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## Book Review: Iowa's Minerals: Their Occurrence, Origins, Industries, and Lore

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over 25 contributors. The time and care taken in the construction of the appendices which give valuable information on other publications, websites, and where to obtain seeds and equipment will prove well worth the effort. This volume lives up to its name—it truly is a “how-to” handbook for tallgrass restoration.—STEPHEN D. HENDRIX, *Department of Biology, University of Iowa, Iowa City, IA. 52242.*

**Iowa's Minerals: Their Occurrence, Origins, Industries, and Lore.** Paul Garvin. 1998. University of Iowa Press, Iowa City IA. vii + 260 pages. ISBN 0-87745-626-7 hdbd., ISBN 0-87745-627-5 (pbk.). \$29.95 hdbd., \$19.95 pbk.

A mineral is defined as a “naturally occurring, chemically homogeneous crystalline solid.” Every mineral has a composition, structure, and characteristics that make it uniquely different from every other mineral. In his new book, Paul Garvin, Professor of Geology at Cornell College in Mount Vernon, Iowa, presents a uniquely different discussion of Iowa's Minerals. While this book does contain the requisite discussions of mineral origins, chemistry, crystallography, and other descriptive information, Garvin enhances this information with tips for collecting minerals in Iowa, historical accounts of Iowa's mineral industry, and a series of fascinating stories about Iowa minerals that will captivate readers from professional geologists to would-be rock hounds. In his chapter on Occurrences of Iowa's Minerals, he includes an alphabetical listing of major minerals to be found in the State, how to identify them, and where to go to look for them. He further identifies most of Iowa's major mineral collecting sites, provides location maps, and descriptions of the minerals to be found (including many photographs.) Not to be limited by the scientific definition of a mineral, Garvin's book includes discussions of additional “minerals” that fall under the legal description of a mineral as a “naturally occurring substance that has sufficient economic value in its situs (natural setting) to be exploited profitably.” Therefore he includes petroleum, granite, coal, and meteorites in his discussion.

Garvin's discussion of Iowa's mineral industries begins with the pre-historic exploitation of the State's resources by Native Americans, who crafted chipped-stone from many of Iowa's chert occurrences, created grinding and pounding tools from stones carried into the state by the glaciers, extracted clays for pottery, gathered hematite, limonite, and other minerals for use as pigments, and collected a variety of other minerals for many uses. He goes on to describe the various mineral industries that arose with the settlement of the State by Euro-Americans and other immigrant groups. Accounts of the coal and gypsum industries in Iowa are especially interesting. He reviews Iowa's colorful coal industry with discussions of mining

methods, mining life, mine safety, the environmental effects of coal mining, and the future of Iowa coal mining.

The life of Iowa coal miners and their families around the turn of the century was hard. Many lived in poorly-maintained company towns and were paid in script, redeemable only in company stores. They worked in dark, damp, poorly ventilated mines and paid for their own tools and transportation to the mines. Because the coal seams averaged only a meter in thickness the miners could generally not stand to work. In many mines the seams were even thinner and coal had to be dug out with picks and shovels while the miners were lying on their sides. In many of these mines the floors were lowered to allow clearance for mine cars to haul the coal, but the miners were still forced to crouch to push the cars to the mine face. Iowa's early coal miners also faced the constant threat of death or injury from collapsing roof rock, runaway pit cars, or toxic gasses. Garvin also provides a thorough discussion of Iowa's colorful gypsum mining industry, the short-lived iron mining industry in northeast Iowa, and the State's earliest mineral industry, lead and zinc mining along the upper Mississippi River valley by the French as early as 1650.

Among the many interesting Iowa mineral-related stories recounted by on the book is the tale of the Cardiff Giant Hoax. The story began in the summer of 1868 when George Hull, New York farmer, traveled to the north-central Iowa town of Fort Dodge where he purchased a 10,000-pound block of gypsum. The block was shipped to Chicago, carved into the form of a giant man, shipped to the farm of Hull's brother-in-law near the town of Cardiff in central New York, and secretly buried. A year later, the “giant petrified man” was “discovered,” and the men made a small fortune showing the discovery to visitors and providing them with refreshments. Although the hoax was quickly debunked by experts, it continued to be a great attraction, even drawing the interest of showman P.T. Barnum. Garvin also retells some of the interesting stories relating to meteorite impacts in Iowa. Although only a handful of meteorites have been observed to land in the state, the stories related to these impacts are numerous and colorful. Other Iowa mineral stories in the book include the Ottumwa Coal Palace, how the geode became Iowa's State Rock, the Lost Creek Coal Mine disaster, the sand painter of McGregor, and the story of Iowa's own mineral, Iowite.

Garvin ends his book with an Appendix that provides tips for identifying Iowa's minerals, a Glossary defining words that may be confusing, and a bibliography that provides references for further investigation of topic of interest. *Iowa's Minerals* is an informative and entertaining book that provides a comprehensive discussion of the minerals that can be found in Iowa, *Their Occurrence, Origins, Industries' and Lore*. This book will be a valuable addition to anyone's library and a must for those with special interest in the rocks and minerals of the State.—RAYMOND R. ANDERSON, *Iowa Department of Natural Resources Iowa Geological Survey Bureau, Iowa City, IA. 52242.*