on both bulky machinery like earth augers and the art of tender trough digging by hand, and the interpretation of the contents often relies on the expert consulting by botanists, arborists, and anthropologists. Recovered seeds, charcoal, and shards of tools and ceramics serve as the earthly archives of the Indigenous peoples of the Plains'—offering glimpses into foods eaten in the past, supplies used to make heavily insulated clothing, ceramic bowls to hold food.

I enjoyed reading accounts of how various Plains Native peoples incorporated the earth into their hunting practices. In 1864, for instance, a band of Lakota hunters encountered flocks of locusts swarming the prairie, and the hunters' response was to dig various holes throughout a field, lighting them afire and later extinguishing them to flash-bake the captured locusts in the hot earth. Another Native hunting tactic mentioned throughout was the driving of bison to valleys, cliffs, and snowbanks to entrap and kill them.

The visuals strewn throughout *Under Prairie Skies* captivate by adding visual context to Shay's passages. Images include 11 maps of the region, line drawings of plants and agricultural tools, a microscopic view of oak tree rings to demonstrate periods of flooding, and captivating photographs of bison, storms, and prairie flora in both color and monochrome.

This book would make an excellent addition to universities with archaeology, ethnobotany, paleobotany, anthropology, and Native American Studies programs. Beyond the academic, this book would appeal to anyone interested in learning about the ins and outs of archaeological digs as well as the history of the people and plants of the Great Plains region.

—Ana Niño,

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