

VOLUME 39 NUMBER 2 SUMMER 1989

# LORE



# CONTENTS

VOLUME 39 NUMBER 2 SUMMER 1989

President's Message  
From the Director / 1

Living in the Past / 2

Local Landmark  
Restored to Beauty / 11

Will C. McKern / 19

Museum Digest / 22

Gold Prospecting  
in the New West / 26

Books / 31

Film & Video / 32

Exhibitions / 33

*Cover: Civil War re-enactments have become an increasingly popular way of learning about history. Featured story, page 2.*

LORE is published quarterly by the Milwaukee Public Museum and Friends of the Milwaukee Public Museum, Inc. as a membership benefit. Single copies and back issues are available and editorial inquiries welcome.

## EDITORIAL STAFF

Mary Garity, Editor

Greg Raab, Designer

### Associate Editors:

Sharon Kayne Chaplock, Film Review Editor

Judith Campbell Turner, Book Review Editor

### Review Committee:

Sharon Kayne Chaplock, Robert Henderson, Janet Hessler,

John Lundstrom, Carter Lupton, Max A. Nickerson,

Judith Campbell Turner

## Friends of the Milwaukee Public Museum membership categories include:

### Annual Voting Memberships:

Individual, \$25.00

Individual with limited guest privileges (3), \$42.00

Family, \$42.00

Enrichment Club, \$135.00\*

Explorers, \$500.00\*

Discoverers, \$1,000.00\*

Donors, \$5,000-\$14,999\*

Patrons, \$15,000-\$74,999\*

Benefactors, \$75,000-\$199,999\*

Major Benefactors, over \$200,000\*

\*Muses and Men's Luncheon group included.

### Corporate:

Up to 100 employees, \$250.00

More than 100, \$500.00

### Annual Non-voting Memberships:

Institutional, \$10.00

Student (under 22), \$20.00

Address all communications regarding membership to

Lisa M. Sommers, Executive Director, FOMPM,

Milwaukee Public Museum, 800 W. Wells St.

Milwaukee, WI 53233 Phone (414) 278-5370

Designed at the Milwaukee Public Museum

Typography by Parnau Graphics, Inc., New Berlin, Wisconsin

Printed by Graphic, Inc., Cedarburg, Wisconsin

Unless otherwise credited, all photographs are by the Milwaukee Public Museum

Copyright © 1989 by Friends of the Milwaukee Public Museum, Inc.  
All rights reserved.

ISSN 0276-4754



## President's Message



Your friends group has been extremely active on many fronts. In each issue of *LORE*, I will highlight some of the wonderful people and the activities they are involved with in support of the Milwaukee Public Museum.

One of the more visible aspects of the Friends, is that of programs. This committee, ably chaired by Jo Beightol, is responsible for the planning and implementation of the many openings, programs, lectures, luncheons and activities that happen at the museum. Many individuals are involved on this committee and they are planning some very exciting future events. My thanks to them for their hard work and diligence.

Joe Rewolinski continues as treasurer of FOMPM and does a superb job of keeping track of the financial resources that are entrusted to us in support of the museum. Joe's responsibilities include the budget, audit, disbursements of funds and financial reporting. I certainly appreciate Joe's continued efforts on our behalf.

One of the main long-term goals of our organization is the growth of our endowment. The purpose of this endowment is to provide a continuity of support for the museum throughout the future. Tony Beadell has been chairing the endowment committee for a number of years and is working very hard to bring the Friends Endowment to the forefront. I am sure we all will be hearing from Tony in the near future, as he brings his message to the members and the community. We

are grateful to Tony for his work with the endowment.

"A Mask Ball" is the theme of this year's exciting gala which will take place on September 16, 1989 at the museum. We are extremely fortunate to have DeeDee and Leonard Goldstein and Bonnie and Mark Summer as co-chairs of this wonderful event. They have recruited an outstanding group of volunteers to assist them as they bring together multiple cultures through the medium of the mask. Our museum's outstanding collection of masks will be prominently featured and we are all looking forward to a wonderful evening.

Quietly, your Friends group continues to fund various activities at the museum. So far this year we have allocated resources to enhance the exhibits and graphics program, the educational program, the volunteer program, work study, library acquisitions, development of the 2-West project, a marketing package, and professional development. While most of these allocations are for behind-the-scenes activities, I assure you that the many thousands of individuals who visit the museum will benefit from this support.

I hope you accepted my invitation in the last issue to visit the museum: there is always something new and exciting going on. The Torosaurus is taking shape in the lobby and you can see the re-creation of a prehistoric animal for yourself. There are more activities for you to participate in than I have space to tell you about, but take advantage of all that the museum has to offer: self-guided or guided tours, travelogues, wonderful exhibits, unique gift shops and most of all, education. Learn about our past, present and future, all under one roof.

**Allan D. Robertson**  
President  
*Friends of the Milwaukee Public Museum, Inc.*

## From the Director



"World class institution" is an often overused phrase, self-serving in nature and substance. However, when this term is used by your peers and patrons, and I have heard it literally hundreds of times since my arrival in Milwaukee, perhaps it may have greater significance. The Milwaukee Public Museum is without a doubt a "world class institution." A product of over one hundred years of dedicated staff, intelligent systematic collecting and magnificent exhibition style, this museum has few peers either in the region, the nation or beyond. Sometimes, however, even our most ardent friends seem to be unaware of this uniqueness. We are taken for granted, somewhat like an old and trusted friend.

Times, however, now require us to compete in a world where greater competition for essential funding by quality cultural institutions abounds. We must forcefully convince the funding publics of the great services provided by this institution educationally, through research and publication, through our magnificent world renowned collections and through exhibits like *Rain Forest: Exploring Life on Earth*. We truly are an exceptional lifelong learning institution, providing a superlative product to our many constituencies. This museum is without doubt world class.

**Barry H. Rosen**  
Director  
*Milwaukee Public Museum*



*A column of Union cavalry wheels into line for an attack.*

The past two decades have seen a significant interest in reinterpreting certain historical periods. One of the rapidly developing phenomena related to this interpretation is the practice of "living history," an attempt to experience the political, social, and economic mores of a historical period by adopting and reliving a fictitious person from an era. This requires total immersion in the clothing, living conditions, and mannerisms of a typical person from the era.

National Battlefield Park to commemorate the one-hundredth anniversaries of those 1861 and 1862 battles with large scale reenactments of the battles respectively in 1961 and 1962. However, with a tragic artillery accident at the reenactment of the battle of Brandy Station in 1963 the Park Service decided that the only defense against potential liability damages was to bar reenactments on Park property. This decision quashed the large scale reenactments and accordingly the necessity for any

# Living in the Past

Howard Michael Madaus

Although long recognized as an extremely effective education tool employed at numerous historical sites and museums throughout the United States, the American bicentennial introduced the concept of "living history" to many Americans who had never experienced the technique. With the advent of the one-hundred and twenty-fifth anniversary of the American Civil War (1986-1990), a renewed interest in practicing "living history" for that time period evolved, not only in the United States, but surprisingly in such diverse places as England, Germany, and Australia. As 1986 approached, the framework necessary to properly portray the era at a size level never before realized and often involving several thousand participants began to take shape.

There had been several attempts during the centennial of the American Civil War to organize large participatory events duplicating the era of the War. The National Park Service had permitted the use of the Manassas National Battlefield Park and the Antietam

underlying organizational framework to sponsor them. The only large scale activities to develop in the post-Civil War centennial period were either state sponsored (such as the annual May reenactment of the Battle of New Market, Virginia) or a rare venture on battlefield land that was still privately owned (such as the annual August reenactment of the Battle of Cedar Mountain, Virginia). The interest in the War has always been stronger in the South, and as these were Southern victories, they usually drew more than their share of Confederate living history buffs together with the core of Union enthusiasts, primarily from the East. Most of these enthusiasts were organized into small groups of from one to two dozen individuals representing a unit from their own state. From these cores of small units began the larger organizations that propelled the current major events into the forefront.

Realizing that the small, state oriented groups could not properly demonstrate the true combat conditions of Civil War battlefields or





the proper behind-the-lines camp scenarios, several of the groups agreed to form larger generic units with the idea of depicting the tactical evolutions and firepower of full Civil War regiments. Led by "The National Regiment" and "Thomas' Mudsills" on the Union side, these groups foreshadowed the large scale accurate living history organization that evolved in 1985 with the formalization of their Confederate counterparts. These units formed the core of the American Civil War Centennial Committee, which sponsored the 1986 reenactment of the Battle of Bull Run (Manassas) on private land near Centerville, Virginia.

Having a lifelong interest in the American Civil War, I had participated in the 1961 reenactment of the Battle of Bull Run and the 1962 recreation of the Battle of Antietam. Appropriately the former was a confusing cacophony of milling troops as the ill-drilled participants sought to maneuver their

*Staff officers at work. Messages are delivered by mounted staff at the gallop.*

linear formations in the manner of the nineteenth century tactics. The latter, however, was a total disappointment. The same disorganization and confusion that had existed at Bull Run pervaded the attempts of the unit commanders to duplicate the maneuvers of the 1862 Antietam battle. But this was totally inappropriate. The intervening year of field service and battles had molded the American volunteers on both sides into well disciplined and drilled soldiers. It was obvious that the 1962 "reenactment" of Antietam was anything but that. To make matters worse, there were numerous historical anachronisms prevalent on the field, from cameras to sunglasses (or other modern glasses) to the portable field telephones used by the coordinators of the event to communicate with one another.

The campsite, moreover, was "mixed-modern" — there was no attempt to restrict period style camping to a single area or to isolate those who did not wish to live in the manner of the Civil War soldier. Disillusioned, I vowed never again to waste my time on such insults to the era, and instead devoted my energies to target competition with Civil War period firearms with live ammunition.

In early 1986, however, I learned that there would be an attempt to commemorate the one-hundred and twenty-fifth anniversary of the Battle of Bull Run with another reenactment of it. In the intervening twenty-five years, as already indicated, the "living history" enthusiasts had truly "gotten their act together." Moreover, they were looking to have the 2nd Wisconsin Infantry represented as they did in the original battle — in the state-issued grey uniforms that caused them to be fired upon by both sides. Intrigued to discover



*"Calvary to the right! Gallop!" A squad of Union cavalry hurries past a Union battery.*

what had changed since I had given up the "Cowboys & Indians" crowd, and anxious that my home state be properly represented, I endeavored to find persons in the area interested in joining me. The results were meager; most of the Wisconsin living history enthusiasts were already attached to other units that had accepted other assignments. Nevertheless, I sent in my application with the few names I had subscribed, purchased an accurate reproduction of the flag that the 2nd had carried at Bull Run, and with five other enthusiasts piled into a mini-van with equipment for an all night drive to Virginia and 90 degree heat.

Upon our arrival, to my pleasant surprise I discovered that the "living history" genre had matured considerably during my twenty-four year absence. The campsites were segregated into "modern" (hidden in a distant woods) and "authentic." The several thousand period tents of the latter stretched over

acres of a soon-to-be developed subdivision. Except during the evening hours of the day preceding the reenactment, automobiles were forbidden from the "authentic" campsite; consequently, all tentage and equipment had to be hauled in by hand. Anachronistic true "necessities" (such as water tanks and the portable toilets) were well hidden or disguised. Entering the authentic campsite was indeed a step back into history where not only did the equipment reflect the period, but the participants shed their twentieth century "presence" in favor of adopted personalities from the past.

Departing from my travelling companions, I sought out the others who were to represent the 2nd Wisconsin in the battle. I found my "comrades" camped together with the rest of "General Sherman's"

Brigade. Most were "galvanized" Rebels, i.e., participants who normally attended the events as Confederate soldiers, but who (under the limitations imposed by the organizing corporation) had "volunteered" to serve in the Union Army, albeit in their Confederate grey uniforms. As it turned out, most were actually Northerners whose sympathy lay with the Southern cause, and who had thus formed or joined Confederate units. The rest of our brigade was equally colorful and included the Scotch 79th New York State Militia (complete with kilts and bagpipes), the Irish 69th New York State Militia, and the 14th (Brooklyn) New York State Militia in their red trousers and French "chasseur" uniforms.

Not only were the campsite and the participants proper for the period they were about to represent, but the weather was duplicating the period. The heat was utterly oppressive; it seldom dropped to

much lower than the upper eighties at night, and on the day of the reenactment the mercury climbed to 107 degrees, not comfortable weather when you are outfitted in long cotton drawers, a long sleeve shirt, woolen socks, woolen trousers, and a woolen jacket that buttons to the throat. After a day of practice drills, I opted to "live in the past" only during the day, and with two other Wisconsin "shirkers" retreated to a semi-airconditioned motel we were lucky to find without reservations. It proved a wise decision, as heat exhaustion nearly felled me on the day of the reenactment and claimed so many of the five-thousand participants during the battle, that the emer-

gency services convinced the organizers of the event to truncate it a half hour early. The heat of the Bull Run/Manassas reenactment was a stark contrast to the next major event of the sesquicentennial — The Battle of Shiloh.

Totally satisfied with the transformation I had encountered in the living history fraternity, I determined to participate further. Two events were planned for 1987, the Battle of Shiloh in Tennessee and the Battle of Antietam in Maryland. The former proved to be another cause for "shirking" camp life

*Lines of battle: Union infantry, supported by field artillery, advance.*

during the night; not, however, due to the heat, but rather because it simply became so cold that no one could sleep in the below freezing nights. Rather than a motel, I dodged the camp guards and headed to our travel van and "slept" sitting uncomfortably in the front seat, while my family snoozed under the few blankets we had in the back.

Shiloh was the first reenactment my wife and daughters attended. Thinking that the oldest daughter was ready for the experience, I had purchased a reproduction period dress for her from a "sutler" (purveyor of period type goods) at the Bull Run reenactment. My other two daughters and



*Photographs by the author*





my wife made due with "prairie dresses" made from a pattern purchased at the museum's gift shop several years previous. Despite the inordinately cold weather, the rest of my family enjoyed and learned from the experience as much as I had. They wanted to go to Antietam with me in the fall.

Antietam (called Sharpsburg by the rebels) was the turning point of the Civil War. Tactically a draw, this bloodiest single day of combat in American history changed the course of the War. In driving the Confederate Army from Maryland, the Union Army not only caused England and France to reconsider recognizing the Confederacy, but it

*"Frau und kinder" join Private Madaus in his humble abode after the battle.*

permitted Lincoln to submit his preliminary draft of the Emancipation Proclamation to his cabinet for their consideration and eventual adoption four months later. Wisconsin units had played a prominent role in the battle, and I was hopeful that I could reorganize the 2nd Wisconsin to represent the state in the famous fight for The Cornfield. (Although Wisconsin units had also played a prominent part in the Battle of Shiloh, I had opted to join with another organization for that battle in order to dis-

cover what it was like to fight with a unit that accurately depicted a full size regiment in the field: about one thousand men. The experience had proved exceedingly enlightening in understanding Civil War tactical evolutions.) Due to a conflict with a National Park Service activity, the number of participants attending the the Antietam reenactment was about half that of the Bull Run and Shiloh affairs. Fortunately, we obtained a substantial Wisconsin contingent to attend as the 2nd Wisconsin Infantry of the famous "Iron Brigade." Despite the relatively small turnout, the battle was spectacular and memorable. I at last discovered

that the best place to sleep in the field was curled in all your wool clothing, enwrapped in as many blankets as you can carry, next to the campfire. Our Wisconsin contingent prepared a nineteenth century camp meal of dark bread, cooked sausage, and sauerkraut, brought to camp by a local "Dutch" family (my wife and children) that was anxious to see us drive the rebel hosts from their farm. My family, who again attended in period attire, thoroughly enjoyed the experience. They were ready for Gettysburg in the hot summer of 1988.

The heat and drought of 1988 seem distant memories now, but for those of us who experienced it in the dusty, torrid campgrounds near Gettysburg, Pennsylvania, it is a memory flash that can dispel the coldest blasts of Wisconsin's winters. When we arrived at Gettysburg to tour the battlefield several days in advance of the actual reenactment, the thermometer read 93 degrees, and that was at 7:00 p.m.

The Gettysburg reenactment drew more than thirteen thousand participants. Every state of the county was represented, and several groups from abroad chartered planes to attend. Despite the fact that Wisconsin regiments of the famous Iron Brigade had been heavily involved during the first day of combat at Gettysburg, there is not enough involvement in living history in Wisconsin to generate a Wisconsin unit in the field. Those of us from Wisconsin who were present and representing Union infantry were assigned to the "western battalion," which was to represent the 24th Michigan on the first day's fight, the 3rd Michigan on



the second day's fight, and the 7th Michigan on the third day's fight. What was it like to participate in this reenactment? Perhaps this letter, written by a soldier who fought with the 24th Michigan Infantry in the initial defeat of Archer's Confederate brigade and the subsequent defense of Seminary Ridge will give you some idea of the action that took place on July 1, 1863.

*Bivouac, 24th Mich. Vols.  
Culp's Hill, near  
Gettysburg, Penna.  
July the 1st, 1863*

*Dear Ma,*

*This short letter is to let you know that I am alive and sorta well. Don't believe none of them newspaper accounts that says I'm dead, cause I ain't, though I come close to it this morning.*

*Last night we camped south of here near a little stream called Marsh creek. I musta stumbled into a patch of poison oak or sometin like that when I was lookin for firewood cause when I got up this morning I had these little pocks all over my chest. I went to the surgeon with "Irish" at sick call. He was heaving his belly sometin fierce. Seems like*

*he got into the medical wagon and found the "commissary" and had drunk himself a canteen full. Surgeon he says it served him right. The surgeon took one look at me and wanted to know what I got into; he says I musta been visitin "Hooker's Division" when I was in Washington. I told him I ain't no such type — that I is brought up a good Christian by you and the bible. He smeared some gunk over the pocks and writ a note to my captain that I was scused from duty. But when I got back to the company, the captain said we had orders to march and get my traps in a hurry.*

*We started marching up the pike to some town named Gettysburgh with Cutler's brigade up front and then the rest of us black hats, separate for the 6th Wisconsin which was behind us with the brigade guard to make sure there weren't no stragglers. It was plenty hot, but at least it weren't so dusty as in Virginia. We left the road before we got to town and stomped through some terrible grounds all full of ruts and things left by cows. Then just after we crossed a ridge where there's this Lutheran seminary, all of sudden we gets the order to form into line might quick and go like the blaze after the rest of the Iron Brigade. We come across another ridge and ran smack dab into a mess of "Johnnies" crossin a small creek. We caught 'em with their britches down and drove 'em clear across to the next ridge. Then we got ordered to fall back and move to the right which we did at the double quick. It near winded me, but we got to where they wanted us on the right of the 19th Ind. Here we found out that Gen. Reynolds had been kille*



by some d--n rebel sharpshooter. We waited there some time, till mid-afternoon I think, while some more of the divisions of the 1st corps came up. Trouble was the rebs was doing the same, and right soon they come at us. We stood and gave them hell for some time, but pretty soon they flanked us, and we fell back to the ground between the ridges and reformed. We were holding our own when I felt this terrible pain in the chest and don't remember much after that. I found out later that some of the boys dragged me back to the ridge, though they thought I was a dead for sure, which I ain't, it only being a spent bullet that knocked me flat for a while. I made it to a field hospital back by the seminary. They was too busy to look at me right quick, seeing as how they was cutting off legs and arms and all. I waited around far a while, but when I seen the rebs driving our boys back, I lit out through town and only found the regiment, or what's left of it tonight. There ain't many left in our company. L. Herd from down the road near Granville is missing and some of the boys says they seen him fall together with Bill from Rochester when the regiment made its last stand on seminary ridge. Don't know what tomorrow brings, but if I am still live when it ends, I will write you more. I must close now as there ain't no light left. Please scuse how this is writ as I am using my knapsack for a desk and only have a dull pencil.

Yr. Son

The scenario for the second day was the see-saw battle of the Wheatfield on the Union left flank. The 3rd Michigan Infantry was in the



Union 3rd Army Corps, which extended the Union line from Cemetery Ridge south along the Emmitsburg Pike and formed a critical salient that was viciously attacked by Confederate General Longstreet's Corps on the afternoon of July 2, 1863. The following letter from a soldier of the 3rd Michigan to a friend back in Michigan gives some idea of the confusion that reigned:

*near Gettysborough, Penna  
Friday, July 3rd, a.m.*

*Friend Alonzo-*

*We have just come through a terrible fight. Early yesterday we arrived near this place and General Sickles proceeded to place our regiment and the rest of the corps on some high ground near a peach orchard and wheatfield along the road to Emmitsburgh, Maryland. The corps was formed a big "L" with the 2nd division facing the road and while we were formed at right angles on their flank, a field of wheat behind us. During the afternoon we were suddenly attacked by the rebels. It was a stand up fight. We held them for a while, but eventually they drove us back. We reformed and drove them, and then they drove us again. Reinforce-*

*ments finally arrived from the 5th Corps and we were driving them again. I was in the front line loading and firing as quick as I could. It was silent on our front, so the colonel advanced the regiment back through the wheatfield. We had just reached a small rise when a line of rebels suddenly stood up and fired a volley. All was confusion, men were falling everywhere. I fire once and then, to my shame, I must admit that I skedaddled. I ran as fast as my legs would carry me. I kept my musket though, which is more than I can say for several that I saw. One man in particular I saw running like a sheep, throwing off his musket, his accouterments, even parts of his clothing in his panic. I hid in some bushes for most of the rest of the fight and came back to camp last night. The captain didn't say anything about my running, so perhaps he did not see me light out. Or maybe he lit out himself. Who can say. Please do not show this letter to anyone around home. I don't want them to know I was a coward in this fight. Hopefully I can redeem myself if we fight again today.*

The 3rd Michigan did not participate in the battle of July 3rd, however. The Confederate assaulting units on that day, composed of Pickett's fresh Virginia Division and the remnants of two other divisions that had been battered on the first day, attacked the crest of Cemetery Ridge, where the Union 2nd Army Corps was stationed. A letter from a member of the 7th Michigan Infantry, which held the Union line just south of the famous "Angle" describes what he saw:



Field Hospital,  
Near Gettysburg  
July 4th 1863

My dear wife,

This is not how I expected to celebrate the eighty-seventh anniversary of this country's independence. I lie in a barn near where we have been fighting for the past three days. I am one of the fortunate ones that at least has some straw to lay upon. Yesterday I was fearfully wounded, I pray to God not mortally. Our regiment, the 7th, had arrived the day before, and we had been placed in line behind a low stone wall on a crest a little distance from a copse of trees, the only shade on the ridge. We lay in the hot sun all morning and a portion of the afternoon when suddenly I noticed three puffs of smoke from the ridge opposite us; then suddenly that whole ridge seemed to be on fire and shells were exploding all around us. We clung to the ground and flattened ourselves as best we could. Thank God most of the shells went over our head, landing among the mules and artillery parked behind the ridge. Our artillery replied to theirs for a while, but then slowly became silent. After what seemed an eternity, the artillery stopped. We finally got the courage to get up, and looking over the small stone wall saw the reason. As far as the eye could see were lines of Confederate infantry advancing. It seemed as if the whole rebel army was about to descend on the place we occupied. Our artillery waited till they got closer and then started up again, this time with canister, which is all they had left. Finally the rebels reached the



road in the valley a few hundred yards below us and started to cross the fences that lined the road. Finally our captain gave the command to fire. We gave them a volley that seemed to cut through them like a scythe, but still they came. Now it was every man for himself, loading and firing as furiously as he could, just one constant din. I saw a flag fall about twenty-yards in front of us and a few men rush out to capture it. I do not think they survived, though I have heard that we captured many other flags from them yesterday. I was loading and firing like a fiend, the men around me shouting "Fredericksburg! Fredericksburg!" when I suddenly felt a blow to my middle that sent me reeling back through the rear rank and the file closers. Someone offered me water, but another stopped him, saying I had been shot through the bowels. I am now at the corps hospital and have managed to write these few words while awaiting the surgeons to look me over. I am in great pain, but they refuse to give me anything. I have lost all my ....

Dear madam-  
your husband died before he could finish this letter. I forward it together with the few effects that he

had on his person when he died. I regret to say that we have buried him in a common trench near here, but have inscribed his name in pencil on a board above his head should you wish to disinter his remains. I regret that we could do nothing further for him.

Respectively, Yr. Obt. Servt.  
Major Williams, Surgeon,  
7th Mich. Infy., 2nd A.C.

For myself and my family, the reenactment of the battle of Gettysburg ended on a far happier note. With the battle behind us, the family packed our belongings back into our van and headed for home. Not, however, before stopping at the first available motel enroute to scrape off four days of dust and sweat, get a good meal, and sleep in front of an air-conditioner on real mattresses.

Did the reenactment of the Battle of Gettysburg end the living history programs for the Sesquicentennial? By no means. The second weekend of July offers the battle of Monocacy in Maryland, while the second weekend of August will belatedly bring the reenactment of the battle of the Crater at Petersburg. On Labor Day weekend the last battle of the Atlanta campaign, Jonesboro, will be restaged. Finally, on the first weekend of December, the Confederate repulse at Franklin, Tennessee, will be reenacted. There may be more, but these should keep me busy preparing cartridges for quite a while.

Howard Michael Madaus has been curator of the Nunnemacher Arms Collection of the Milwaukee Public Museum since 1968. He is a world renowned authority on the firearms of the Civil War.

# Local Landmark Restored to Beauty

John B. Lundstrom and Herbert F. Smith

**B**efore the turn of the century, the business districts of American cities were graced by the presence of numerous cast-iron “street” or “post” clocks placed on sidewalks in front of buildings. Smaller cousins to the “tower clocks” installed in turrets and steeples, the elegant street clocks, often 15 or more feet high, served primarily as the trademarks of fine jewelry stores. Downtown Milwau-

kee was no exception. By the 1920s street clocks nationwide had begun to disappear, as thoroughfares were rebuilt and buildings were modernized. Increasing traffic also proved hazardous to the tall and slender structures.

In Milwaukee a far greater danger to the survival of street clocks proved to be its eccentric “Boy Mayor,” Sherburn M. Becker, elected in 1906. He considered

them “sidewalk obstructions” which hindered fire fighters. Early one morning in 1907 after jewelers had failed to respond to his threats ordering their removal, Becker and a party of firemen started knocking down the clocks along Grand (now Wisconsin) Avenue. Many fine street clocks were lost. The legacy of Becker’s thoughtless act endured long after he left office in 1908. It is recorded that the city attorney’s of-



*One of the street clocks destroyed by Mayor Becker, 1907. Photo courtesy of Milwaukee Co. Historical Society.*



*The Jensen Street Clock at 16th & Washington, 1972.*

fice had to employ three new assistants to handle the many lawsuits brought against the city during Becker's short tenure.

By 1972 Milwaukee had only one operating street clock. The property of Eldred Jensen of Jensen Jewelry, it had stood for 61 years in front of his shop on South 16th and West Washington Streets. The Jensen clock was a Number 4 Post Clock manufactured by the Seth Thomas Clock Company in Thomaston, Connecticut. In 1908, a year after Becker's rampage, it was first installed a half block away from 16th and Washington, but three years later was moved to that location.

Over the years the clock grew to be quite a local landmark. One particular admirer was Edward Green, then Art Director of the Milwaukee Public Museum, who used to pass the clock on his way and from work. One day in the late 1960s he discovered it lying in the street, knocked over by a truck which backed into it. In a few days the clock was back in operation. Green wrote to Jensen to compliment him on its swift repair.

Remembering Green's letter, Jensen thought of the museum when in 1972 upon his retirement it became necessary to dispose of the street clock. Although private collectors had expressed consid-



able interest in the clock, he offered it to the museum in order to see it preserved in Milwaukee. Thomas J. Bliffert, president of the Granville Lumber & Fuel Company (now Bliffert Lumber & Fuel Company) graciously donated the funds to purchase the clock and to have it moved to the museum. That summer it was reassembled and erected near the museum's front entrance. There on 4 October 1972 it was ceremoniously dedicated as the city's last surviving street clock. A bronze plaque was affixed to attest to that fact and to acknowledge Tom Bliffert's kind donation. The Landmarks Commission of the City of Milwaukee designated the clock as a Milwaukee landmark.

For 12 years the museum's Seth Thomas continued to brave hot summers and cold winters. By 1984 it became apparent that the clock required a complete refurbishing. That fall under the supervision of history curator Donald Hoke and conservator James Burnham, the clock was dismantled and disassembled. New dial lenses and their wooden framework were fabricated, but beyond that the job of restoration proved far more complicated and time consuming than first thought. Until expert assistance could be obtained, the clock remained in storage. After Dr. Hoke left the staff, I became curator of Americana and took charge of the clock. In 1988 its restoration was given high priority. Very fortunately the museum learned of Herbert Smith's expertise in clock restoration, and he volunteered to take on the task. Here follows his narrative of the project.



*The clock as it appeared from 1972 to 1984.*

In May 1988 I was approached on behalf of the history section by my friend Marvin Rosenau, head carpenter at the museum. He asked if I might like to help restore the street clock. I have a great interest in tower and street clocks and have repaired a number of them. I envisioned working mainly on this clock's mechanism: cleaning, reworking, repairing, adjusting, and lubricating it. I had no idea that the rest of the clock would comprise the biggest part of the restoration.

When I first saw the disassembled clock in storage, I examined and photographed the works and decided I could do the job. It was an eight-day movement driven by a large weight and regulated by a pendulum. Setting the correct time was accomplished on a small pilot dial contained inside the framework, which like the case was of cast-iron. The two main dials were 41 inches in diameter, and the clock when fully assembled was 16 feet in height.

All of the clock parts were then moved to Steve Sanfilippo's paint shop, located on the museum's ground floor. The clock's movement was relatively clean, and my first task was to completely disassemble the works, while carefully marking the position of all of the components. Unfortunately some time ago the pendulum had become separated from the rest of the parts, and searches of the storage areas were unsuccessful. Steve undertook a great deal of the restoration work, including the cleaning, preparation, and refinishing of all of the major components. After researching the proper exterior fin-

ish, a particular shade of green was chosen to match the original, and acrylic paint was applied to protect the exposed surfaces. Steve refinished and flawlessly repainted the mechanism's cast-iron frame in green and black.

Reassembly of the movement was begun. There proved to be excessive wear in the escape wheel verge assembly. In his well equipped home shop, Sid Williams of Cedarburg assisted in repivoting and rebushing as necessary. The old wire rope used to transfer power from the gravity weight to the drive drum was mangled and needed replacement. Bernard Weber, a history section volunteer, contacted MacWhyte Wire Rope of Kenosha, which generously donated the necessary length of rope. Harbor Marine applied a retention nipple to one end of the rope, and it was installed on the drum. Bern Weber also supplied some hard-to-find screws for the clock.

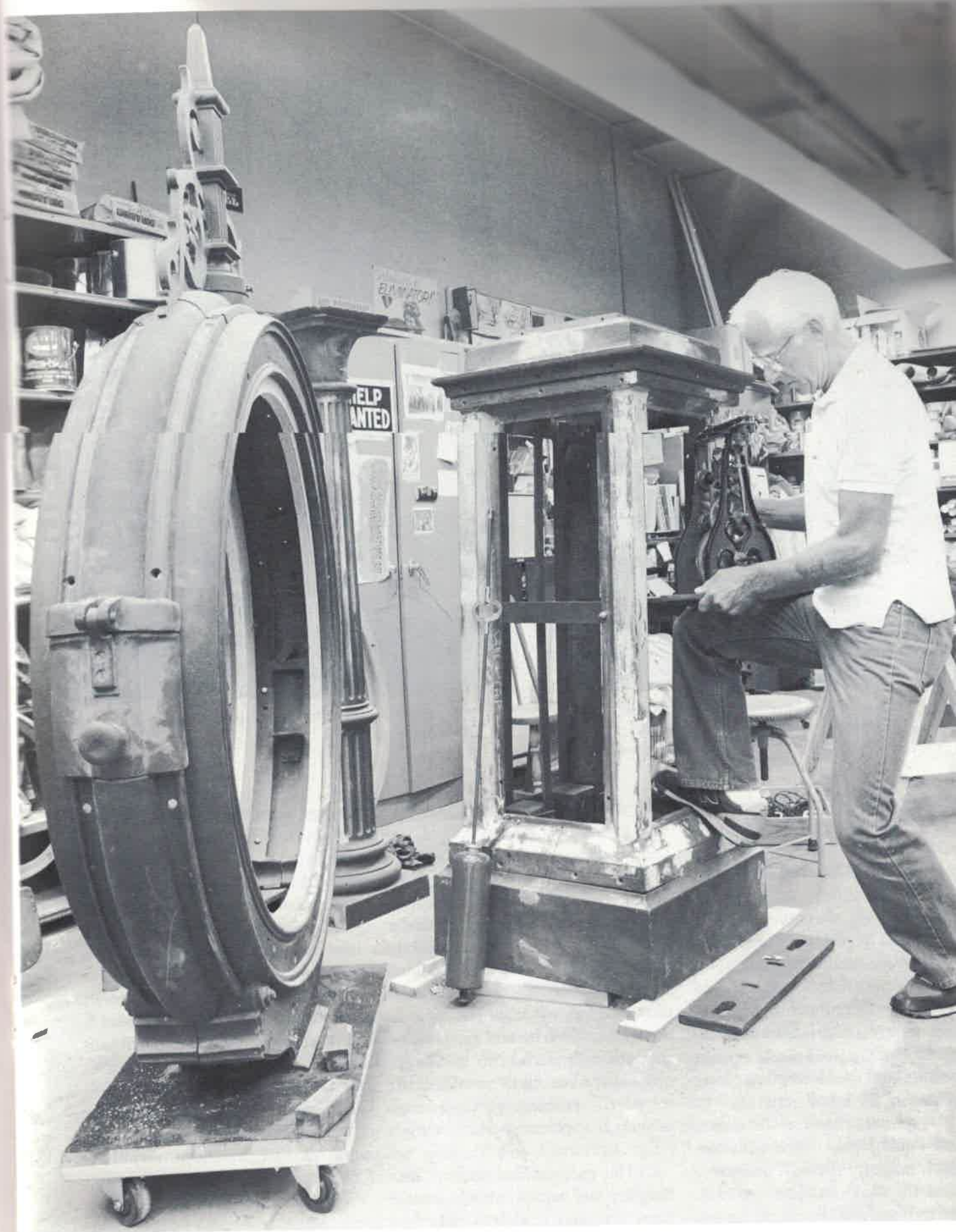
In June Steve Sanfilippo, Ed Green, Richard Dermody, and I visited the Sheboygan County Historical Society, where a very similar Seth Thomas Number 4 Street Clock is operating. We examined and photographed this clock in detail. This aided in locating or duplicating, if necessary, the pendulum. It was also vital to study this clock's dials and numerals. Some time prior to its donation, the museum's street clock had received another dial with incorrect and improperly sized numerals and minute ticks, and we wanted to reproduce the correct dials. On our return from Sheboygan, with the knowledge of exactly what to look for, the "lost" pendulum was found.

At about this time I discovered that old welding repairs to the cast iron base assembly and face housing, done because of such calamities as the truck accident years ago, had not restored these components to their original size and dimensions. All of the major casting were out of alignment, and assembly of the panels and doors to the base, as well as reconstructing the seven components of the face housing, became a frustratingly slow exercise.

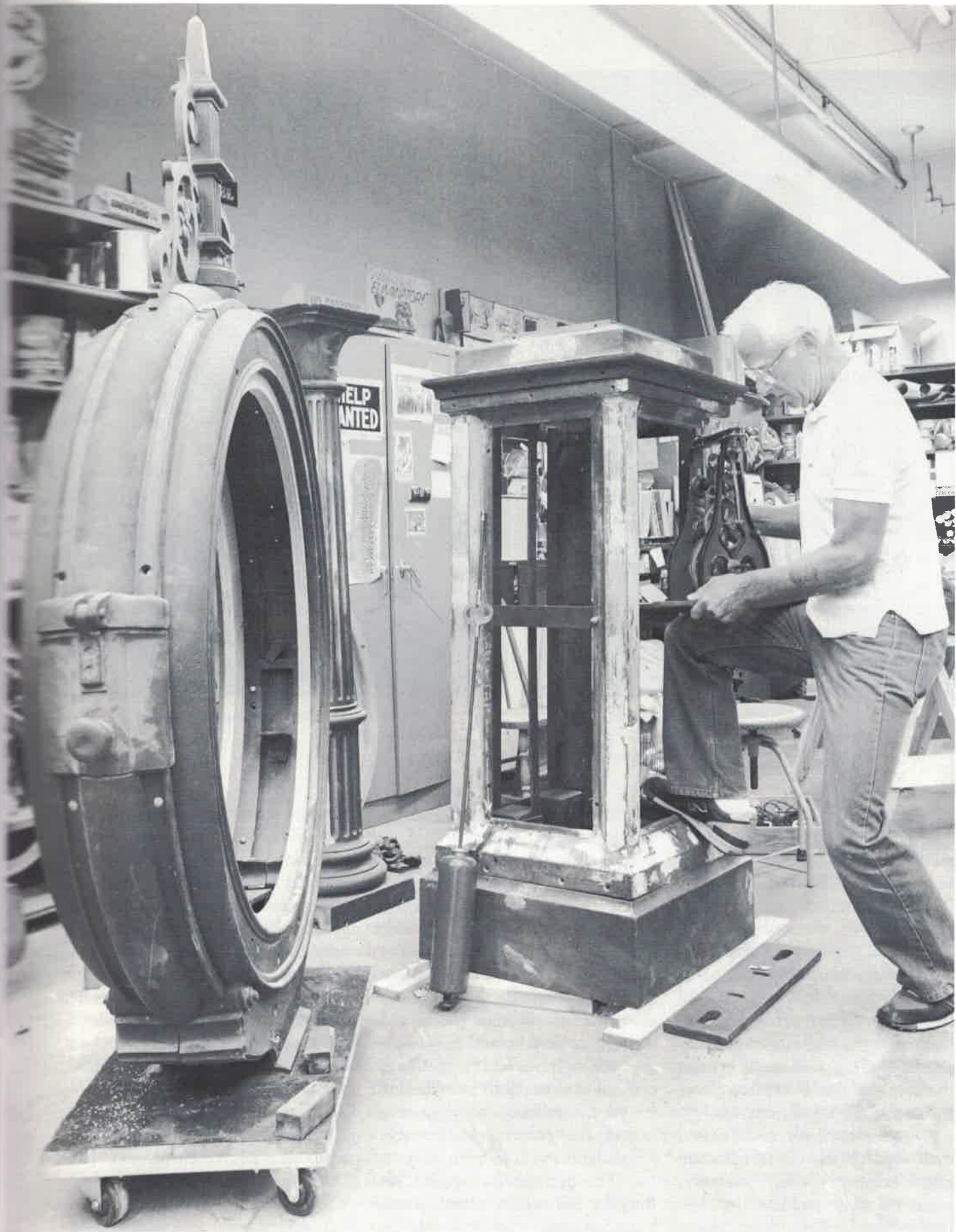
As the base assembly took shape, I was able to mount the clock mechanism for basic testing. The arrangement of the pulleys to carry the power to the drive drum based on the Sheboygan clock, appeared questionable. Lloyd Larish of the House of Clock, Faribault, Minnesota, helped greatly by sending me photos of a similar clock in his neighborhood. Now I was really able to test the movement. It worked!

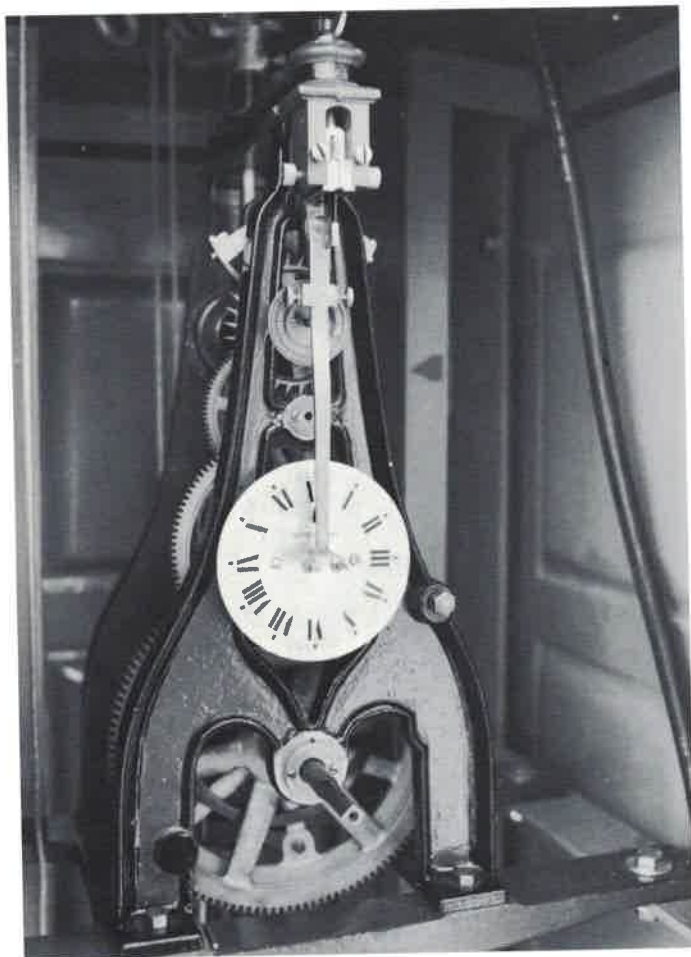
Experience seemed to show that it would be wise to erect the entire assembly on a trial basis inside the building, if at all possible. A room in one of the closed exhibit areas on the second floor was chosen. The components were moved up to the space, and assembly was accomplished. It proved to be well worth the time and effort. We discovered that because the components had been hand-fitted from the smallest screws to the largest bolts, there is really only one way to assemble this clock.

*Herb Smith about to conduct a trial run of the works.*









*The works showing the pilot dial used to set the clock.*



*15 December 1988: leveling the clock into position.*

For example, the four cast iron decorative serrations which fit on the four sides of the upper base had to be attached by trial and error. Properly installing them required bolting one on, then matching the three other pieces, one at a time, on the three remaining sides. This made 40 possible positions and took the better part of one day. Previous restorers had fudged the process by loading steel wool between the base and the decorative pieces to "absorb" the misalignments.

The two cast iron doors and their four hinges, which with two panels make up the base assembly, posed the same problem. In addition to matching the proper hinges

with their doors, it was discovered that earlier welded repairs had altered the space where the doors had to be hung. Consequently the doors would not close properly, affecting both appearance and sealing of the interior. I felt some metal might have to be removed to ensure a good weather-tight fit, but museum conservator Ronald Harvey did not agree. He felt, and rightly so, that ethically we had to maintain originality as much as possible. He solved the problem by suggesting use of the proper weather-striping.

The painted inscriptions on the pilot dial, which is used for setting time and is only visible by

opening one of the doors, had become illegible due to deterioration over the years. We removed and preserved the original dial, so that hopefully the obscured date of manufacture and serial number might be brought back. Roy Shoberg of Shoberg Machine gave me enough brass to make two replacement dials on my lathe. They were then silver-plated. Rick Regazzi, a museum artist, prepared a silk screen and perfectly duplicated the dials according to a sample sent to me by Lloyd Larish. In return I sent the extra one to Lloyd for his trouble.

It was time again to visit the clock at Sheboygan to examine the





*Lifting the column onto the base.*



*Placing the dial assembly on the column;  
from left: Steve Sanfilippo, Marv  
Rosenau, Joe Rebatzke, and Herb Smith.*

locking mechanism for the back door, which was missing from the museum's clock, lost probably during the 1960s repairs. I copied it, and the duplicate is now serving its purpose in the clock. In Sheboygan I also had the opportunity of talking with Rudy Grandlic of Grandlic Jewelers, who is the keeper of the historical society's clock. I still needed three gears, unfortunately missing from the museum's clock, in order to operate the pilot dial's hands. Lloyd Larish had sent me a set to examine and duplicate. Rudy was able to locate three gears that, with some mounting alterations, served as well. The modifications were accomplished by Ken Woods,

clock and watch repair instructor at the Milwaukee Area Technical College, and by Sid Williams.

Long ago during previous repairs someone had used a jury-rigged replacement for an original holding assembly which attached the face assembly to the column. I did not care for the quality of the substitution, so I turned to the Milwaukee County Historical Society. They also have a Number 4 Street Clock, which unfortunately is missing its original movement, and remains disassembled. Through the kindness of William Frick and Robert Cassidy, the museum was able to obtain on loan the proper assembly. Another "original" was

fabricated by Phil Peckham of Three Lakes, Wisconsin. His wife Jean took care of bringing back the original and the copy.

When the clock was donated to the museum, the circuitry for lighting it at night was largely missing, except for one porcelain socket. It was decided to restore this system as well. Richard Swainston, building manager, arranged to have a new concrete pad poured for the clock in front of the Museum, one wired for electric power. Steve Sanfilippo located porcelain sockets identical to the surviving one, and I installed and wired them in place. Now the two dials are night lighted with the





*Checking the alignment of the hands.*

warm glow of six 25 watt bulbs. Illumination is controlled by a timer.

Members of the exhibition and graphics section produced two excellent replacement clock dials closely resembling the long-lost originals. After studying photographs, Earl A. Martyn, a retired artist and museum volunteer, did the actual layout of the numerals and minute markings. Rick Regazzi then silkscreened the design onto blank dials of milk-colored acrylic plastic. Marv Rosenau cut the two lenses which would protect the dials and built the wooden bezels to hold them.

In November we made final plans for the installation of the clock. Everyone was anxious to see how the finished product would look, as it had been necessary to leave the lenses, hands, and dials unattached until the basic components were standing and secured. Beginning at 8 a.m. on December 15, 1988, assembly of the clock be-

gan on its pad outside the front entrance of the museum. The weather was clear, but very cold and windy. With the help of a County crane and members of the museum's custodial section, the process went quite well. The rehearsal earlier that fall proved invaluable, as we now had a good idea how the parts went together. The clock was operating shortly after noon, with final touches completed by 3 p.m. Power for the lights was made available the next day, and for the first time in its present location the clock was illuminated at night.

Even though the clock is back in place, it must be properly wound and maintained, just as in the old days before the advent of electric clocks. Although it has an eight-day interval, it is advisable to wind it once a week. Due to the extreme changes in temperature, there are variances in keeping the exact time. At present the clock is running one to two minutes fast per week, and adjustments are made as necessary. The lessons learned in repairing and preserving the clock have been recorded to aid future restorers.

Through the work of many dedicated individuals, the museum's Seth Thomas Street Clock is back in operation. This restoration should see it into its second century of timekeeping.

*John Lundstrom is an assistant curator in the history section. Herb Smith, a museum volunteer, retired after 40 years with the Rockwell International Power Tool Division as a sales and service engineer. He loves working with old automobiles and particularly tower and street clocks. Presently he is restoring the tower clock of St. John's Lutheran Church on Vliet Street, which is a Historical Landmark in the National Register.*

# Will C. McKern

Marion Davison



**O**n Sunday, November 20th, 1988, Will C. McKern died at the age of 96. He had lived with his daughter, Margaret Ritter of Waukesha, from 1980 until his death at Waukesha's Westmoreland Health Center.

McKern was a nationally recognized anthropologist. Although he conducted important ethnographic research among the Indians of California, Wisconsin, and in the Pacific Island republic of Tonga, McKern's major work was

in archaeology. He was a founder of the Society for American Archaeology and the first editor of its professional journal, *American Antiquity*. He is well known for his development of the Midwest Taxonomic System (often called the McKern Taxonomic system), a scientific method that laid the framework for the classification of archaeological evidence in the Great Lakes area. Much of the information for the system was formulated during McKern's sweeping



survey in the 1920s of the prehistoric sites from Lake Michigan to the Mississippi River. He wrote the first comprehensive reports of the ancient mound-building Hopewell culture in Wisconsin.

A veteran of WWI and graduate of the University of California, McKern taught anthropology at the University of Washington in Seattle and served as a curator at the Bishop Museum of Honolulu before he joined the Milwaukee Public Museum staff as Curator of Anthropology in 1925 under Director Samuel Barrett. McKern's work in Tonga and at the Bishop Museum resulted in the Oceanic exhibits which completed the museum's world-wide ethnographic representation. In 1943 he succeeded Ira Edwards to the directorship of the Milwaukee Public Museum.

Some of the MPM's finest series such as *Publications in Anthro-*

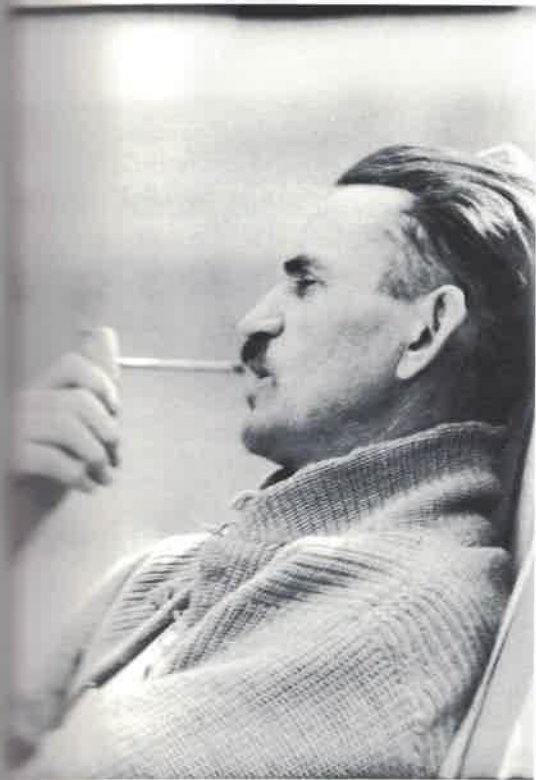
*pology* went to press during McKern's administration. Several popular educational magazines and programs were also begun by McKern: the *Bulletin*, the *Museum Record* (later renamed *Lore*), the *Popular Science Handbook*, the *Explorers' Log* and its companion radio series, "Explorers' Club of the Air." One of the museum's longest-running activities, The Trading Post, was initiated during McKern's administration, and it is still offered each month by the Education Section.

Staff expeditions were sent to Canada, Alaska, Africa, and New Zealand to bring to Milwaukee many of the magnificent taxidermy mounts now on exhibit. Eldon Wolff's work on revolver identification, Emikl Kruschke's life-long study of hawthorns, Kenneth MacArthur's research on Dutch Elm disease, and much of Ritzenthaler's ethnographic work that became milestone publications for the MPM were accomplished during the McKern era.

He negotiated a joint field project between the museum and Columbia University to do research supervised by Robert Ritzenthaler among the Wisconsin Ojibwe, bringing Columbia graduate students who later became renowned anthropologists — Victor Barnouw, Ernestine Friedl and the late Joseph Casagrande. Head Curator of Anthropology, Dr. Nancy Lurie, acknowledges McKern's role as mentor during her early college years. Decorative arts curator John Luedtke recalls, "He encouraged imagination and innovation."

McKern's energetic leadership resulted in major financial contri-





butions. In 1944 he organized the Friends of the Museum, and by 1951 he raised more than \$100,000 through the FOM. While the MPM gained a reputation for excellence in public service and exhibition, McKern worked diligently to elevate its scientific quality. In response to growing governmental control of the museum in 1950 he stated:

*. . . the administration of the museum must be in that atmosphere of academic freedom essential to all public education agencies. . . free from so much as a suspicion of political restraint (Lurie, A Special Style 1983:83).*

Early in the 1940s McKern brought to public attention the inadequacy of the museum's crowded quarters which were then shared with the public library. In 1947 it was suggested that the city turn over both the library and museum to the county government. City planners acknowledged McKern's arguments for a new building, but refused to relinquish city ownership. Plans for a new museum were approved and ready to go with an opening date set for 1953 when city officials unexpectedly shelved the project in 1951 and the library was granted a new addition. McKern took up the gauntlet once more to initiate an aggressive campaign for a new building. With the help of educator/naturalist Murl Deusing, McKern received the backing of influential local organizations and the media. A bond referendum for \$7,540,000 was passed in 1956 to build the present MPM. McKern retired before the construction ac-

tually began, but many of today's exhibits are a result of his long-range vision, notably a hall of traditional culture that later became the European Village.

*. . . in a speech prophetic of exhibits at the museum today, McKern described the museum of the future "as telling a cultural or scientific story without rows of cases" (Milw. Journal, 11/22/88: Metro Sec., p. 4B).*

In 1956 he received an honorary degree in science from Marquette University. On his retirement from the MPM in 1958, McKern returned to continue studies in anthropological research in Berkeley where he remained for more than twenty years before his return to Wisconsin in 1980.

Will C. McKern is remembered as an accomplished scientist, and a leader of outstanding ability with great personal charm.

*Marion Davison retired from the museum's anthropology section this year. She formerly served as head of the education section and is presently involved in the Archaeological Rescue program. She earned her Ph.D. in anthropology from the University of Wisconsin-Milwaukee.*

# MUSEUM DIGEST

## *An interview with Thomas Lovejoy*

Rolf Johnson, a paleontologist at the Milwaukee Public Museum, hosts a weekly radio program on WYMS. Over the last two years guests have included internationally known biologists and historians. Recently his guest was Thomas Lovejoy, program director for the World Wildlife Fund, Assistant Secretary for External Affairs at the Smithsonian Institution, and creator of the *Nature* series for public television. The interview explored the importance of rain forests and their conservation.

Dr. Thomas Lovejoy is a tropical ecologist whose pioneering work in the rain forest of Brazil is providing scientists and policy-makers with the much-needed hard evidence for determining what effect the clearing of large tracts of rain forests has on the plants and animals that are left behind; usually left behind in small fragments of their original habitat. The implications of his work for conservation and habitat management are profound. Dr. Lovejoy has been referred to not only as a premier scientist and ecologist but also as an educator, communicator, diplomat and entrepreneur. A superb catalyst, Lovejoy is responsible for starting major scientific projects and involving diverse parties in pursuit of empirically supported results. Lovejoy is Program Director for the World Wildlife Fund, Assistant Secretary for the Smithsonian Institution, creator of the *Nature* series for public television and a very articulate spokesperson for the conservation of the earth's biota.

### **Why are tropical rain forests important?**

Well, I guess I would make the point by initially saying that we are animals. We are living things and therefore we depend on other living things. Biological resources are the ultimate resources. The support of human society in an age of genetic engineering makes even the most esoteric species hold the promise of turning into a multimillion dollar industry or curing some devastating disease. Tropical forests have anywhere between 50% and 90% of the genetic resources of the earth. That is the greatest expression of life on earth and, really, the ultimate wealth for human society.

**It's true that many people aren't aware of the products we obtain from the rain forest. You also talk about**

**genetic diversity. That might not mean anything to most people.**

Well, first of all, anybody who has had a bowel operation has been graced with a bit of the Amazon, with Curare being applied as a muscle relaxant. We're living in an age where you can take one gene from one animal and put it into another species and create something entirely new and useful, for example produce an enzyme which may effect a chronic genetic disease. There are no new ideas in biochemistry except those which come from observing nature. I think one of the most interesting examples of this came from the people who were studying bushmasters; a nasty viper from these forests which has an unpleasant habit of dispatching its prey by giving it a permanent case of low blood pressure — I mean just zero, boom, that's it. And studies of how that works revealed a whole new system of regulation of blood pressure in the human being and that in turn is the basis for Squibb's drug Capita which is the preferred prescription drug for hundreds of thousands of people in this country suffering from high blood pressure. And that idea, that knowledge, came out of the rain forest. And yet what one does is just go down to the drug store and get it.

**The rain forest's biota is still largely uncatalogued so the potential for discovering chemicals or other pharmaceuticals that can be used by people is really open ended, isn't it?**

Yes it is. It's a huge library in which the books haven't even begun to be catalogued. Ninety-eight percent of the species in the tropical forest are unknown.

**You are currently involved in a very interesting project which is looking at what is happening to the rain forests as they are now being over developed, being clear cut, and burned. The**

research is called **The Minimum Critical Size of Ecosystems Project**. Tell us about it.

Well this project deals with a phenomenon that happens all over the place whether in Wisconsin or the Brazilian Amazon. When forest is being cleared, for whatever purpose it tends to be fragmented. It has become apparent that as soon as a piece of forest is no longer connected to a larger system, all kinds of changes are triggered by its becoming isolated. These changes express themselves by the loss of species of plants and animals from the isolated fragment; sort of like radioactive decay, but instead of losing radioactivity, it's losing species and becoming a simpler and impoverished representative of the larger system. If one doesn't understand this process then one does not understand how big an area to set aside to be immune to that erosion of genetic diversity. So this project in the Amazon is essentially a giant experiment to look at forest fragments of different sizes. We can study the effect of scale on this erosion process. We've already reached the conclusion that it's really important to have big areas. The next step is to say how big. Probably pretty large in a tropical forest. The third part of this project is to understand what drives this erosion of diversity so that when a country is in a situation where it can't have an ideal minimum size, it can try to manage to hold more species than it otherwise would be capable of doing.

**Prior to developing this project, there was a debate going on whether or not you could have lots of small, isolated habitats, that would be sufficient to keep up biological diversity, or whether you needed large single reserves.**

The basic question was are you better off with one big area? Or a whole series of small ones which add up to



that same total area? It's the kind of question that a government official has to face. And the theoretical biologist had a lot of fun in the controversy but the problem was that there was no real data to draw on. Nobody had ever actually watched what happened to an isolated habitat fragment to note how species were lost. And to understand whether there was any pattern to it and whether, in fact, you did need a big area or you could content yourself with a series of small ones. The answer is in our computers at the Smithsonian right now. The answer is you need a big one.

**One of the reasons you need a large area is that you have to contend with something called an edge effect. Here in Wisconsin, when people think of an edge along a habitat, the margin between a field and a woods, they think that's a wonderful place for plants and animals to thrive. And yet the opposite is true in the tropical rain forest, isn't it?**

In fact that was one of the great surprises of the project. We were so fixed on this question of *how big* that we didn't think about what was going on when the piece of forest suddenly

had a sharp edge to it so that instead of being part of a continuous, high humidity, constant temperature environment, it was exposed to great fluctuations in temperature and humidity and, in fact, even light penetrating into the forest. There is a deep edge effect, which can be perhaps as much as 100 meters deep as far as trees are concerned, where you've got a doubling of the mortality rate of trees. Birds stay away from the edge. In contrast to the more temperate zone edges, these tropical edges are essentially deserts.

**If you have a number of small preserves, could they be linked together with forest corridors?**

Everything that we know to date points to corridors being extremely important. We had one big 250 acre patch which supported army ants and the birds that habitually attend army ant swarms. This patch actually supported that system as long as there was a small corridor, and when that was finally cut, they vanished.

**So again, here is something that you have to work into the equation if, as a conservationist, or as a government, you are going to set aside nature preserves.**

In fact what we really should do is, instead of setting up our conservation areas as little pieces in the middle of a man-dominated landscape, the man-dominated areas should be the islands in a natural landscape. That's the way it really should work.

**One of the things that I find intriguing about this Minimum Critical Size in Ecosystems Project is that you really worked the Brazilian scientists, the Brazilian biologists, right into this research.**

In fact it's the only way to do this sort of thing. It's their country and



nothing we are going to do will stick in the long term unless they are involved from the beginning. Besides, Brazilians are a lot of fun to work with.

**Are you able to communicate the implications of destroying these habitats to the people who are living in that area? I know they're clearing that land because they have to make a living. They have families to support, mouths to feed. How are you able to communicate to them what the implications of this habitat fragmentation and clear cutting of the forest will bring?**

Well, where we're working it's not a matter of small farmers. The particular area where we are is in a zone for research and experimental projects, so we are really working within the confines of some large ranches. And those ranches are deeply grateful for some of the information we are able to provide. We did the first mapping of their land when it was covered with forest. And they have begun to realize that by having this research work on their property they are part of something that's important. Even if they don't understand it entirely, there's sort of a pride there. You know when they see the television crews come out to film our work, it's happening on their land. And they are happy about that.

**You have assumed a dual role now in your work as a tropical ecologist. You are very much involved in trying to influence the policy makers both in this country and in countries like Brazil. When did that change come about? When you realized that you not only had to do the pure science but had to try to get to the people who were making decisions about the ultimate use of this land?**

I don't know. I guess it was probably instilled in me very early on. My biology teacher in high school

**There are no new ideas in biochemistry except those which come from observing nature.**



started me. He always used to talk about the environment. That was a long time ago you know, like 1955. And I remember distinctly that Dillon Ripley, who was a professor at Yale when I arrived as an undergraduate, used to say that any biologist with a conscience had to spend some time on conservation. But I never expected to have that be my full time occupation. I sort of fell into the job of running the program for the U.S. World Wildlife Fund in 1973 and I thought, well, I'll do that for two or three years and then I'll go on to something more interesting. But it utterly grabbed me when it finally sunk in how much we were changing the face of the planet and just how vital it was to protect the biological systems and variety of this planet. I have reached the point of view now where I believe it is the responsibility of each and every scientist to tell the world what we are doing to it and what shouldn't be done and what can be done to change things.

**That is an interesting idea. A number of the scientists that we've had on Museum Digest have expressed similar philosophical viewpoints. Do you think that this is a trend; that**

scientists are realizing that they succumb to "analysis paralysis" (trying to get all of the facts) before they make their statements?

Well, there will always be the scientists who are only going to be happy sitting in a laboratory counting hairs on the legs of flies, or whatever it is that they do. And I don't mean to belittle that. But I think there is a growing awareness that the very biology of our planet is being threatened and that there is no other place to go. If the biologists don't talk about it, how is anybody ever going to take it seriously? So, it's not only biologists' problem to solve but if other people are not a part of the solution it's not going to happen.

**One way that you have attempted to educate policy makers is to actually take them down to the rain forests.**

Well, you know there's nothing like experiencing the real thing to convince people. I suppose you're referring to this recent trip when I, Senators Worth, Reins, Gore and Chafee and Ben Bradley, the executive editor of the Washington Post and Congressman Sikorski from Minnesota and John Boerner from Texas, Brazil. At about the end of the trip after we'd seen all of the deforestation and after we talked to all of the officials in Brasilia, we ended up going out to a project camp, in what I sometimes lightly refer to as a congressional slumber party. But in fact I think that this experience was what finally turned the switch in those people. They knew what a tropical forest was and how much of fascination and richness and how really is a benevolent place not that "scary" place where things are going to sting you or bite you or whatever. When they've come back and they are so wonderfully energized about this. We're on the phone all the time figuring out ways we can get resources and avert certain disasters and help

Brazilians deal with this problem.

**One idea that I know you are working very very hard to develop is what you refer to as debt swap — taking debt money that many of these third world countries owe to the world banking community and turning it around to conservation efforts. Explain how debt swap can work.**

Well, first of all you have to realize that this debt is something that both the northern and the southern countries are responsible for. It takes two to sign a loan. And there may have been some ill judgment here and there and suddenly those debtors were paying 20% + on allowances. This is a crushing burden on those countries. It's a threat to democracy in those countries. And it's a problem for Americans because whatever foreign exchange these countries earn goes to pay off the loan and so we have shriveled up markets for our products. However, it's possible to go out and buy a piece of paper that says, for example, I, the government of Bolivia owe the Central Bank \$100,000, whatever terms. And you can buy it at a great discount. The discount depends on expectations that the money will be paid back. And then the way to really do this right is you take that paper money and you transfer it to a private conservation organization in the country in question and they go to the central bank and say "you don't have to pay us in dollars." You can pay us in local currency and we will devote it to the socially useful purpose of conservation within the country. So that's what it's all about.

**Congressman John Porter in Illinois is one of the sponsors of the Rain Forest Protection Act. Does it look as though this idea might actually fly?**

I must say since we came back from Brazil this congressional delegation is really active on this

particular mechanism (debt swap) because it's the only way you can pay for conservation. These countries don't have many other resources for conservation. It's the only way you can solve the problem. Billions of dollars worth of conservation needs to be done. And this is the only way you can do it. It's not going to solve the debt problem. The debt problem is much bigger than that. But it can certainly alleviate the financial pressure on these countries and frankly, in the end, help save the world.

**Do you think that this idea helps awaken these countries to the fact that their real resource is the rain forest?**

I think that realization is coming slowly. You also have to realize that when you're running one of these countries you are driven by short term considerations. So any additional set of resources which can be made available for long term concerns will make a big difference.

**Many Americans see rain forests as an abstract entity. We were talking about all the media attention that is focused on the ozone layer, the greenhouse effect, things of that sort. Do you think that's beginning to drive it home to Americans, to people here in Wisconsin, that, yes, what happens thousands of miles away in the rain forest is going to also effect us here?**

I think it is certainly beginning to. Last summer was a pretty nasty summer. I don't think science is ever going to be able to say whether that was the beginning of the greenhouse effect or not. But it sure is a preview of what it is possibly going to be like, and burning a tropical forest is one of the things that contributes to the growing problem of the greenhouse effect. Last year burning of the Brazilian Amazon alone contributed 10% of the carbon dioxide that went into the atmosphere.

So in the end, how we manage forests is a critical part of heading off the greenhouse problem. Because you can turn off the forest burning you've dealt instantly with 20% of the net accumulation. If you start reforestation in deforested areas all around the world, in a total area of 1 to 2 million square kilometers, you can take care of another 30%. So 50% of the CO<sub>2</sub> problem can be dealt with instantly that way, and you leave the rest to energy conservation and efficiency.

However, this only works for 30 years because it's that 30 years of initial growth in the forest when it (the forest) really stocks the carbon away. But that's also a reasonable period of time to work on new energy scenarios for support of human society.

**Do you see conservation trends in this direction? Are you hopeful for the future?**

Well, I certainly see increased awareness in the Congress. And I hope that people will be urging their elected officials on all these matters, telling them that how Congress votes on some of these issues will have a lot to do with how the people will vote for their representatives in Congress.

**People wonder what they can do as individuals. Do you think it's 1) to become informed and 2) to try to influence those people making policy?**

Without any question. Governments don't get very far ahead of their people. Educating them is part of the answer and letting the officials know that how they vote on these issues is big in your mind would make a difference.

*Museum Digest* airs weekly on WYMS, FM 89 every Thursday at 12:30. Join Rolf Johnson and his guests for thought-provoking conversations on science, nature, history and the environment.







# Gold Prospecting in the New West

Rodney Watkins

For most people, the mention of gold prospecting is likely to evoke an image of men in slouch hats and western garb, armed with goldpan, pick and shovel and accompanied by a trusty burro packed with supplies for several months in the wilderness. As we know from film and novels, these hardy fellows spend much of their lives combing the hills, for that vein of precious yellow metal which will make them rich. In reality, the modern western prospector typically works for a salary, discovery or not, and he is likely to wear a baseball cap with a company logo. He uses a four-wheel-drive vehicle instead of a burro, usually stays in motels, and his prospecting tools include topographic maps, a plastic garden trowel, cloth bags, compass and tape measure. Even more incongruously, the modern prospector almost never sees the gold he is searching for, even when his work results in a major discovery and the opening of a mine.

*High-grade gold ore from Colorado. Such occurrences of visible gold flakes in quartz veins — the dream of the old-time prospector — are now so rare as to be economically negligible in western mining. Photo of museum specimen enlarged to show detail.*



*Cored section of low grade gold ore from the Mohave Desert of California. This rather unspectacular rock is rhyolite tuff breccia, and the microscopic gold which it contains can be detected only in an assay laboratory. Large volumes of such low grade ore form the foundation for modern western gold mining. (Core diameter is approximately 3 inches.)*

Gold prospecting, or to use the preferred term in the business, *gold exploration*, is currently booming in the western states. Two major factors account for this activity. In the early 1970s, the US government deregulated the price of American gold. Long held at \$35 an ounce, the price of gold was allowed to float on the open market, reaching a high of over \$800 an ounce by 1980. Gold has been fluctuating around \$400 an ounce for the past few years, down from its

all-time high but still at a healthy enough level to encourage production. The second major factor to boost the American gold industry has been the development of a gold recovery technique called heap leaching. In this process, crushed ore is spread on concrete pads and drowned in solutions which literally leach the gold from the rock. When operated on a large scale, heap leaching recovers large amounts of gold which cannot be economically obtained by conventional smelting methods.

These two factors have revolutionized the definition of economically minable gold ore. Rich veins with visible gold at the ground surface have virtually all been discovered and mined over the past one hundred and forty years. In contrast to these veins, which carried a half-ounce or more of gold per ton of rock, the deposits sought by today's prospector (or *explorationist*, as he prefers to be called) contain less than one tenth of an ounce of gold per ton and are usually concealed beneath the ground. The gold in such deposits occurs as microscopic particles, and millions of tons of rock must be mined to obtain economic results.

The search for these large volume, low grade gold deposits has produced a type of prospecting which is quite different from that of years gone by.

The first step in modern gold prospecting is the selection of a target area with gold potential. Unlike the old-time prospectors who travelled patiently from one stream or mountain to another, the modern explorationist tries to cut his time and expenses by narrowing the field of search. This is done partly by following the footsteps of the old-timers, for abandoned mining sites are attractive targets for further exploration. The reason for this attention to historical workings is by no means sentimental. High grade gold veins, discovered and mined out long ago, are often an indication of large, low grade gold deposits in the same area.

The other method of selecting a target area is more sophisticated and involves the use of geologic theories of ore formation. Gold deposits are formed in far too many ways to review in this article, but one important theory, the volcanic hot springs model, serves as a good example. Some twenty years ago, a handful of economic geologists began investigating gold occurrences in relation to volcanic activity. Volcanos are fed by magma chambers at depth. Magma is molten, semi-liquid rock material, and magma deep in the earth is both a heat source and a "chemical soup" of many elements, both rare and common. Not all magma reaches the earth's surface as lava, and much of it forces its way into subsurface rocks to cool and harden underground. In the process of doing this, the magma can produce

heated, mineral-laden fluids called hydrothermal solutions. One element in some hydrothermal solutions is gold, and under the right conditions of pressure and temperature, hydrothermal solutions disseminate large amounts of microscopic gold in the rocks through which they pass. This activity occurs hundreds to thousands of feet below ground, but it often has a surface expression as volcanic hot springs.

Armed with this theory in the late 1970s, geologists from Homestake Mining Company, a major American gold producer, began exploring a target area in northern California with evidence of ancient volcanic hot springs. This was an area passed over by the forty-niners, and no gold had previously been found within it. In this case, the theory proved correct, and Homestake found a low-grade gold deposit which has been developed into one of the largest gold mines in the country. The successful test of the volcanic hot springs model was a break-through in gold exploration, and areas with similar geology are being actively explored throughout the west.

Once a target area for exploration has been selected, the real work on the ground begins. The first step in this work is geochemical sampling. Gold deposits, even when buried below the surface, can leave their signature as trace amounts of metal in the overlying soil. Geochemical soil sampling is a standard entry-level job in the mining industry. A small hole is dug and about a pound or so of dirt is placed in a new cloth sample bag. A plastic garden trowel is used for digging, and the person taking



*Geologist Quentin Browne, a modern prospector for ASARCO, Inc., studies mineralization in the Independence Range, Nevada.*





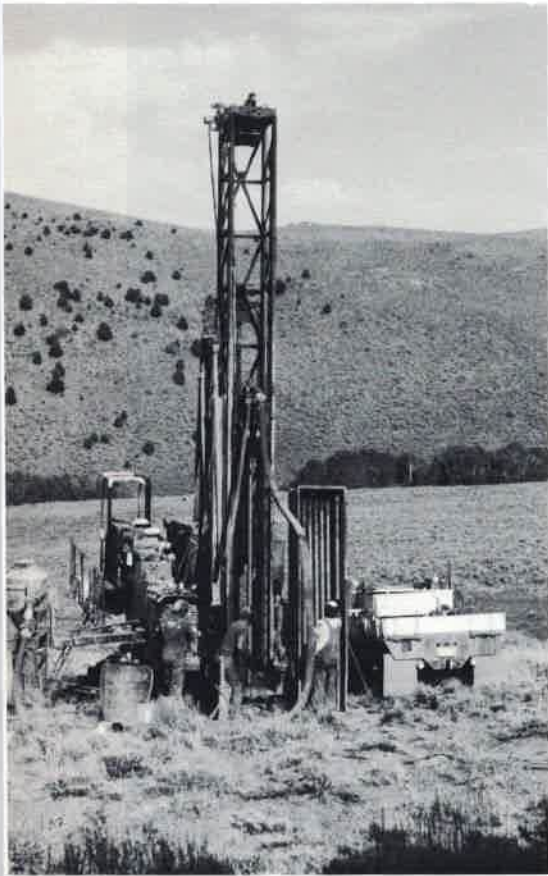
the sample is allowed to wear no metal rings of any kind. Such care is necessary to prevent contamination of the sample. The bag of soil is sent to an assay laboratory, and using a technique called neutron activation analysis, which identifies gold from its atomic properties, the laboratory determines the amount of any gold in the sample. Gold content of the sample is measured in parts per billion or parts per million of the total soil. A gold content of, for example, 20 parts per billion is obviously a very small amount, but even this result can be

a significant sign of buried ore. Other elements which are associated with gold deposits, such as silver and mercury, are often analyzed as well.

Besides taking the sample, the modern prospector also plots its location precisely on a topographic map. The first phase of geochemical sampling often covers areas of one hundred square miles or more. Based on the initial survey, those areas with the most promising soil values are visited again, and a second phase sampling program is begun. In this second phase, tape and

compass are used to lay out a grid upon the ground, and soil samples are taken every one hundred feet at the corners of the grid. Geochemical soil sampling is unglamorous work, often conducted in extremes of weather and topography, and it requires the collection of thousands of samples to be effective. The end result of a geochemical sampling program is a map on which all sample values are plotted and areas of highest soil values for gold or other elements are identified. Such areas, called soil anomalies, usually cover a few acres or less, and they





*Rotary drill rig at work on a gold exploration project in Nevada. Note lack of rock outcrops in immediate area; this is a typical example of the type of exploration target located by geochemical soil sampling.*

often identify the location of gold ore bodies at depth. Rock outcrops around the anomalies are also sampled and mapped in detail.

These prospecting activities are conducted by a team of geologists. Target areas and application of geologic theories are determined by a senior company geologist. A crew chief is employed to coordinate field activities, a specialized geologic mapper (my own job while employed in the business) is used as needed, and several young geologists, typically fresh out of college, are hired to take the soil samples. Another aspect of the work is the staking of federal mining claims on favorable areas. Claims are usually

staked between the first and second phases of geochemical sampling, long before any decision to actually mine an area has been made. Depending on the size of the target area, from one to three field seasons are required for the prospecting and claim staking.

All of this activity is directed toward the final and most critical phase of gold exploration, which is drilling. No legitimate mining company ever begins a mine without drilling, a fact which is often unknown to investors who fall prey to gold scams. Drilling, of course, provides a direct sample of the subsurface rock, and it is the ultimate test of the presence or absence of minable gold ore. Drilling is also, however, the most expensive part of an exploration program, and the whole purpose of the initial geologic investigation and geochemical sampling is geared to picking the most favorable drill sites. Like other business people, gold explorationists work within the limits of a budget, and before the drill rigs arrive on a property, great care must be taken to see that available funds for drilling are efficiently spent.

Two basic forms of drilling are used in gold exploration. The least expensive of the two is called rotary drilling, and a single hole is drilled to depths of anywhere from 100 to 800 feet, depending on geologic features of the target area. Rotary drilling crushes the rock as the drill bit moves through it, and the material brought to the surface consists of rock chips one half inch or less in size. Chips are collected for every five to ten foot interval of the hole, and samples are sent to an assay

laboratory for the same type of gold analysis performed on soil samples. Rotary drilling is relatively fast (a good crew can drill through several hundred feet of rock per day), but downhole contamination of chips is sometimes a problem, and the geologic information which can be obtained from chips is often limited. Core drilling is much more expensive, and generally less than one hundred feet of drilling is accomplished per day. Core drilling, which yields excellent geologic information, produces solid rock cores from one to two inches in diameter. The core is split into sections which are also analyzed for gold content in each five to ten foot interval of the hole.

A modern gold exploration program is an expensive proposition, and well over a million dollars are generally spent from the time of target area selection to drilling. As a rule of thumb, a drilling program is considered a success if several holes penetrate rock with gold values of five one-hundredths of an ounce or more per ton. Even at this stage of exploration, the gold particles are usually too small to be visible, and assay results determine if the rock is minable ore. All serious gold exploration culminates in drilling, but fewer than one in ten projects result in discovery of an ore body. A successful drilling program, the dream of every new west gold prospector, is followed by development of a large open pit mine, which is another story in itself.

*Dr. Rodney Watkins left the mineral industry in 1988 to join the MPM staff as a curator of geology. He is currently working on the bedrock geology of Milwaukee County.*

# BOOKS

**Fish Decoys of the Lac du Flambeau Ojibway** by Art and Brad Kimball. Boulder Junction, WI, Aardvark Publications, Inc., 1988. 96 pp., illus. \$19.50 + \$2.00 postage and handling.

Recently, I received a surprise package containing a beautifully crafted little wooden fish. An accompanying note from Brad Kimball explained that it was the recent work of Buddy Wayman, a Lac du Flambeau Ojibway carver, and was a donation to the anthropology section's collection. The regular mail brought the book about fish decoys, both gifts in acknowledgment of the use of photographs of Ojibway fish decoys in the museum's collection. It really makes a curator's day to have a spontaneous expression of interest in the work of the museum in the form of a donated specimen documented not only as to details of tribe, maker, and date, but fully documented as to the broad historical and cultural context of the specimen.

The book is a charmer whether or not one is "into" fishing. Fish decoys have been used since ancient times and continue to be used by the Ojibway to lure large fish within spearing range through a hole cut in the ice — not as easy as it sounds. First, the decoy has to

be carefully, even lovingly, made to fool a real fish. It has to be carved, colored, and weighted just right to swim realistically, worked something like a marionette from a string attached to a stick held in the fisherman's hand while the other hand is ready to thrust a spear into the game fish attracted to the decoy. The spear is attached to a secured line to avoid the risk of losing it under the ice.

Before all this takes place, however, the hole has to be cut — funnelled out under the ice, and it can't be chopped out just anywhere. Years of observation and experience determine the right places for ice fishing. A sort of small tipi frame is set into the ice over the hole and covered with blankets or canvas to close out any light so that no reflection obscures the view into the hole. The fisherman crawls into his little tent, stretching out belly down on boughs and blankets to peer into the water, his legs extending outside the tipi. Then he waits and works his decoy. The wait can be a matter of many hours in the cold, even for skilled fishermen. There are variations on this approach such as a "sit up" tent over the ice hole and use of a long spear requiring the help of an assistant, but the preferred method today is the "lay down" tent using a short spear.

The book details the history of ice fishing among the Ojibway and the evolution of the spear from prehistoric prototypes to modern variations of metal — often adapted from old pitch forks, but the focus is on the decoys and the carvers. Most decoys are

shaped like small fish but occasionally are carved in the form of frogs. They are little works of art, each embodying astounding mimicry of nature to achieve a practical purpose and yet each is the identifiable work of a particular carver or family of carvers. Different woods are preferred by different carvers. Some decoys are aromatic, indicating the maker knew the secret of "medicines" attractive to fish. The hand yearns to hold and stroke the graceful lines of these little decoys shown in the black and white and color photographs.

The decoys exemplify the pragmatic adaptability of the Ojibway, and their persistence as a people. Over time, carvers have experimented with birchbark, rawhide, rubber, and metal for fins and tails; decoy eyes may be beads, glass eyes recycled from old commercial plug lures, or simply carved; weights suspended from the decoys have given way to lead poured into slots carved into the fish belly and smoothed; coloring may be accomplished by burning, crayons, or hardware store paint. Whatever new materials are employed, they are made to serve an age-old art and the art perpetuates the need for age-old skills the young people learn by studying with their elders — close observation of the natural world, the ability to endure hardship, and infinite patience.

**Reviewed by  
Nancy Oestreich Lurie  
Curator, Anthropology**





# FILM & VIDEO

**Long Shadows: The Legacy of the American Civil War,**  
88 minutes, 1/2" VHS, James Agee  
Film Project.

Interspersing the past with the present, *LONG SHADOWS* gives Americans a sense of their country's Civil War history and how that continues to impact on us in subtle and direct ways. The Civil War? That happened over 125 years ago! What could possibly be left but gravestones and battle sculptures? A lot. As one reporter commented in the program, "Americans are innocent of history — not ignorant of it. American malaise will persist until we look at our past."

And *LONG SHADOWS* gives us a good look at our past. It was a war where 600,000 people died during its

4-year duration. . . more than all subsequent wars up to and including the first five years in Vietnam. At Gettysburg alone, more than 50,000 died as well as 5,000 horses. The buzzards still roost there, the progeny of those who participated in the carnage. We see this tremendous loss, including the burning of so many cities in the South: Atlanta, Marietta, Blackville, Fayetteville and more. Studs Terkel comments on how ironic it is that "big dough always follows a holocaust." The Rockefellers, the Mellons, J. P. Morgan, all made their fortunes as a result of the South's reconstruction. And so the present Sunbelt has roots in the Civil War with its history of low wage workers and economic underdevelopment resulting from its war-torn past.

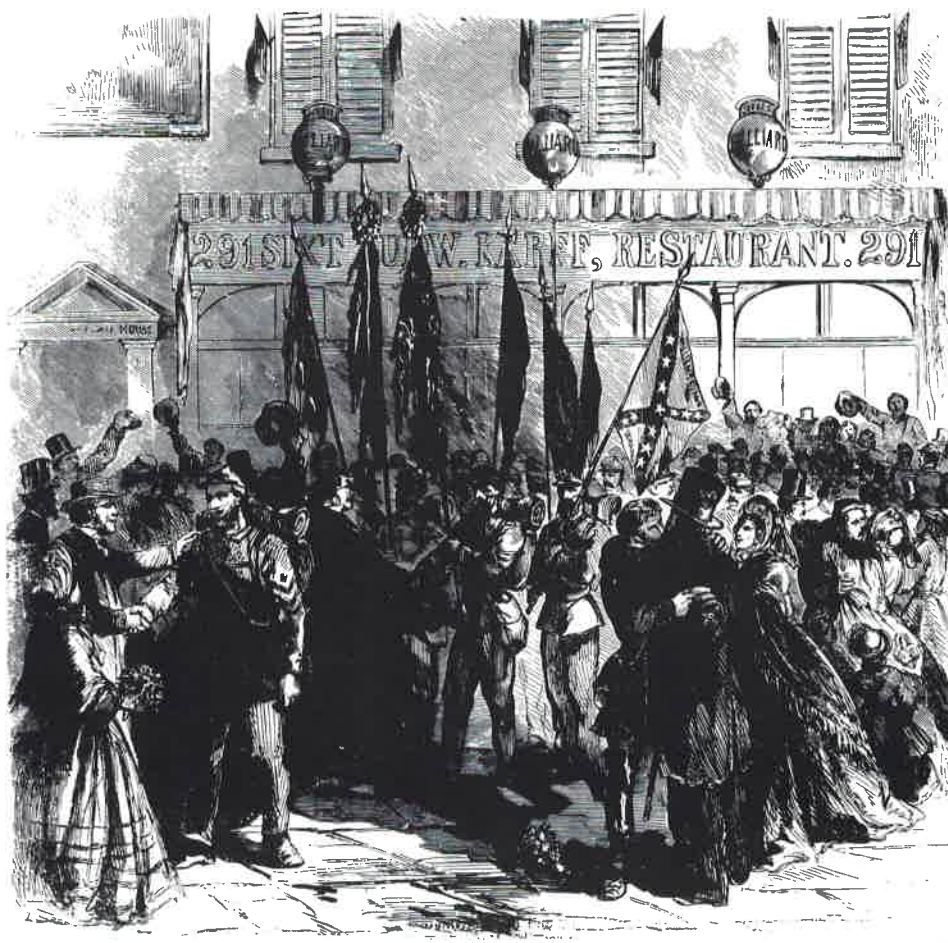
So we are asked, just what was the reason for this War. In Chicago and Atlanta, the answers are debated and yet the same: abolition of slavery, State's rights and agrarian vs. industrial economies. The seeds of the Civil War were in the issue of slavery,

but the Emancipation Proclamation, as inspiring as it was, did not resolve the fundamental problem. And we are shown through archival looks into the recent past, how the Civil Rights movement was only a continuation of the unresolved issues of the Civil War. And it was only as a result of the Movement's success, that a Southern President could be elected, according to President Jimmy Carter.

*LONG SHADOWS* contrasts the past with the present to make us become more conscious of where we are now and how we got there. It also helps us see what's important to deal with first if we are to go forward as a nation united.

**Reviewed by**  
**Sharon Kayne Chaplock**  
**Director, Audiovisual Center**

*For information about borrowing films and videos from the Audiovisual Center, please call 278-2721.*



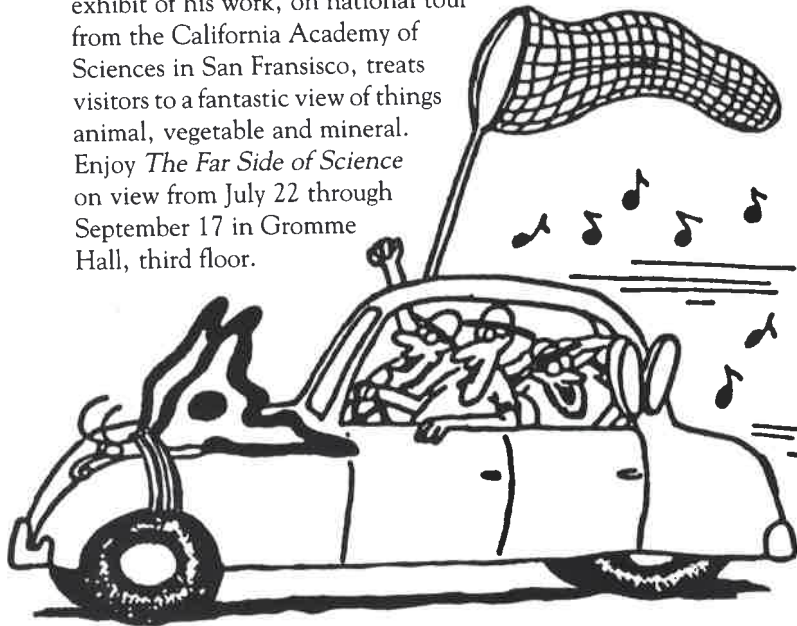
*The friends of the Seventh and Eighth Regiments, New York volunteers, welcoming the return of their heroes to New York Tuesday, April 28, 1863.*



# EXHIBITIONS

## Take a Ride to the Far Side!

Gary Larson, one of the world's most popular contemporary cartoon artists, looks at life with a wry sense of humor. This special exhibit of his work, on national tour from the California Academy of Sciences in San Francisco, treats visitors to a fantastic view of things animal, vegetable and mineral. Enjoy *The Far Side of Science* on view from July 22 through September 17 in Gromme Hall, third floor.



## Du Bay - The Lost Collection

John Baptist Du Bay was one of the most colorful men in the early days of Wisconsin. Fur trader, frontiersman, and son-in-law of Menominee leader Chief Oshkosh, Du Bay was considered the Daniel Boone of the Old Northeast's North Country. This special exhibit highlights his life, the archaeology of the Du Bay Trading post near Stevens Point, Wisconsin, and a tribute to the work of anthropologist Philleo Nash, whose excavation of the Du Bay site led to current research by Archaeological Rescue group members. Learn more about Wisconsin's history and one of its most interesting men by viewing this special exhibit in the second floor lobby area through September 5.

## Chinese Opulence From the Qing Dynasty

The Chinese Empire attained its greatest size and wealth during the Qing Dynasty, which flourished for 268 years. Foreign trade was encouraged, and arts and crafts reached a new height. In a special exhibit featuring treasures from the Milwaukee Public Museum's permanent collections, the artistry of the Qing Dynasty is revealed. Porcelain, cloisonne, carved ivory and bronze are among the treasures on exhibit now through January 15 in the Uihlein Decorative Arts Gallery, second floor.



# MILWAUKEE PUBLIC MUSEUM

## ADMINISTRATION

**Dr. Barry H. Rosen, Director**  
*Acting Associate Director,  
Museum Affairs*

**James A. Krivitz,**  
*Acting Deputy Director,  
Operations*

**Nubia Serrano,**  
*Acting Associate Director,  
Finance/Human Resources*

**Richard Swainston,**  
*Acting Associate Director,  
Facilities Planning*

**Jennifer West,**  
*Acting Associate Director,  
Marketing/Development*

## FRIENDS OF THE MILWAUKEE PUBLIC MUSEUM, INC.

### OFFICERS

Allan D. Robertson, President  
Richard E. Beightol, Vice President  
James McKenna, Vice President  
Richard Upton, Vice President  
Maxine Herz, Secretary  
Joseph Rewolinski, Treasurer  
Frank E. Briber III, Past President

### DIRECTORS

Anthony D. Beadell  
Marian M. Brill  
Lilias M. Bruce  
Richard H. Dean  
Michael Dunham  
Marilyn K. Fifield  
William T. Gaus  
Priscilla B. Heinecke  
Shirley S. Howard  
Robert A. Kahlor  
Carole Kraemer  
George La Budde  
Daniel J. Minahan  
JoAnn Ratcheson  
Verne R. Read  
Richard W. Wright  
Larry D. Young

### EX-OFFICIO

JoAnn Beightol, Program Coordinator  
Thomas B. Fifield, MPM Trustees President

### HONORARY DIRECTORS

George M. Chester  
Arthur J. Frank  
Jean S. Lindemann  
Carl W. Moebius  
James R. Neidhoefer  
Frederick L. Ott

### STAFF

Lisa M. Sommers, Executive Director  
Arlene Mann, Membership Assistant  
Suzanne Nurkala, Secretary  
JoAnne L. Schelwat, Membership Associate  
Barbara Fischer, Special Projects Director

Friends of the Milwaukee Public Museum, Inc. 800 W. Wells St. Milwaukee, WI 53233

Non-Profit Org.  
U.S. Postage  
PAID  
Permit/3051  
Milwaukee, WI