



WAUWATOSA'S  
ANCIENT REEF & AMATEUR NATURALIST:  
DEDICATION OF THE  
SCHOONMAKER REEF & FISK HOLBROOK DAY HOME  
AS NATIONAL HISTORIC LANDMARKS

Donald G. Mikulic  
Illinois State Geological Survey, Champaign, IL  
and  
Joanne Kluessendorf,  
Dept. of Geology, University of Illinois, Urbana, IL

August 21, 1998



## INTRODUCTION

Little known to the public, Waawatosa has the distinguished honor of being the site of an important scientific discovery, which concerns some of its most prominent nineteenth-century citizens and businesses as well as local natural features. About 425,000,000 years ago, during the Silurian Period, most of North America was covered by a vast tropical sea. At various places, reefs grew on the sea floor, one of which, now located in Waawatosa, played a major role in this discovery. In recognition of their importance to American science, the National Park Service has designated two key Waawatosa sites, the Schoonmaker Reef and the Fisk Holbrook Day home, as National Historic Landmarks. This is the highest honor that the Park Service can bestow on an historic site.

This publication briefly describes the nature and history of this discovery and the role that these two landmarks played in it. It also discusses how nineteenth-century natural history exploration was carried out, the impact industrial development had on this process, and the critical role played by amateur naturalists in the scientific discoveries of the day.

Under the proper circumstances, some unlikely places may hold the key to making an important scientific breakthrough. What is necessary are the right people doing the right things when the right opportunity presents itself. The discovery of Waawatosa's ancient reef is an outstanding example of this process.

One hundred and thirty-six years ago, in 1867, the eminent American geologist James Hall published a paper on the geology of Wisconsin which included a discussion of an unusual rock mound located at the Schoonmaker quarries in Waawatosa. Many other geologists had puzzled over similar mounds found in the sedimentary rocks of Europe and other parts of North America. A debate had developed over the origin of these mounds, with some geologists suggesting that they were the result of folding of the Earth's crust, whereas others thought they represented some type of sediment deposition on the ancient sea floor. In his work, Hall used the character of the rocks and their fossil content to demonstrate that the mound at the Schoonmaker quarries was a depositional feature representing a coral reef that grew on the ancient sea floor just like reefs in today's oceans. Thereby, the Schoonmaker Reef, as it is now known, became the first fossil reef identified in the rocks of North America and one, if not the first, in the world. Serving as a model for comparison over the next 80 years, the Schoonmaker Reef was considered the textbook example of an ancient reef, and many prominent geologists came to study its geology and paleontology.

Discovery of this reef did not result from the work of a single professional scientist, however, but rather from a combination of factors. Prime among these are the local naturalists, whose initial geological work in the area sparked and held the interest of Hall and other scientists. In addition, development of the local stone industry presented the window of opportunity in which these studies could be undertaken. Had the natural rock exposures in the area not been quarried, critical geological features of the reef would never have been uncovered, and the earliest discovery of an ancient reef in North America would not have been made at Waawatosa.

## NINETEENTH CENTURY AMERICAN SCIENCE

The heyday of American geological exploration is generally epitomized by the great nineteenth-century federal expeditions to the mountains and deserts of the West. However, many important geologic discoveries were made in other, perhaps less romantic but equally unfamiliar, parts of the frontier, including Wisconsin. Among the pioneers in these newly-settled areas were a few amateur naturalists who played a key role in the scientific study of the United States. Motivated primarily by an intellectual curiosity about their new surroundings, these local citizens undertook most of the scientific exploration of regional geology, botany, zoology, archaeology, meteorology, and any other aspect of the natural world they could find.

As a result, amateur naturalists supplied much of the data and specimens used by the East Coast scientists to formally describe the natural features of this vast region. Without their help, during this time of difficult and expensive travel, the handful of professional American scientists would never have been able to document the natural history of this country before it would be forever altered by settlement. On the other hand, settlement and development presented unique research opportunities, especially for geology, as numerous quarries and mines were opened to provide local building materials and other mineral resources needed by a transportation-poor society.

## WAUWATOSA'S PIONEER STONE INDUSTRY

In the 1830s, the first settlers in Milwaukee County found a place that seemed to be lacking in the geologic resources needed for development. The area was heavily forested and rock was exposed only in a few places, primarily along the Menomonee River valley. It was soon discovered, however, that the scattered mounds of massive limestone (actually a magnesium-rich form of limestone called dolomite) found in the valley walls could be burned in kilns to produce a high-quality lime. Lime was a key building material required to make mortar, the only product then available for cementing stone and bricks together during construction. Lime quarries and kilns were soon opened near Milwaukee (1836) and Waawatosa (1838). It was also determined around this time that the well-bedded limestone present in the valley floor could be worked into large blocks. This stone material was required to build the foundations and walls of the permanent buildings then under construction throughout Milwaukee County. The lime and building stone business was one of the first major industries in the Waawatosa area, and the region was a well-known and important stone producer for over 125 years. Massive blocks of "Waawatosa stone" can still be seen in the foundations of many nineteenth-century homes, churches, and other prominent buildings in the County.

It was the development of the stone industry that provided an opportunity to study the geology of the region in detail. Most of southeastern Wisconsin is covered by a thick blanket of glacial sands, gravels, and clays, which obscure the underlying bedrock. It is only in a few places that these glacial sediments have been removed by erosion exposing the bedrock surface. Thus, the local natural rock outcrops present in the 1830s generally were too small and weathered to provide any meaningful scientific information. Local quarrying for lime and building stone, however,



Schoonmaker Reef when quarry was operated by the G. D. Francis Coal, Stone & Supply Co., c. 1913. The portion of the reef illustrated in the cover photo is located in the center background of this photo. Photo courtesy of Roscoe Bluffen.

provided both the large fresh rock exposures needed for geologic research as well as the opportunity to collect large numbers of fossils. But quarrying provided only the opportunity to do the research. The Wisconsin wilderness was still too remote for most of the established Eastern scientists to visit routinely.



Late nineteenth-century lime kiln at the Schoonmaker quarries, which had fallen into disrepair by the time the photo was taken, c. 1909. Courtesy of Caroline Schoonmaker Timmerman.

#### EARLY GEOLOGIC STUDIES

Fortunately, the beginning of the local stone industry coincided with the 1836 arrival of Increase Allen Lapham in Milwaukee. Acclaimed as Wisconsin's first scientist, Lapham was a self-educated man with strong interests in most branches of natural science, including geology. He began his study of local geology, including the Waawatosa quarries, soon after arriving. By the mid-1840s, Lapham had been able to establish the general geological framework for much of southeastern Wisconsin. He recognized that most of the limestone exposures in the area were the same age (now known as Silurian age), and that they contained the same fossils as those found by James Hall in the Niagara Escarpment of western New York. This was the first time a detailed comparison was made between New York and this region, a significant accomplishment in itself as most of the Midwest was then geologically unknown. Lapham also assembled the first collection of fossils, rocks, and minerals from the area, which was of considerable scientific importance. He sent some of these specimens to Hall accompanied with correspondence and questions about his geological ideas.

As a result, Hall became interested in the geology of the Milwaukee area, making several trips to see Lapham's "Cabinet" and view the local quarries. In the late 1850s, Hall was appointed State Geologist of Wisconsin and, in this capacity, he was able to make a detailed study of the strange mound in the Waawatosa quarries then owned by John Schoonmaker. John and his wife Hannah Schoonmaker moved from Athens, New York, to Waawatosa in 1857, when he purchased the lime quarries and kilns. They later erected a Greek Revival house on the property where he continued to operate the quarries and kilns until his death in 1898.

Although this and similar mounds in the area had been examined by Lapham and other geologists over the years, it was Hall who was the first to determine their reef origin, and it was the Schoonmaker Reef that exhibited the key exposures he used to

reach his conclusions. Why was this an important discovery, and what was the evidence that enabled Hall to unravel this mystery?



*The Schoonmaker family at their home at the quarries. John Schoonmaker is standing at far right; c. late 1800s. Photo courtesy of Caroline Schoonmaker Timmerman.*

#### THE FIRST ANCIENT REEF

During the early 1800s, geology was a new science and most research was focused on establishing the basic principles of the field, including the development of the Earth's geologic history delineated by the succession of fossil plants and animals. Other than the concepts of "land" and "sea," there was limited understanding that different ancient environments could be recognized in sedimentary rocks. Hall, however, was able to determine, based on differences in fossil content, structure, and rock character, that the two limestones found in the Menomonee River valley represented two different, but contemporaneous, oceanic environments.

At the Schoonmaker quarries, Hall theorized that the limestone mound in the valley wall actually represented the main portion of a reef. Its massive structure and abundantly fossiliferous nature, including the presence of many corals, indicated that it grew as a mound on the ancient sea floor just as modern reefs do today.

*Reef of *Zosterisporium* quartzites at Wisconsin.*



*Illustration by James Hall from his 1862 paper describing the geologic relationships at the Waawatosa quarries. It shows how the well-bedded, nonreef rock (left) grades into the massive reef mound (right). The reef in the Alden and Francony quarry photo are situated between points 3 and 4.*

In contrast, he concluded that the surrounding well-bedded limestone in the valley floor originally had been deposited at greater depths around the reef as layers of lime mud on the ocean floor. It was only at the Schoonmaker quarries, where the transition between the two rock types had been exposed, that Hall was able to demonstrate the evidence for these ideas. Considering how little was then known about modern reefs makes his discovery even more remarkable.

Hall's discovery also explained the geological controls on the local stone industry as the lime rock could only be quarried from the chemically-pure reef mounds, whereas the building stone could only be produced from the bedded limestone that had been deposited on the surrounding sea floor. Recognition of these ancient reefs continues to have economic implications today as other Silurian reefs of the Great Lakes area remain important sources of stone materials, oil, and gas. Determining the character of these reefs and the conditions under which they grew has made it possible to predict their regional distribution and has aided greatly in locating additional economically-important reefs buried far beneath the ground surface.

Hall's 1862 publication did not end scientific interest in the Schoonmaker Reef. As the first-described and best-exposed fossil reef in North America, it became a research focus for other distinguished geologists, some of whom published additional descriptions of the reef, including Thomas C. Chamberlin (1877) (also a State Geologist of Wisconsin, President of the University of Wisconsin, and founder of the Geology Department of the University of Chicago); Cedarburg native Amadeus W. Grabau (1903) (Professor of Geology at Columbia University and later Chief Paleontologist of the Chinese Geological Survey); and Robert R. Shrock (1939) (Professor of Geology at the University of Wisconsin and, subsequently, Chairman of the Geology Department at the Massachusetts Institute of Technology).



*Participants in the 1996 International Silurian Symposium Field Conference at the Schoonmaker Reef. (front row l-r): David Loydell, University of Portsmouth, U.K.; Joanne Klaessendorf, University of Illinois; Stuart McKerron, Oxford University; Adam Urbaniak, Academy of Science, Warsaw; Rein Ernato, Estonian Institute of Science, Tallinn (standing); (back row, l-r): Anna Kosłowska-Dawidziak, Polish Academy of Sciences, Warsaw; Donald Mikulic, Illinois Geological Survey; Anna Antoshkina, Russian Academy of Sciences; Zhang Tingshan, Southwest Petroleum Institute, Sichuan, China; and Lech Teller, Polish Academy of Sciences, Warsaw.*

In addition to these scientific studies, the Schoonmaker Reef was illustrated in early twentieth-century geology text books, and was visited by field trips of students and professional geologists. On one of these field trips in 1937 the National Association of Geological Teachers, the largest such organization in the world, was founded. The reef continues to be the focus of research and field trips, including a group of geologists from around the world who visited in 1996 as part of the Second International Symposium on the Silurian System.

The reef and its fossils have also inspired a number of local youths, including the authors, to pursue geological careers. Gilbert O. Raasch, who went on to become one of the most distinguished native-born Wisconsin geologists of this century, began his geological activities as a WWI-era teenager collecting fossil brachiopods from the reef-nonreef transition beds.

#### A REEF FULL OF FOSSILS

In addition to its key role in the discovery of ancient reefs, the Schoonmaker Reef is important for the diversity and abundance of its fossils. During the late 1800s, while quarry exposure of the reef was most favorable, tens of thousands of fossil specimens were collected here. As a result, more than 200 different fossil species have been identified, and specimens from the reef can be found in the collections of most of the important natural history museums throughout the country.

The paleontological research also began with James Hall who, in 1865, was the first to publish descriptions of fossils from the Schoonmaker Reef. This publication was one of the earliest to describe fossils from Wisconsin. Hall continued to describe fossils from the reef until his death more than 30 years later. Many other prominent paleontologists, including R. P. Whitfield (American Museum of Natural History), August Foerste (Smithsonian Institution), Stuart Weller (University of Chicago), and Percy Raymond (Harvard University), have written papers describing fossils from the reef.

Although Laplan was the first to actually collect fossils at this locality, the vast numbers of specimens from this reef now in museum collections were assembled mostly by another great gentleman naturalist—Dr. Fisk Holbrook Day.

#### WAUWATOSA'S GENTLEMAN NATURALIST

Fisk Holbrook Day, the son of Rev. Warren Day and Lydia Holbrook Day, was born in 1826 at Richmond, New York. In 1849, he graduated from Jefferson Medical College in Philadelphia and, in 1854, he and his parents moved to Wauwatosa. He became Wauwatosa's pioneer physician, treating patients locally and in neighboring communities. Later, he also served as physician for the Milwaukee County institutions. In 1858, Day married Frances Williams and started a family that would include four daughters (two sons died in infancy). During the 38 years that he lived in Wauwatosa he built several prominent homes, of which Satsybill Home, the most magnificent and subject of this dedication, is the sole survivor.

It is remarkable that "the Doctor," as his naturalist colleagues called him, was able to devote so much effort to his natural history interests considering his time-consuming medical practice. Day's interests in science were many and varied, and in addition to those related to his medical practice, included archaeology, botany, and astronomy. But it was geology, and more specifically paleontology, that he found most stimulating.



*Dr. F. H. Day, in later life (from Zimmermann, 1979), and his wife Frances Aurilia Williams (photo courtesy of Mary Dawson).*

Fisk Day's interest in paleontology appear to have surfaced at an early age, probably influenced by his father's interest in the subject. It was Rev. Warren Day who first started to collect fossils while the family lived in New York, corresponding with James Hall in the 1840s and 50s concerning fossils he found in the Ithaca area. In 1844, Hall visited the Day home in Fairfield, New York, in order to examine the Reverend's fossil collection. The senior Day later wrote to Hall describing his recent geological explorations of the area. He also mentioned that he had been engaged in several other geologically-related activities such as giving lectures, and arranging the Cabinet of Geneva College—services he wished to be able to provide to Hall and other geologists. Fisk is not mentioned in his father's correspondence with Hall but he was probably collecting fossils at the time. In 1861, years after moving to Wauwatosa, Fisk Day wrote to Hall reminding him of his visit to his father's New York home to examine their collection, and describing how, through collecting and exchange, he and his father had assembled a large cabinet of fossils which they had brought with them to Wisconsin.

Apparently Dr. Day began collecting fossils from local quarries soon after his arrival in Wauwatosa. By the early 1860s, he had assembled a large number of specimens from the Schoonmaker Reef. In 1861, he offered to supply specimens to Hall for his

research on the paleontology of the area. It is clear that Hall had been unaware that the Days were now living in Waawatosa. Consequently, they played no part in his work leading up to the recognition of the reef, but they played a significant role in his study of reef paleontology.



*Fisk H. Day (left) with his sister Sarah and brother Samuel. Taken in Ithaca, New York, 1851. Photo courtesy of Mary Dawson.*



*Day's parents Rev. Warren and Mrs. Lydia Holbrook Day. Photo courtesy of Mary Dawson.*

For more than twenty years, Day was almost the only one who collected fossils at the Schoonmaker quarries. By chance, this turned out to be the heyday of fossil collecting in Waawatosa and, although many others would later visit the site, they were never able to find the abundance or excellence of specimens that Day had found. Besides his personal collecting, Day had made arrangements with the quarry workers to save every fossil they found in their labors so that he could have his pick. Although tradition has it that Day received these specimens free-of-charge from the

workers, his correspondence shows that he did, in fact, purchase some specimens, as was typical for the time, and it is possible that he may have received others in exchange for medical treatment. Quarrymen were poorly paid for their back-breaking work, and if they could make some extra money by saving fossils for paying customers, they were happy to do so. If Day was not paying for his specimens at first, competition from other collectors in later years would have eventually forced him to do so. He was, however, a personal friend of the quarry owner, John Schoonmaker, who provided him with fossils for his collection.

Throughout the 1860s and 70s Day expanded his collecting activities beyond Waawatosa, acquiring large numbers of Silurian fossil specimens from Racine, Waukesha, Pewaukee, Greenfield, and other southeastern Wisconsin localities, and from other time periods beyond State borders. He collected with friends such as Philo Romaine Hoy, a prominent fellow naturalist from Racine, and traded with others, such as William Egan of Chicago. In the late 1870s, Day began friendships with fellow-collectors and Milwaukee businessmen Edgar Teller and Thomas A. Greene. Greene had had similar natural history interests as Day when he was a youth growing up in Rhode Island, but he spent little time on these endeavors until late in life when his doctor prescribed a hobby for relaxation. Even though he started collecting fossils later than Day, he amassed an important collection focusing on Milwaukee localities. His collection and the family-funded museum on Milwaukee Downer College campus (now University of Wisconsin-Milwaukee) to house it have also been designated a National Historic Landmark.

Dr. Day published his only scientific paper in the 1879 volume of the Transactions of the Wisconsin Academy of Sciences, Arts, and Letters. With the somewhat lengthy title "On The Fauna Of The Niagara And Upper Silurian Rocks As Exhibited in Milwaukee County, Wisconsin, and in Counties Contiguous Thereto," this interesting paper discusses the importance of fossils in understanding the local geology and comments on the locomotion of trilobites, an extinct type of marine arthropod. This paper demonstrates that Day had made many important field- and specimen-related observations, which showed him to be a knowledgeable and original thinker concerned with some of the major geologic controversies of the time. Unfortunately, a second paper he was working on was never published, and his notes and most of his correspondence have not survived.

Day belonged to a number of professional scientific societies including the American Association for the Advancement of Science, the Wisconsin Academy of Sciences, Arts, and Letters, the Chicago Academy of Sciences, The Lapham Archaeological Society, and the Lyceum of Natural History of New York. He participated in local meetings and invited members to visit his Cabinet. He corresponded with a number of scientist from around the country on geological matters and he arranged the exchange of specimens with scientists and collectors alike. In addition to Hall and Chamberlin, some of his more notable correspondents included Charles D. Walcott, who later became head of the U.S. Geological Survey and the director of the Smithsonian Institution; Fielding B. Meek of the Smithsonian, and E. O. Ulrich of the U.S. Geological Survey. Day's help in supplying information and specimens was acknowledged in publications by Chamberlin, Meek, and Hall.



OFFICE OF  
**F. H. DAY, M. D.,**  
 Physician and Surgeon,  
 EVERGREEN STREET, WAUWATOSA, WIS. CO., WIS.

*Most truly & respectfully Yrs  
 F. H. Day*

*Day in his study at one of his earlier Wauwatosa homes, Evergreen Hall, surrounded by his books, fossils, and other natural history objects, c. 1868. Photo courtesy of Mary Dawson. Also shown, Day's letterhead and signature.*



*Two specimens of the trilobite *Banastus dayi* collected from the Schoonmaker Reef, and named in his honor. This was Day's most valued specimen, for which he was offered \$100. The specimen is now #547 in the Harvard collection.*



*Pencil sketch of a trilobite (*Banastus*) from Schoonmaker Reef made by Dr. Day. Courtesy of Mary Dawson.*



*Example of one of Dr. Day's fossil specimen labels.*

By 1880, Day had an outstanding collection of rare and well-preserved fossils, probably representing the best collection ever assembled in terms of quality and completeness from the Silurian rocks of southeastern Wisconsin. Complete trilobites, seven-foot-long cephalopods, coral heads ten feet in diameter, and multitudes of brachiopods, most of which came from the Schoonmaker Reef, graced his collection. Some specimens were described as "worth their weight in gold" by others. Besides the rare specimens, Day also acquired large numbers of the common fossils, making his collection even more valuable for scientific research. His collection was so large that, in the 1870s, when Sunnyhill Home was being built, he

had a special room designated for his Cabinet. Day often referred to his fossils as his "household gods," and invited his fellow naturalists over to discuss "sermons in stones."

Of course, Day had a multitude of other natural history objects scattered around Sunnyhill Home including marine shells, minerals, stuffed birds, and a large collection of local archaeological artifacts. Telescopes graced Sunnyhill's tower, and the home had a distinctly intellectual character. Curiosity and education were the Doctor's driving forces, interrupting even a routine buggy ride with his daughters to explain the composition of a flower.



*Day's Sunnyhill Home, the last of three houses he built in Wauwatosa; view to the northwest. Photo courtesy of Susan Gatre.*

Surprisingly, in 1880, he decided to sell most of his fossil collection to a museum. Several museums expressed interest, but it was Harvard University's Museum of Comparative Zoology that actually purchased it. Although Day shipped 8265 pounds of specimens to Harvard, he still retained more than 5000 specimens. Many of these were later sold to Thomas Greene, accounting for a large part of the Schoonmaker specimens in his collection. But Day never lost interest in collecting fossils and, when he died in Lansing, Michigan, in 1903, he had assembled yet another collection of several thousand specimens, many of which were from the Schoonmaker Reef.

Dr. Day's contribution to science should not be underestimated. His sustained collecting efforts over several decades, at a time when quarrying was yielding numerous specimens, made it possible to determine the true diversity of organisms that had lived on the Schoonmaker Reef. His efforts along with those of Greene and a few others documented the true abundance and variety of fossils in the Silurian reefs of the Milwaukee and Chicago areas, making them some of the best known ancient reef biotas in the world. This type of irreplaceable information gathered by such dedicated amateur naturalists as Lapham, Day, Greene, and all the others, has supplied us with an important key to understanding the history of life on Earth. Dr. Day, Wauwatosa's own pioneer physician, has been chosen for recognition by the National Park Service not only for his personal accomplishments, but as a symbol of the

coincidental contributions made by all amateur naturalists to nineteenth-century American science.

#### WAUWATOSA'S NATIONAL HISTORIC LANDMARKS

Wauwatosa has changed dramatically since the time it was a well known geologic site. The quarries that made the science possible have long been closed and have mostly disappeared. Once the quarries closed it became almost impossible to find new fossil specimens and scientific attention shifted to other sites in the region. Most of the former countryside has been developed, and many of the buildings that Dr. Day would have recognized are gone. The Day, Schoonmaker, and quarry-worker families have moved on, and few residents now remember them. Fortunately, some small fragments of those times remain.

The Doctor's specimens still fill the drawers at Harvard. Day's hand-written specimen labels still accompany some of the Schoonmaker Reef fossils located in museum collections from coast to coast. In Wauwatosa, part of the reef has survived even though most had been quarried away in the early part of this century, and the quarries were later filled. Western Metal Specialty has preserved a portion of the original reef exposures where Hall and Day did their work, which will be preserved for future research. Of the homes that the doctor built, only the last, Sunnyhill remains. Long threatened by neglect, it is almost a miracle that this grand structure has survived. Some people, such as H. Russell Zimmerman, Florence Rust, and even Milwaukee's own Liberace, worked to preserve it. But most of the credit belongs to physicians Peter Glaeser and Julie Jagemann, who actually dedicated the tremendous amount of effort, money, and elbow grease needed to restore the devastated house to its former splendor. Its new proud owners, Jimmy and Mary Jenkins, have continued the restoration work to ensure that this national treasure continues to grace the community of which it has so long been a part. Dr. Day's Sunnyhill Home once again reflects the lifestyle of the nineteenth-century amateur naturalist, those respected members of the community who had the means, education, and motivation that allowed them to contribute so much to American natural history.

The Schoonmaker Reef and Fisk Holbrook Day home now join two other National Historic Landmarks related to geology in Milwaukee County, Soldiers Home Reef and the Greene Museum and Collection, which form a unique group of sites that played a key role in scientific discovery. More importantly, they serve as monuments to all of the individuals who made nineteenth-century American science happen.



Please note that both the Day Home and Schoonmaker Reef are privately owned and are not open to the public. In addition, the reef is a scientific reserve, and collection of any natural history specimens is prohibited.

Because of space limitations, it was impossible to cover all aspects of the two sites in this publication. For additional information on the Schoonmaker family, quarrying and other activities on the Schoonmaker property, and the architecture and history of Day's homes, we refer you to the following publications:

- Cole, J. 1993. The Church Street Historic District. Wauwatosa Landmark 12.  
Kloosendorf, J., and D. Mikulic. 1994. Schoonmaker Reef. National Historic Landmark nomination.  
Kloosendorf, J., and D. Mikulic. 1994. Dr. Fisk Holbrook Day House. National Historic Landmark nomination.  
Mikulic, D. 1983. Milwaukee's gentleman paleontologists. Wisconsin Academy of Sciences, Arts and Letters 71: 5-20.  
Mikulic, D., and J. Kloosendorf. 1995. Schoonmaker Quarry: An important early Wauwatosa industry. Historic Wauwatosa 110.  
Smaglik, C. 1990. Fisk Holbrook Day Residence-Rededication. Wauwatosa Landmark 4.  
Timmerman, C. S. 1995. Four generations of the Schoonmaker family. Historic Wauwatosa 109.  
Wilkommen, E. 1996. Schoonmaker Creek. Historic Wauwatosa 111.  
Zimmermann, H. R. 1979. The Fisk Holbrook Day Residence. Wauwatosa Landmark 4.  
Zimmermann, H. R. 1987. Magnificent Milwaukee: Architectural Treasures 1850-1920. Milwaukee Public Museum, p. 42-51.

#### ACKNOWLEDGMENTS

We extend our thanks to Western Industries, Inc. for providing the funding to print this publication, and to Jimmy and Mary Jenkins for opening their home to the public for this dedication. We also would like to thank the following individuals for their help: Bonnie Bliffert, Harry Barowsky, Mary Dawson, Peter Glaeser, Susan Guise, Julie Jagennan, Dick Lynch, Ron Morris, Kathryn Nelson, Paul Nickamp, Sam Riggs, Jr., Janel Ruzika, Caroline Timmerman, George Wells, and Ed Wilkommen.

Published by the Wauwatosa Historical Society, August, 1998. For additional copies contact: Wauwatosa Historical Society, 7406 Hillcrest Drive, Wauwatosa, Wisconsin 53213.

Cover Photos: Top-Sunnyhill Home at 8000 W. Milwaukee Ave., the last home built by Dr. Fisk Holbrook Day in Wauwatosa, now owned by Jimmy and Mary Jenkins. Photo by the authors, 1996. Bottom-The Schoonmaker Reef showing the transition between the well-bedded nonreef rock (left) and massive reef mound (right). It is this exposure that allowed Hall to make his important interpretation of an ancient reef. Photo c. 1899, by W. C. Alden, Courtesy of U. S. Geological Survey.