Wisconsin Academy review. Volume 47, Number 2 Spring 2001

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wisconsin academy review

THE MAGAZINE OF WISCONSIN THOUGHT AND CULTURE

Bluegrass Wisconsin
by Bill Malone

Flying with the Cranes
by George Archibald

Madison
Then and Now:
A Photo Essay by
Zane Williams

Battle of the
Dot-Coms:
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The Nob Hill Boys are part of Wisconsin's bluegrass scene.
Photo by John Urban

Wisconsin Academy of Sciences, Arts and Letters Spring 2001 Volume 47, Number 2

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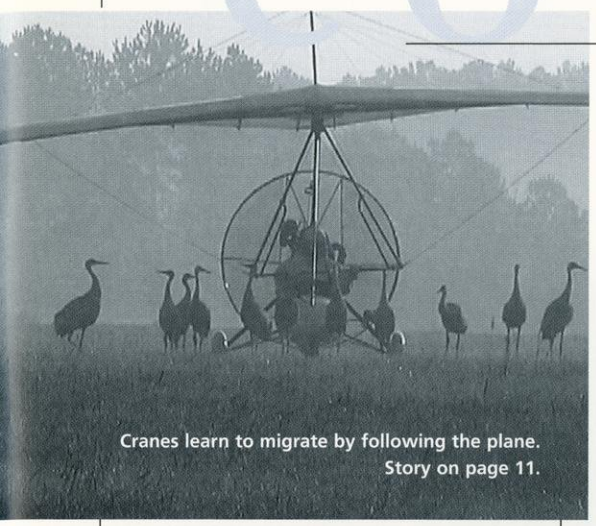
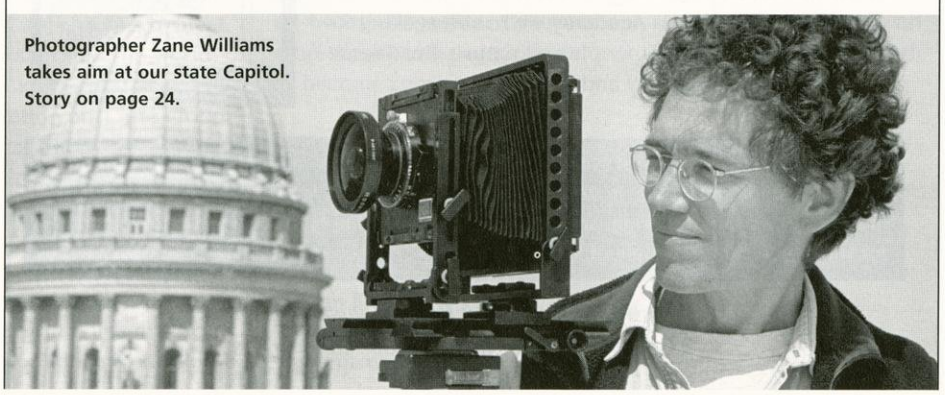


Cranes learn to migrate by following the plane.
Story on page 11.

features



Photographer Zane Williams takes aim at our state Capitol.
Story on page 24.

Photo by Bob Rashid

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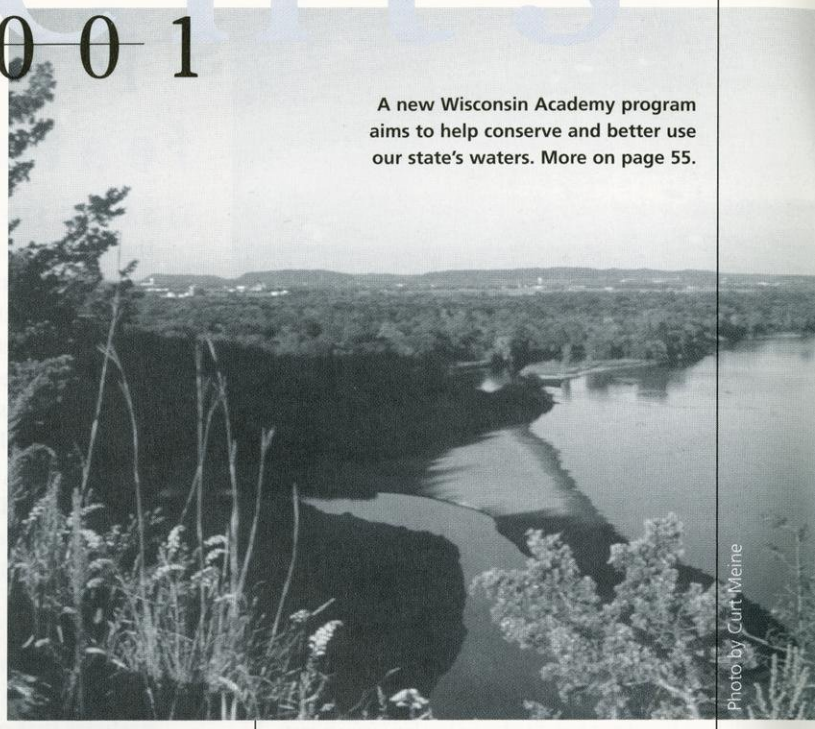


A new Wisconsin Academy program aims to help conserve and better use our state's waters. More on page 55.

Photo by Curt Meine

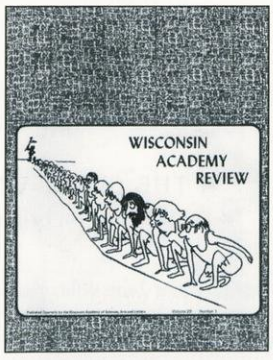
departments

Past and Present

"For a time I forgot that nature and wilderness are indifferent, and only man sees beautiful or good. When I sought all meaning in nature, I ceased to find meaning in man."

—UW–Madison history professor William Cronon, then a student, writing on environmental zealotry in the *Wisconsin Academy Review* (December 1973).

Here at the Wisconsin Academy we're still seeking to strike a balance between people and nature. Read more about our work on pages 9 and 55.



The Wisconsin Academy of Sciences, Arts and Letters is an independent, nonprofit membership organization. It was chartered by the state legislature in 1870 with the mission of gathering, sharing, and acting upon knowledge in the sciences and humanities for the benefit of the people of Wisconsin.

*The **Wisconsin Academy Review** wishes to thank Bruce Jacobs for his generous support.*

Cranes and planes

By the time you read this, they may be back from Florida.

No, not your in-laws. The cranes, the cranes! Specifically, the gang of 11 sandhills that followed ultralight planes 1,250 miles from Wisconsin to Florida last fall in the longest human-led migration in history. If all goes well, the cranes should be flying back to Necedah National Wildlife Refuge without human assistance in March or April, having learned (and "memorized") the flight route on their way down.

The flight itself, and the years of field research that led to it, represent a remarkable achievement. It's one that I think my children—or anybody's children—would find highly amusing. In places like Necedah and at the International Crane Foundation (ICF) in Baraboo, humans are dressing up in crane suits while raising chicks (the camouflage keeps the cranes from getting too comfortable with people). Sometimes they'll play the chicks tapes of mother crane sounds. The ultralight pilots wore crane suits while flying the birds to Florida. Crane caretakers in other projects have been known to walk like cranes, flap their arms like cranes, squawk like cranes—whatever keeps the birds happy.

Seldom has such a serious effort seemed so eccentric. As ultralight pilot Joe Duff puts it in this edition's essay, "It is hard to believe we could convince so many people and the U.S. federal government that dressing up in a costume and leading birds across the country in an ultralight aircraft is a good idea."

We are honored also to have ICF co-founder George Archibald as an author in this edition. "I'd do almost anything for a crane!" Archibald has been quoted as saying. One believes him. Archibald, an Academy Fellow, is a supremely effective and globally respected leader in conservation, envisioning new approaches to meet the needs of people and wildlife in projects around the world.

If you're a newcomer to this story, check out the website of Operation Migration (www.operationmigration.org), the group that pioneered work with ultralights. In particular, look at the "In the Field" section. The pilots and other researchers report there on the day's activities (including the exploits of "Rebel Crane No. 2"). E-mail responses from members of the public are posted on the site's "Guestbook."

Reading through these entries imparts how exciting and worthwhile this project really is. Writes Sharon Wilkening from Illinois: "The sun had not yet broken the horizon and the sky had a golden glow with the birds and aircraft dark silhouettes against it. It was a moment to hold one's breath."

Writes Kathy from Wisconsin: "It was great to see them fly over. Gave me goosebumps, or should I say 'cranebumps'? ... I like things like this that tie people together who live in separate places and may never even meet in person, but share a common interest. I think it's technology at its very best."

As for you, reader, you may consider shifting your gaze skyward this spring a little more often than usual. Perhaps you'll get a pleasant surprise!

THE WISCONSIN IDEA (ACADEMY-STYLE)

Ever heard of the Edgewater Group?

This is not a jazz quintet, but a Wisconsin Academy advisory board informally named after the Lake Mendota–side hotel where its members first met. The panel is composed of University of Wisconsin System President Katharine Lyall; Wisconsin Manufacturers & Commerce President Jim Haney; state AFL–CIO President David Newby; former governor Tony Earl; and, until recently, Bob Wood, chief of staff for former Gov. Tommy Thompson. Their mission? To identify topics of public concern that would best lend themselves to an independent, Academy-led investigation. The goal? To call all players to the table (in our usual fashion) to gather information; illuminate problems and opportunities; and, where possible, to identify common ground. Results will include everything from policy recommendations to educational materials for teachers and the public.

We're calling our new program "the Wisconsin Idea at the Academy" because it so closely follows La Follette's progressive vision of collaboration between academics, leaders in government and business, and an active, participating citizenry. Our first Wisconsin Idea at the Academy topic, as recommended by the Edgewater Group, is our state's water policy. Read more about it on page 55—and be sure to contact us if you wish to become involved.

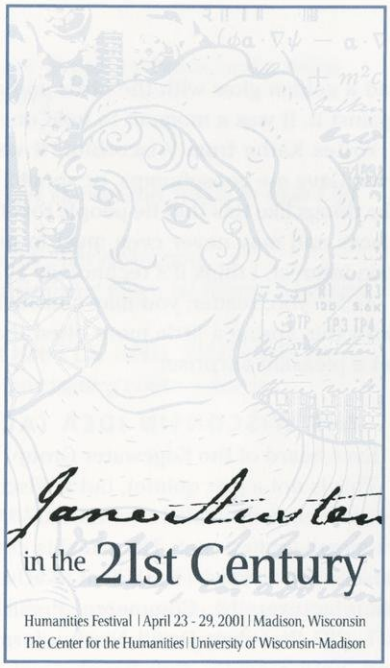
Happy reading,

Joan Fischer
608/263-1692
joanfischer@facstaff.wisc.edu

"A happy party it appeared to her, all interested in one object."

—Mansfield Park

AUSTENPALOOZA



It's enough Jane Austen to choke a horse. (And can't you picture one of her characters saying that?)

Madison will mobilize from April 23 through April 29 for lectures, special events, exhibits, music, dance, and theater all aimed at celebrating "Jane Austen in the 21st Century" in a festival organized by UW–Madison's Center for the Humanities.

Why Jane, and why now?

"Interest in Jane Austen, both popular and academic, has never been higher," attests festival director and UW–Madison English professor Emily Auerbach. "After two centuries of criticism presenting Austen as a prim and proper maiden aunt writing 'mere' courtship novels for women to read, we are finally starting to understand the depth of her genius and the brilliance of her craft."

Auerbach will give a lecture called "Beware of Swoons: Illness As Metaphor in Jane Austen," and Andrew Davies, screenwriter of the BBC's *Pride and Prejudice,* will cover "Mr. Darcy in the Bath and Other Temptations."

Other speakers include Joan Ray, president of the Jane Austen Society of North America; Jacqueline Reid-Walsh, founder of the first Austen e-mail discussion group; and noted Austen scholars Margaret Drabble and Juliet McMaster.

But talk alone would be dull! Festivities include music from Austen's era, English country dance (including lessons), an Austen game show with prizes, an Austen open mike, an English country garden tour, and screenings of film versions of Austen's works. As indicated by the range of activities, the Center for the Humanities is taking an interdisciplinary approach to all things Austen.

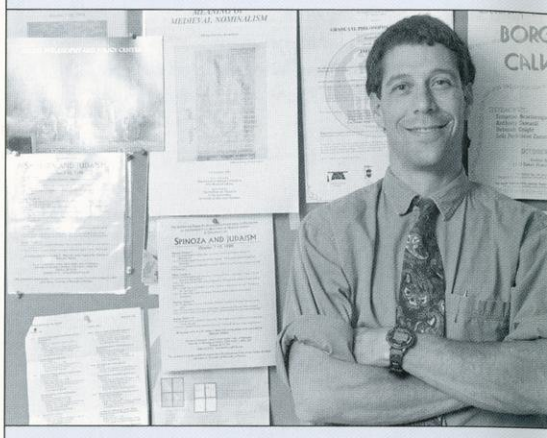
"Too often we receive a fragmented approach to learning," notes Auerbach. "We hope to capture the excitement of humanities disciplines coming together to shed light on a single subject. We hope to pull together campus and community through a unique collaboration among institutions and venues, from area hospitals and churches to museums, libraries, and retirement centers."

As *Emma*'s Mrs. Elton put it, "One cannot have too large a party." Nearly all the activities are free, though many require a reservation. Call 608/263-3409 or see www.humanities.wisc.edu for more information.

by Joan Fischer

who's who

Steven Nadler



Occupation: Professor of philosophy and director of the Center for the Humanities, University of Wisconsin–Madison.

Years in Wisconsin: 12.

Claims to fame: Author of *Spinoza: A Life,* which won the Koret Jewish Book Award for biography for 1999. Unassisted triple play at the age of 12 in the Roslyn (New York) Little League; it's been downhill since then.

Favorite Spinoza quote: "A free person thinks least of all of death."

Currently working on: A scholarly book on the problem of immortality in Jewish thought (and especially in Spinoza and among the rabbis in Amsterdam who excommunicated him), and a more "popular" book tentatively titled *Rembrandt's Jews.*

Mission: To be able to make students as enthusiastic for philosophical thinking and critical self-examination as is humanly possible. That, and to break 3:30 in the Madison Marathon (last attempt was 3:31:50).

What this state really needs is: An oceanfront beach. What this city really needs are public swimming pools.

The Center for Humanities highlights this spring include lectures by Marlene Booth, Sander Gilman, and Timothy Tyson—and a big honkin' Jane Austen festival (see accompanying story).

For more information, see
www.humanities.wisc.edu

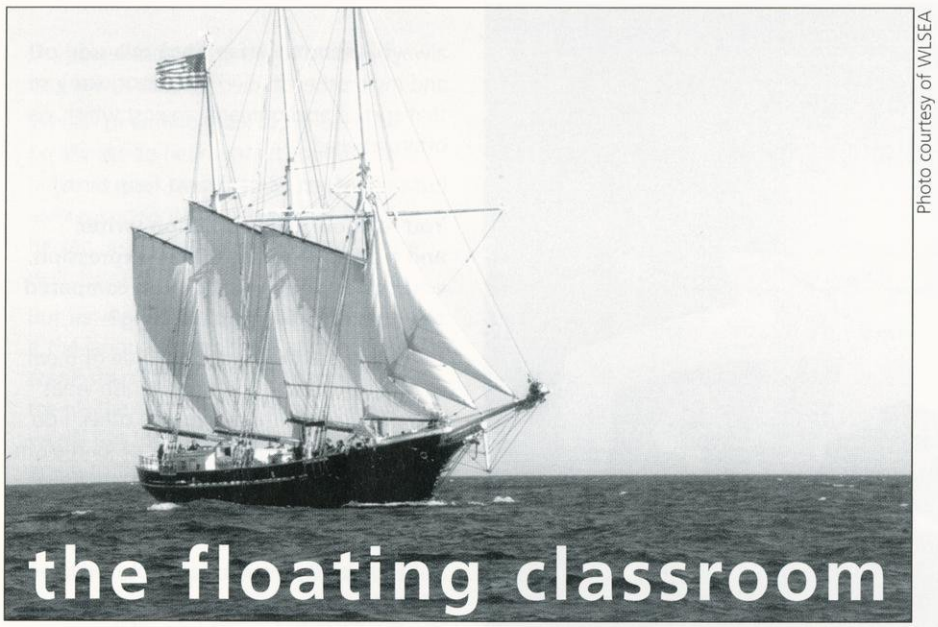


Photo courtesy of WLSEA

the floating classroom

The Wisconsin Lake Schooner Education Association hoisted the sails of its 133-foot "floating classroom"—the sailing vessel *Denis Sullivan*—this winter, providing high school students with a unique learning opportunity.

Beginning in October, WLSEA educators prepared students in their Wisconsin classrooms, teaching classes focused on oceanography, nautical science, maritime studies, and living aboard ship. The students then set sail in February and March for 13-day learning adventures around southern Florida. While living and working aboard the *Denis Sullivan*, students study the reef and marine ecology in the area. Upon returning to dry land, each student will be required to complete an independent research project.

Unanimously designated by the Wisconsin State Legislature as the state's first official sesquicentennial project, construction of the ship took more than five years and 900,000 hours to complete, using volunteer builders from all over the state and all walks of life. The volunteers worked under the supervision of paid shipwrights.

Towering high above the waters of the Great Lakes, this re-creation of a 19th-century Great Lakes cargo schooner boasts three native white pine masts, the largest rising 95 feet into the sky. The masts were donated and blessed by the people of the Menominee nation. The schooner can carry 18 overnight students and 10 professional crew and educators. Construction of the ship took place in public view at the Municipal Pier on Milwaukee's lakefront and was completed in early November.

The *Denis Sullivan* is the 124th schooner ever built in the state of Wisconsin and will serve as:

- A floating, traveling classroom to be used as a tool for hands-on, interdisciplinary learning;
- A focal point for awareness of the Great Lakes ecosystem and the state's rich maritime history;
- A goodwill ambassador representing the best of Wisconsin throughout the world.

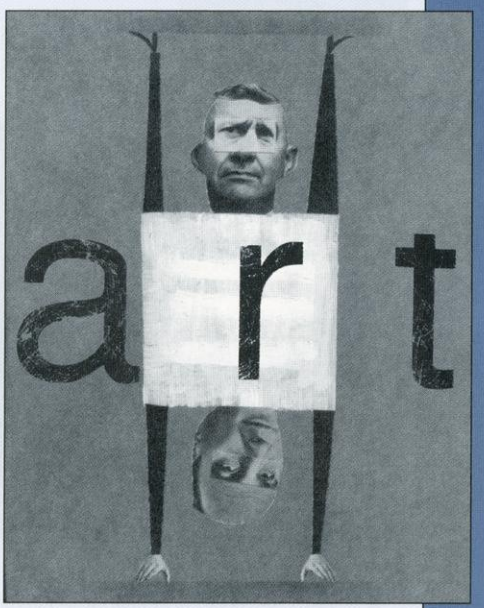
In addition to the Florida excursions, WLSEA offers many other unique educational experiences for people of all ages. Among these is the Schooner School, weeklong summer sessions for youths entering fifth through ninth grades, or for adult organizations. The sessions take place both dockside and aboard 22-foot lifeboats and the *Denis Sullivan*. WLSEA also offers Lakewatch Expeditions, half-day shipboard programs for fifth- to 12th-graders. Schooner Outreach, another program, runs presentations around the state describing how Wisconsin was settled and the importance of the Great Lakes (which hold 20 percent of the world's fresh water) to our environment.

The nonprofit Wisconsin Lake Schooner Education Association, founded in 1991, offers many other programs for children and adults. For more information, call 414/276-7700 or go to www.wis-schooner.org

by Trina Laube

Art & Friendship

What is the role of art in friendship? Can a clash of sensibilities about art prove as fundamentally divisive as, say, differing beliefs about politics or religion?

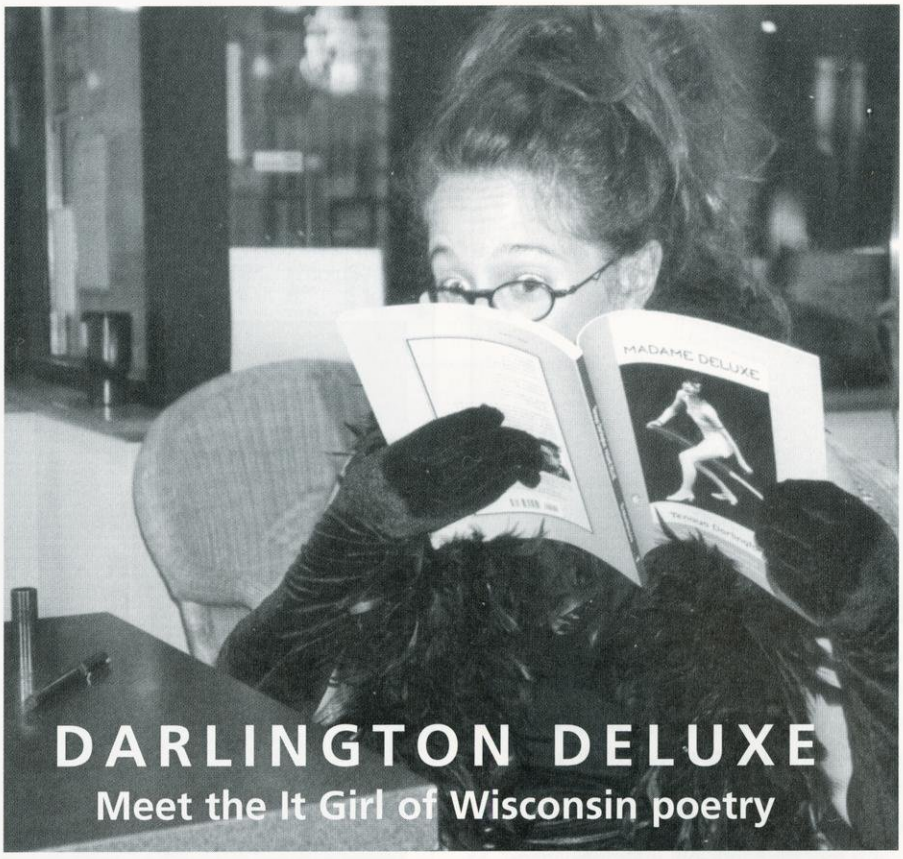


That's the topic of a talk to be presented by UW-Madison philosophy professor Noel Carroll on Wednesday, April 18 at 6:30 p.m. at the Madison Art Center, 211 State Street. The evening, sponsored by the Wisconsin Academy, the Madison Art Center, and the Madison Repertory Theatre, is meant to enrich appreciation of Yasmina Reza's play, *Art*, which the Rep is staging April 13–May 6.

"A great deal of socializing revolves around art. After we attend a concert, a film, or a play, we go out for coffee or a drink and talk about it with our friends," notes Carroll. "Friendships can be built around experiences like this. The play *Art* reveals this phenomenon by imagining what happens when friends are no longer able to talk about art. When that happens, is friendship still possible?"

Carroll's talk is free to the public and will end in time for participants to attend that evening's showing of *Art*.

And maybe even talk about it afterward.



DARLINGTON DELUXE

Meet the It Girl of Wisconsin poetry

Tenaya Darlington, 28, is a poet with an original style and a keen eye for detail. With her collection *Madame Deluxe,* a recent winner of the National Poetry Series Award—five regional winners were selected from a pool of 1,500—Darlington received nationwide acclaim. "She's a charmer, an alarmer, a kick in the pants, a hoot," effused poet Lawson Fusao Inada in reviewing *Madame Deluxe.*

Darlington, who is also an editor with the Madison alternative weekly *Isthmus*, approaches poetry with playfulness and humor. In *Madame Deluxe* she weaves together erudite, hip poetry that moves comfortably between images and allusions to high and low culture. But the power of *Madame Deluxe* is that these cultural references are not inserted into poems merely to amuse; they are impeccably chosen, wonderfully timed.

For a poet so contemporary and young, Darlington writes with an uncanny amount of grace, and her seemingly free-wheeling style is actually dictated by a high consciousness of form. No lines drift aimlessly toward a break or stanza shift. Darlington keeps her poems on a short (albeit rhinestone-studded) leash.

Interview by Joan Fischer

When did you start writing poetry?

At age 5 or 6. My mom would read extensively to me and as soon as I was able to read, to earn my allowance my brother and I could memorize poetry. We would earn a quarter for memorizing a poem and being able to recite it. My mom was one of those mothers who push. I mean that in a good way. (laughs)

Starting in third grade my teacher and mother arranged for me to have a creative writing mentor through the university [in Ames, Iowa]. It was an old, curmudgeonly professor who would come out once a week while everyone else went to recess and I'd meet with him in the library to work on poetry.

Wow.

Yes, strange stuff. But my mother really believed that the school system we were in wasn't challenging enough and so she was always putting together Chinese lessons, and my brother studied Swahili. It was just that sort of environment, against which we often rebelled.

But the interest came almost from birth.

You're a journalist, a fiction writer, and a poet. In terms of self-expression, what does poetry do for you compared to your other forms of writing?

To tell you the truth, I see all three of them as very fluid, and I don't distinguish what one does for me more than the other. I do with journalism; I guess I think of journalism as more [that] it provides me with material, and because I do it daily, it keeps the gears greased. But fiction and poetry, more than self-expression, it's hard for me to explain what they're really doing. It's just something that I've always done, like breathing or eating.

Which poets have influenced you the most, and why?

Emily Dickinson is probably the first poet that I memorized. She was someone that my mother loved to read a lot. So from her I learned a sense of language, a sense of rhythm, what slant rhyme was. But then I also remember leaping to ee cummings in the sixth grade and being really excited by words that would run together, by free verse—I wrote a lot of rhyme when I was a kid.

As I grew up, I certainly got excited by Sylvia Plath and Anne Sexton when I was in junior high and high school.

But now … I really like people who are very musical, even if content-wise it's pretty hard to distinguish what's going on. I know so many people who are thrown against poetry and don't like it when they can't figure out exactly what's happening in a poem. That's never felt like an issue for me. It's sort of like a symphony. You don't necessarily know what's going on, you just know you're enjoying it.

But I've also been influenced by C. D. Wright, a poet who teaches at Brown, I took a summer workshop from her. Elizabeth Bishop, a poet named Bridget Kelley, who does great narrative kinds of poems—dark narrative poetry. Lynn Emanuel, Beckian Fritz Goldberg. Robert Haas, the former poet laureate, writes incredible prose poems that really have an effect.

Do you aim for a certain musicality in your poetry?

When I'm writing I talk aloud because I really like to hear what it sounds like before it goes on paper. So my husband always knows when I'm writing because he can hear talking coming through the wall. (laughs)

But for me, no matter what I'm saying, if the language isn't there and the sounds aren't there, it just doesn't happen. For me it's the sound of a line, it's not a few words put together, that really brings the poem to the surface. I don't ever sit down and think, I'm going to write a poem about birth or about how my day went.

So what do you sit down thinking?

I sit down and either have an image or just some sounds.

A visual image?

Sometimes a visual image. I just read a book by this new poet called Christine Hume, who has an amazing interview poem in which she interviews herself but asks really strange questions like "Who is your mouth?" Just really odd questions. So that's got me really excited lately, to just think about doing this series of interview poems.

So sometimes it is the form, too, but it's never a topic. So it is different from journalism. It's a really weird process.

Describe what you see as the connection between performance and poetry. Do you see performance as integral to your work?

I totally do. And I wish more people did. I really understand why for some people they don't like to read their work, it's a really private thing. But I think that maybe because when I'm writing, I'm speaking the poems to begin with, to me performance is just a really important aspect.

It hasn't always been. I struggled for a long time to do something interesting with performance or make it different from a lot of the poetry readings that I was attending, which were often dry and in this sort of monotone poet-speak that you hear everywhere, it's like this strange lingo.

(continued on page 8)

THE BIRTH OF MADAME DELUXE

It didn't start with pains.
No water broke. It started with a pair of glasses,
turtle bone and rhinestones
culled from a heap of old frames:
bent twigs and nose pads
promising a better vision
a way to stand things
in a way I couldn't stand things then,
a sort of trajectory toward the universe.

My purse swung on my arm
like a balance and I knelt down before god's
bifocals on the fecal rug
and drew up this pair: turtle bone, rhinestones.
The prescription was off just enough
to give the world a heavenly haze
and the Sears Tower became covered in glorious shag;
faux fur on everything.

I said *this is it,*
this is it to my beaky friend Terry—
I sez, I am never going out without these.
Crazy how from then on
I saw everything in a two-tone gaze.
Even the hip cats had real tails,
I tell you fuzz is essential. The city is bearable.
A new frame changed the whole Degas
and I saw past every sugary gimmick
into the true glitz bomb.

From that snazz womb
crawled forth Madame Deluxe.
All optometry.
All eyes. Ass first and eager
with rip-roaring hair.

From *Madame Deluxe*
(Coffee House Press, Minneapolis, 2000).
Reprinted with permission.

(continued from page 7)

But I was hard-pressed to figure out how to do it differently and not sound like a slam poet—you know, real jivey, or like I was rapping these poems, because that's not the way I write either.

So constructing this persona, this sort of ulterior drag queen, really brought these poems to life, and created this campy visual, that in turn brought some sort of voice out of me. (laughs)

This persona being ...

Madame Deluxe!

Why the mask, i.e., the persona of Madame Deluxe?

I never really even thought of it in terms of why the mask. Right around the time I was seeing all these drag shows and I was wearing those crazy Madame Deluxe glasses, I started writing poems that sounded really different from stuff I had written before. The stuff I'd written before was a lot quieter, maybe more nature-based in many ways. It didn't have a lot of the pop cultural references. And at that time I wasn't necessarily writing things that I thought I would read aloud.

But then I wrote that first poem, *A New Ilk of Milk,* after I saw a poet named Quincy Truth read in Indiana. He was this old guy with dreadlocks, and he was all over the room when he read, and he was unlike anyone I'd ever seen read before. So I went home and I worked on that poem that night and I just knew it was a poem to be read, and it was very different from anything I'd written before.

And I really liked what it had done. I read it at my senior MFA reading before I read a short story, and it went over—it set the tone for the whole evening. I realized it could really do something in terms of performance and delivery that could get a crowd really excited. And I liked that kind of feedback, because in so many cases the audience is quiet the whole time, and you feel like there's been no exchange, it's just been a poet out there reading.

So you like an exchange.

I do! Maybe it's because I'm one of those people who doesn't handle silence that well.

IT'S RAINING ART CENTERS

Small town, big center: Local residents paid for the Heyde Center for the Arts in Chippewa Falls.

Photos courtesy of Heyde Center for the Arts

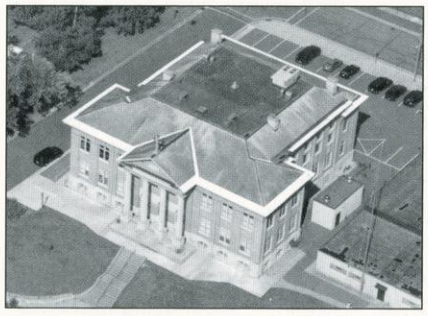
Toss off the cheeseheads. Forget cows, beer, and brats. Our new state symbol is the art center.

Millions of dollars have been spent around the state constructing, renovating and completing cultural arts centers during the last five years. The projects include 36 that are associated with schools and 21 that are not.

Most of the school-connected facilities are publicly funded through referendums, while donations from individuals, foundations, and businesses foot the bill for most of the other projects.

"The economy is very good right now and it is very appealing to a donor to build something," says Anne Katz, executive director of the Madison-based Wisconsin Assembly for Local Arts. "There has been a lot of recognition that the arts are important."

Two of the state's largest projects are the Overture arts district in Madison and Wausau's new ArtsBlock. Similar to Overture, which will be centered around Madison's Civic Center, the ArtsBlock in Wausau will expand from the Grand Theater to create what executive director Jim O'Connell calls a "cross-fertilization of the arts." The proposed $12 million renovation will combine the Grand Theater with the Center for the Visual Arts, expanding both the performance area and gallery space.



The Heyde Center for the Arts in Chippewa Falls, now under extensive renovation, has become one of the most renowned cultural arts centers in Wisconsin. The Chippewa Valley Cultural Association paid only one dollar for the former Catholic high school that now houses the Heyde Center, and recently has raised more than $1.2 million in private donations to renovate the building. Residents of the small town of Chippewa Falls donated about 95 percent of the money.

The generosity of local residents also helped create a new facility in Hartford, which began entirely as a volunteer project. The $3.6 million Schauer Arts and Activities Center opened in early February and offers a 600-seat theater, an art gallery, and plans to open a regional school of arts.

A complete list of art center projects around the state is available by calling the Wisconsin Assembly for Local Arts at 608/255-8316.

by Trina Laube

Calling All Thinkers

THE ACADEMY WANTS YOU

The Wisconsin Academy of Sciences, Arts and Letters provides a gathering place where the thoughtful citizens of Wisconsin, from a wide range of disciplines, can discuss and act upon issues of public concern. Through our many programs and projects, we help create what Aldo Leopold called a "thinking community."

In 1870, Wisconsin's leaders from academia, business, and the arts petitioned the state legislature to charter the Wisconsin Academy with the mission of gathering, sharing, and acting upon knowledge in the sciences and humanities for the benefit of the people of Wisconsin. This remains the Academy's mission today. The Wisconsin Academy is an independent, nonprofit membership organization funded by grants, private endowments, and our members.

Christine McDermott

WHAT YOU'LL SUPPORT

Here are a few Academy projects
(for more, see www.wisconsinacademy.org):

- **The Wisconsin Idea at the Academy,** a new program, examines as its first project the integrity and quality of our state's water resources.
- **The Wisconsin Academy Gallery** is the only noncommercial gallery in the state to feature different Wisconsin artists every month, and reaches beyond established art circles to find them.
- **Fall Forums** take on topics of public interest. Last fall's conference focused on the risks, rewards, and realities of genetically modified foods. The next Fall Forum will focus on the Bill of Rights in the 21st century.
- **The Intelligent Consumption Project** examines forest resource consumption and its effect on the environment. The project brings together a wide range of people in forestry nationwide—from loggers and environmentalists to representatives from business, agriculture, and academia—to formulate a viable consumption ethic.
- **The Wisconsin Center for the Book,** affiliated with the Library of Congress, conducts many programs in support of literature and the book arts. Examples: "Wisconsin Authors Speak" brings writers to communities throughout the state. "Letters About Literature" invites young people to tell authors how a book has changed their lives.

WHAT YOU'LL GET

- The *Wisconsin Academy Review,* a quarterly magazine, is a free membership benefit.
- *Inside the Academy* is a quarterly newsletter about our programs and member activities.
- Discounts on Wisconsin Academy events.
- Invitations to gallery receptions, special events, conferences, and other activities.
- *Transactions,* an annual scholarly journal published by the Wisconsin Academy since 1870.

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website: www.wisconsinacademy.org
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Since 1870

WISCONSIN ACADEMY
OF SCIENCES, ARTS AND LETTERS

Sprawl by numbers

In keeping with the statement "and in questioning just about everything" on the Contents page of the Winter 2001 issue of the *Wisconsin Academy Review,* we should ask if fact checking and reviewing of articles is important.

Specifically, I am quite concerned about a "fact" without citation or reference in the article of that issue by Louisa Downey. I was struck immediately upon reading the article by words such as "rampant" and "wildly" and then came upon a number that is quite suspect. Given that there are only about 36 million acres of land in Wisconsin, 7.5 million to have been developed in just 50 years would mean that more than 20 percent of the entire landmass was transformed.

According to the USDA's latest Natural Resouces Inventory, only 2.4 million acres in Wisconsin have been developed at all. About 3 million more acres are either federal or water. The remaining 30 million acres of private rural land include 14 million acres of forests, 3 million of range lands. 0.7 million of CRP, and 10.6 million of crop lands, plus 1.7 million of "other rural." The source of the data is the Natural Resources Inventory, 1997, and the date I cite are from table 1. You can download the data (www.nhq.nrcs.usda.gov/NRI/1997/summary_report/report.pdf). The amount of land that is "developed" includes major urban areas, small towns, and rural roads and railroads.

Brent M. Haglund, Ph.D.
President, Sand County Foundation
Madison

Louisa Downey replies: The figure, which I got from 1000 Friends of Wisconsin's Land Use Institute, reflects the number of acres of farmland that have been taken out of production since 1950—a best guess as to how many acres have been used or developed in the past 50 years. The USDA's Natural Resources Inventory reflects only those acres that can be determined to be developed today. There has been considerable back and forth in the past 50 years—as the USDA's study indicates—and in fact no one, not even the Wisconsin Land and Water Resource Bureau, has a firm figure for the amount of land developed, or for that matter, a definition of what "developed" means.

Honoring Watrous

I was pleased and honored to find myself featured on the same page as Jim Watrous [in "Who's Who," Winter 2001]. His wife, Peg, was membership chairperson for the Nature Conservancy during the years that I served on the Board of Trustees, so we got to know them quite well. Jim Watrous was a fine person and fully deserves the honors and recognition he is now receiving from the Academy.

Harold Kruse
Loganville

The *Wisconsin Academy Review* welcomes your comments. Please send letters to the Editor, 1922 University Avenue, Madison WI 53705, by e-mail to joanfischer@facstaff.wisc.edu or by fax to 608/265-3039. Letters may be edited for reasons of space or clarity.

Saving the Cranes

Wisconsin is the setting for a real-life drama in which humans are saving the imperiled whooping crane. A first step in that effort is the delicate task of teaching the birds to migrate.

BY GEORGE ARCHIBALD

Feeding a chick using an isolation chick-rearing technique. Isolation-reared chicks will be released into the wild, so great care is taken to keep them from getting used to humans. The person wearing the crane puppet head (left) must work in complete silence, allowing no indication of being a human.

Photo by David Thompson courtesy of ICF

CRANES ARE FABULOUS BIRDS. It has been said that everything a crane does is graceful. Their primeval calls, their spectacular dances, and the care members of mated pairs lavish on one another and their offspring have endeared cranes to humans since times untold.

The crane—"Ah-ji-jawk"—was a sacred bird for the Ojibwe. In 1848 a delegation of clan leaders carried a scroll to Washington, D.C. that served as a petition to remain on their homelands. It showed a picture of a crane, a couple of martens, a bear, a fish, and a water spirit figure, all representing clan families, with lines connecting the eye and heart of the crane to the eyes and hearts of the other animals (peace chiefs were always chosen from the crane or loon clans). A thick blue line under the animals and a series of blue circular objects at the bottom left round out the pictograph, which was meant to convey the following message: The Ojibwe clans are of one mind and one heart. We do not want to be moved from our homes along Lake Superior (the thick blue line). Do not separate us from our sacred rice beds (the blue circular objects at the bottom left).

For thousands of years before Europeans set foot in North America, the continent's two species of cranes, the five-foot-tall white whooping cranes and their smaller, gray cousins, the sandhill cranes, migrated between breeding areas in the Midwest and wintering grounds in the South. Their departures announced the advance of winter, their return the renewal of life.

Sandhills are the most numerous of cranes—which is why they are being used as the trial birds in current whooping crane reintroduction efforts.
Photo by George Archibald courtesy of ICF

Juvenile cranes remain with their parents for the autumn migration and throughout the winter. It is believed that either the young cranes learn the migration route with their parents, or that the coordinates of the region in which the young learn to fly become fixed in the internal "global positioning system" of the crane's brain, allowing the crane to return to that region, or both. The urge to migrate might be induced by having migrated south the previous autumn. Then, like homing pigeons, the cranes mysteriously find their way back thousands of miles to their natal haunts.

Cranes fell victim to the guns, the plows, and the steam shovels of the pioneers. The whooping cranes disappeared from Wisconsin late in the 19th century. Presently there are only some 385 whooping cranes left in the world, and only one migratory flock in North America; establishing another migratory flock is crucial to the survival of one of the continent's most endangered species. As for the sandhill crane, by the time Aldo Leopold wrote his moving *Marshland Elegy* in 1937, the sandhills had been reduced in Wisconsin to perhaps fewer than 100 birds in the sand country of the central wilderness areas of the state.

At the time Ron Sauey and I co-founded the International Crane Foundation in Baraboo in 1973, a captive population of whooping cranes was being established at the Patuxent Wildlife Research Center in Maryland, and the sandhill was making a resounding comeback in Wisconsin. We dreamed of someday bringing back the great white cranes to the Wisconsin landscapes. That summer, a frequent visitor to the fledgling ICF was Estella Leopold, the wife of Aldo. Although frail, she had remarkable intensity and charisma. Frequently she commented, "My husband would be all for this." That's the greatest endorsement two graduate students with big dreams could receive.

BRINGING UP SANDHILLS

The expanding sandhill crane population provided a convenient opportunity to develop techniques for releasing captive-reared cranes into the wild. The first such experiment was an accidental one in 1982. My wife, Kyoko, upon my ill advice, placed her photographer's blind too close to the pair of sandhills nesting at the nearby Leopold Memorial Reserve. The cranes abandoned the eggs, so Kyoko kept them warm between her body and her down jacket through the long cold night. When the cranes failed to return the next morning, Kyoko placed the eggs in an electric incubator set up in the home of a neighbor of the Reserve. Soon both eggs hatched.

She named the chicks Leo and Ter (after conservationist Aldo Leopold and Leopold Memorial Reserve manager Frank Terbilcox). Aware that hand-reared cranes become tame and fearless of people, Kyoko decided to raise the cranes in visual isolation from humans. The entrance to the rearing room was covered with cardboard and a puppet that resembled the head and neck of a crane was extended through a hole to encourage the cranes to eat pellets. Later, with the room darkened, she placed the cranes in a covered box and carried them to an enclosure she constructed in a prairie adjacent to the wetland where the parents of the chicks had nested.

Throughout the summer this procedure was repeated daily. Eventually the chicks fledged and joined an unbanded

This costume-rearing technique is used to prevent crane chicks from becoming imprinted on humans.
Photo by Carl Sams II courtesy of ICF

(continued on page 14)

Flying with the Cranes

Operation Migration is an environmental group that pioneered the method of teaching birds to migrate using ultralight aircraft. The organization's co-founder, Canadian pilot/photographer Joe Duff, flew sandhill cranes from Wisconsin to Florida last fall in the longest human-led migration in history. Here's his story.

BY JOE DUFF

It is hard to believe we have come this far, from the first flights with Canada geese to leading sandhill cranes on the longest migration ever attempted. The concept has moved from a whimsical flight of fantasy to a major motion picture (*Fly Away Home*, 1996), and now we are on the verge of safeguarding an endangered species. We have evolved into a research project that uses the most advanced animal behavior techniques and state-of-the art ultralight aircraft. We navigate using global positioning systems and track the birds with satellite transmitters. We even communicate with the flock using digitally recorded adult crane calls stored on memory chips and broadcast over PA systems mounted on the aircraft.

Even harder to fathom is the fact that now we are part of the Whooping Crane Eastern Partnership, which is comprised of eight agencies and private foundations including the U.S. Fish and Wildlife Service. Combined, we have a membership of more than 60 people, all experts in the fields of captive rearing, fund-raising, education, outreach, and the politics of reintroducing an endangered species. It is hard to believe we could convince so many people and the U.S. federal government that dressing up in a costume and leading birds across the country in an ultralight aircraft is a good idea.

The incredibility of it all is reinforced every time we take to the air and look over our shoulders at 11 sandhill cranes —the most ancient of birds, representing nine million years of genetic history— strung out in a perfect line with the lead bird only inches from the wing tip. We float at low level over middle America when the air is cool, the valleys are filled with mist, and autumn has turned the forests boastful. We follow a route that may have endured for a millennium but was not marked or defined. It existed only in the memories of the birds that passed it from one generation to the next, a pathway lost forever along with the birds that did not survive the arrival of our ancestors. We follow a path linking together wetlands that have been drained and cultivated until the remaining few are now precious. All of the whooping cranes that exist today are descendants of only 16 birds that survived in the early 1940s. Despite the efforts of a dedicated team, support from a concerned public, and the cooperation of many levels of government, their survival is not guaranteed.

Sandhill cranes with an ultralight aircraft.
Photo courtesy of Operation Migration

The method of conditioning birds to follow our lead also has evolved. Long past are the days when Canada geese pecked at our shoelaces and became pets. Our goal now is to promote wildness and human avoidance in the birds we lead south. Cranes easily become attached to their handlers and can suffer an identity crisis when they reach breeding age. Whooping cranes are five feet tall and could be menacing if they associate people with a source of food. Managing this behavior requires innovation and a combination of isolation and costume rearing. From the moment the chicks hatch at the Patuxent Wildlife Research Center in Maryland they are conditioned to the sound of the aircraft and shielded from human contact. All handlers are covered head to toe in gray fabric smocks de-signed to disguise the human form while they interact with the colts using puppets of adult cranes. Once moved to Wisconsin the pre-fledge birds are housed in pens that are camouflaged with trees and set up in isolated wetlands away from human intrusion. Each minute of exposure to the aircraft is recorded and all other contact is minimized. Managing the birds' experiences becomes more problematic during the migration, and each stop is preselected to allow us to land with the birds and pen them overnight in complete isolation from human structures and activity. If we are diligent the birds will arrive at the wintering site in Chassahowitzka National Wildlife Refuge in Florida without having seen an uncostumed person or having heard a human voice. If we want them to avoid humanity we must ensure that all things humanmade are foreign and rely on the creatures' natural fear of the unknown. Ultimately our desire is to provide a natural experience and to have as little impact on the birds as possible. We hope to deliver them back to the wild with a healthy fear of people, a memory of a summer home, and the knowledge to get them there.

With state-of-the-art techniques and the cooperative effort of federal, state, and private agencies, whooping cranes may soon return to the wetlands of eastern North America after a 100-year absence. And that, too, is hard to believe.

Joe Duff and Operation Migration co-founder Bill Lishman conducted the first human-led bird migration in 1993 by using ultralight aircraft to lead 18 Canada geese from Ontario to Virginia. Since then Duff also has led trumpeter swans in addition to sandhill cranes and has helped develop protocols for various costume-rearing studies. Duff heads the team that conducted the fieldwork with sandhill cranes at Necedah National Wildlife Refuge last year, and is working closely with the international Whooping Crane Recovery Team to prepare for an Eastern introduction of the whoopers. For more information about Operation Migration's work, see www.operationmigration.org

(continued from page 12)

pair that was likely their parents. But the bond between the adults and the juveniles was ephemeral, and within a few weeks the young cranes disappeared. Coyotes, raccoons, and great horned owls —serious predators for young cranes— were common. We feared the worst.

Perhaps the young cranes had flown across the nearby Wisconsin River to join flocks of cranes at their traditional autumn staging areas. In any case, one and a half years later, Florida crane biologist Steve Nesbitt noticed a banded crane among the thousands of greater sandhills that spend the winter in the wetlands and agricultural fields of the north and central portions of the state. The color combination of the plastic leg bands matched those of Leo.

Six years later Leo and a mate were discovered with a chick on the property of Dick Mael, just three miles away from the Leopold Memorial Reserve. To this date, Leo and his mate have returned annually to the Maels' property, usually on March 3—the birthday of the Maels' daughter. Since 1990, they have fledged eight chicks. Leo became ICF's first captive-reared crane to join wild cranes and successfully breed in the wild. Although not quite as wild as other sandhills, Leo thrived.

Researchers at ICF continued working on procedures for rearing cranes in captivity so that they would remain fearful of humans. From hatchling to fledgling, a few juvenile blue, red-crowned, and Siberian cranes were reared in almost complete visual isolation from humans. The blue cranes became so wild as to be almost unmanageable. The red-crowned cranes were similarly nervous in the company of humans. The Siberian cranes, initially wary, eventually became more "sociable" in the company of their formerly unseen keepers. Although our sample included only two or three individuals of each species, their responses to isolation rearing appeared to be profound and highly variable.

In another project, Robert Horwich, an ethologist from Gays Mills, in 1985 developed a remarkable isolation-rearing technique for sandhills. He invented a crane costume for crane keepers. Shrouded from head to foot in a gray cloak with faces hidden behind a screen and one arm equipped with a life-like puppet of a crane head and neck, the crane-costumed keepers led the cranes to feed and exercise on the restored prairies and wetland at ICF. Crane mother sounds were played from a small tape recorder under the costume. In late summer the cranes were transported by truck in plywood boxes from ICF to the Necedah National Wildlife Refuge about 60 miles north, in the heart of the sand counties. Over the next six weeks they gradually were acclimated to their new surroundings and were finally re-leased from nighttime holding pens to join the wild sandhills. They did this readily and migrated south. Some were seen at the major crane staging area in northwest Indiana, the Jasper Pulaski State Wildlife Area. The following spring Horwich located five of the six cranes, wild and free, in central Wisconsin.

Whooping cranes are the tallest North American bird, standing at five feet tall with a seven- to eight-foot wingspan. The whooping crane's name was inspired by its loud, distinctive call, which is audible up to two miles away.
Photo by Cliff Nieuwenhuis courtesy of ICF

Dr. Richard Urbanek, working at that time as a graduate student at Ohio State University and at Seney National Wildlife Refuge in the Upper Peninsula of Michigan, costume-reared and released 38 sandhills between 1988 and 1990. They all migrated, and 74 percent of the cranes returned to the vicinity of the Refuge. It was fascinating that the males returned to within three miles of the release pens while the females dispersed over a wider range of their natal area. In the world of cranes, a primary drive of the male might be to defend familiar real estate, while that of the female might simply be to find a male with land, wherever he may be. Dispersal of the sexes is a strategy that helps maintain genetic diversity and fitness, reducing the chances of inbreeding.

It was reasoned that a good way to help endangered cranes might be to release captive-reared birds with wild cranes in the wintering areas. Perhaps they would migrate north with the wild cranes in spring.

In 1988, a graduate student at North Dakota State University, Mini Nagendran, conducted a fascinating experiment. Using eggs of greater sandhills from the Midwest, she costume-reared a group of sandhills at a research station in south Texas to test if young cranes would join wild cranes on their wintering grounds and migrate north with them in spring.

Although the captive-reared cranes integrated beautifully with the wild cranes, they failed to migrate all the way with the wild cranes in spring. The released cranes stopped in north Texas near Waco. The resourceful Mini boxed up the birds and transported them around 700 miles north to the massive spring staging area of some half-million cranes along the Platte River in Nebraska. Again the cranes integrated with the wild cranes and appeared to migrate north. Mini lost contact with her radioed cranes at the Nebraska–South Dakota border.

More than three months later, Mini's cranes were back in south Texas where

they had fledged, having never seen the route between central Nebraska and Waco. Cranes appear to have a built-in system that identifies the direction in which to fly to reach the area where they *learned* to fly. Consequently, if cranes first develop flight in wintering areas, they tend to remain in that area, or return to that area, during the period when they normally would have migrated north to breeding areas. If the intention is to increase the number of migratory cranes, it appears important that birds develop flight in northern areas suitable for breeding.

ULTRALIGHT FLIGHT WITH WHOOPERS

The conservation of the whooping crane is coordinated by a 10-person Whooping Crane Recovery Team—five representatives from Canada (these cranes breed in Wood Buffalo National Park in northern Canada) and the remainder from the United States (the cranes spend the winter at Aransas National Wildlife Refuge, Texas). The team meets annually for several days for reports and strategizing. In 1997, the team was presented with the idea of teaching whooping cranes a new migration route by following an ultralight aircraft.

Idaho rancher Kent Clegg had migrated sandhill cranes south to New Mexico behind an ultralight in 1996. The Recovery team allowed him to try it with a mixed group of sandhills and whooping cranes in 1997. Four whooping cranes made the migration. Two survived the winter and migrated north in spring with the thousands of sandhills that follow the Rio

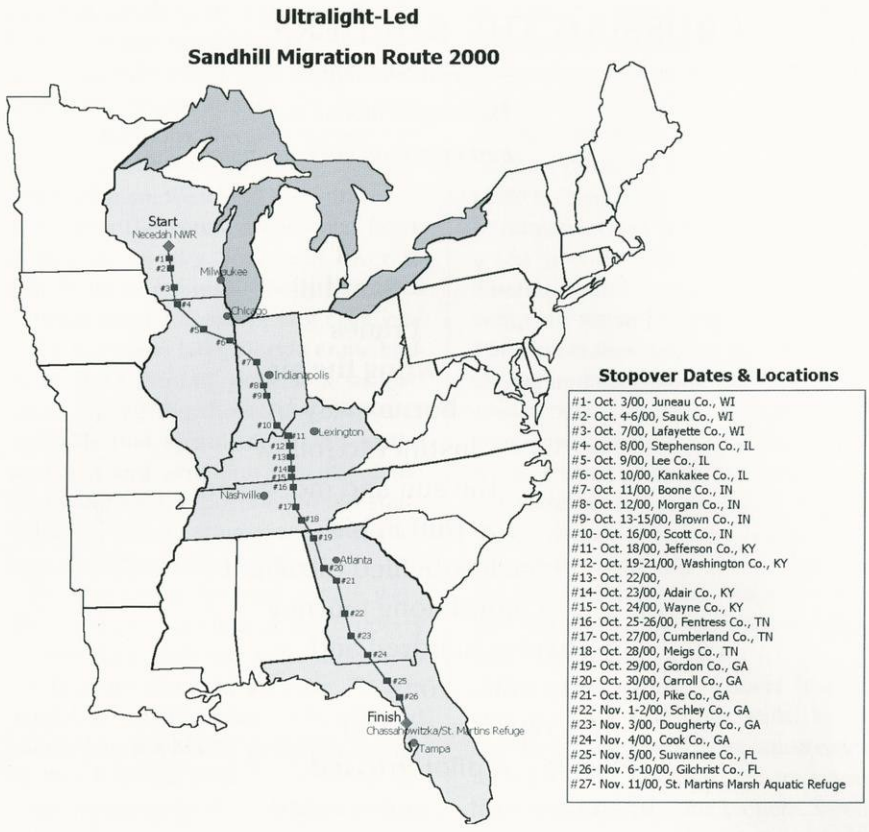
Sandhill crane as seen from an ultralight aircraft.
Photo courtesy of Operation Migration

CROSSING THE BORDERS

—November 2000
The longest human-led
bird migration ever attempted

Sandhill
cranes
wring the air
borne away by
instinct to follow
the sun and moon and
Joe Duff in his
yellow-bellied ultralight
A month-long journey
twelve hundred and
fifty miles from
Wisconsin to central
Florida A pilot dressed
in a crane suit Sand-colored
birds on close terms
with humans Breast-heavy
birds relearning the sacrament of
migration the insistent need to
ride wind the ravenous distance
between dark and light
Maybe we're meant to
join the long tongue
of cranes against
the cold simplicity
of sky the map of lakes
and hills and prairies
hidden inside our own
ancient breastbone
the slow procession
we've always
known
of leaving
and coming
home

By Ellen Kort, Wisconsin Poet Laureate



Grande Valley into Colorado. The technique looked promising.

Another "ultra" team headed by Canadian artist Bill Lishman and photographer Joe Duff had been working for several years with Canada geese. The 1996 feature film *Fly Away Home* was based on Lishman's work. Several groups of geese led from Ontario to the East Coast of the United States returned in spring to the areas in which they had been reared. Repeating the techniques with sandhills proved equally encouraging.

In August 1998 at a meeting of the Whooping Crane Recovery Team in Calgary, a decision was made to attempt to start a new migratory flock of whooping cranes in the Midwest using the ultralight technique. At its 1999 meeting at ICF, the team selected central Wisconsin's Necedah National Wildlife Refuge as the site for the flight training and the start of the migrations to Florida.

On October 3, 2000, 13 costume-reared sandhill cranes, the trial birds, set off for Florida from their wetland-prairie habitat at Necedah. They were led by three ultralight planes, their pilots wearing crane suits and using digital devices to make mother crane sounds. Eleven cranes completed the 1,250-mile journey on November 11. The trip, which took 39 days, was the longest human-led bird migration in history. The sandhills are expected to begin flying home to Necedah in March or April. Their progress will be reported on the Operation Migration website (www.operationmigration.org). Plans are under way to begin a similar migration project with the much rarer whooping crane this year or in 2002.

Such a project with the whooping crane is greatly needed. Although there are about 385 whooping cranes alive, a total that approximates the number of people residing along a short city street, there are merely some 180 cranes in the only wild, self-sustaining population—and their lives are imperiled. These survivors migrate from remote breeding areas in northern Canada to the coastal wetlands of Texas. The Intercoastal Canal cuts through their winter habitat at the Aransas National Wildlife Refuge. Each day dozens of barges laden with toxic chemicals move along the Canal. One bad spill could destroy most of the cranes. In addition, around 9 percent of this population perishes each year. Collision with power lines is believed to be a significant problem. Fortunately, production has averaged almost 13 percent a year, so that the population continues to increase, but ever so slowly.

Much work has been done to increase the population of captive whooping cranes. Since 1965 a captive population of whooping cranes has been established at the Patuxent Wildlife Research Center in Maryland. Wild cranes usually produce only two eggs a year and rear one chick every few years. By removing eggs and encouraging adults to re-nest, captive pairs can produce as many as four to five chicks per year. In 1989, the flock of captive cranes was divided and 22 birds were sent from Patuxent to ICF. Subsequently, major captive breeding programs were established at zoos or breeding facilities in Calgary, San Antonio, and New Orleans. There are now about 122 whooping cranes in captivity, and in the year 2000, 40 chicks were reared.

Captive juvenile cranes are now raised using isolation-rearing techniques and by natural parents. Since 1993 some 20 to 30 birds have been released into the wilds of south-central Florida each winter in an effort to reintroduce a population of nonmigratory cranes into the southeast. There are about 80 cranes in this experimental flock, and several pairs have started to breed. As the flock in Florida becomes more self-sustaining, efforts will be concentrated on establishing the new migratory flock of whooping cranes between the Midwest and the Southeast—the very flock that may eventually emerge from this latest human-led migration with the sandhills.

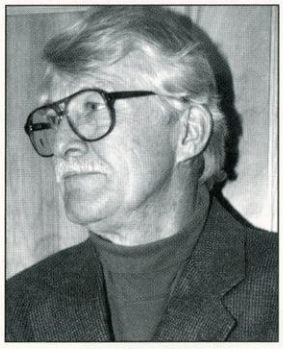
Meanwhile, researchers continue to perfect techniques to allow the tender hands of humans to bring these magnificent yet ever-so-fragile birds back to the skies and wetlands of the Midwest.

And Aldo Leopold would certainly be "all for that."

George Archibald is a co-founder of the International Crane Foundation in Baraboo, a world-renowned expert on cranes, and a Fellow of the Wisconsin Academy of Sciences, Arts and Letters. For more information about ICF, see www.savingcranes.org or call 608/356-9462.

the knowledge gap

Taking measure of the growing chasm between scientists and the rest of us.



AT THE END of his recent book, *From Dawn to Decadence: 500 Years of Cultural Triumph and Defeat*, historian Jacques Barzun allows himself the luxury of peering into the future. Two centuries hence, he envisions, Western society will have divided into two groups. The smaller will be composed of men and women who have mastered technology, physical science, and especially mathematics.

BY PAUL G. HAYES

"Dials, toggles, buzzers, gauges, icons on screens, light-emitting diodes, symbols and formulas to save time and thought—these were for this group of people the source of emotional satisfaction, the means of rule over others, the substance of shoptalk, the very joy and justification of life," Barzun wrote.

The masses, the larger group by far, by then could neither read nor write, a result of teachers having declared children unteachable. "Public readings, recitals of new poems based on ancient ones, simple plays, and public debates about the eternal questions (which bored the upper class) furnished the minds and souls of the ordinary citizen."

Barzun's vision resonated with me. Having spent much of my newspaper career thinking of science writers as building at best a shaky bridge between scientists and the lay public, I now realize that the bridge was growing ever shakier for two reasons. It was moored on one shore where science was moving so rapidly into arcane complexity that no one could keep up with the whole picture. On the other shore, the lay public was becoming far more interested in nonscientific diversions, including sports, celebrity, old myths, spiritual pursuits, and glittery entertainment.

When I reported on the natural and physical sciences for *The Milwaukee Journal* from the late 1960s through the 1980s, it was axiomatic among science writers that what we did was important. Not only were we convinced that the lay public had an inherent right to know, especially since much science was paid for with taxes, but also widespread scientific literacy was considered essential to wise voting and consuming.

More to the point, popular support of matters scientific was deemed crucial to democracy itself. Interest in American science prompted by the success of Sputnik, the Soviet satellite

launched in the late 1950s, intensified as the U.S. responded with its hugely successful effort to land humans on the moon. Newspapers scrambled to expand their science reporting staffs.

When I joined *The Milwaukee Journal* in 1962, it had a full complement of science writers. Bill Normyle and, later, Harry S. Pease covered space; James Spaulding covered medicine, and Russell Lynch was among a long and distinguished list of conservation reporters that included Mel Ellis, Gordon MacQuarrie, and Richard Kienitz. They were giants. Spaulding served a term as president of the National Association of Science Writers, Lynch became Wisconsin's first chairman of the Board of Natural Resources, books by Ellis and MacQuarrie still are sold, and Kienitz did the main reporting on water pollution that won *The Journal* a Pulitzer Prize.

During my tenure, the reading public became deeply interested in the natural environment. World population trends, land, air and water pollution, wilderness and wildlife, and the sufficiency and safety of energy resources were big stories. While such stories had immediate political consequences, each was based in science, and *The Journal* strove to cover both the politics and the science.

This could be daunting to journalists. American journalism mostly is done by men and women who decided perhaps as early as the fourth or fifth grade that mathematics and physical sciences were not for them, and stressed the liberal arts in high school and college. Thus, most newsrooms are composed of a self-selected group of people naïve, ignorant, or uninterested in science.

Even so, some reporters acquired a sophisticated understanding of the methods of science and details enough in some sciences to write popularly, clearly, and accurately about scientific advances. In 1934, a dozen of them founded the National Association of Science Writers (NASW), which today has 2,200 members and helps ensure high standards.

However, early indications that the gap between the sciences and the lay public was widening arose with warnings from educators that American children were failing at science and mathematics and that grade and high school science teachers were not keeping up with the sciences sufficiently to teach relevantly.

Personally, I never bought the claim that Americans kids were falling behind in science. Each evening I marveled at the competence my own children had acquired—largely self-taught—in computers, a competence that everyone knows now extends to an entire generation. At work, I concluded unscientifically that the U.S. was neither falling behind in the sciences nor failing to produce enough scientists. My observation was that a motivated student could get an excellent education in the sciences; otherwise why were thousands of students from Europe, Asia, and other places coming to the U.S. to study science?

But I did agree that science teachers were not keeping up. Nor was anyone else, including science writers. I confirmed this recently with Helmut Beinert, a University of Wisconsin emeritus professor of biochemistry and an Academy Fellow, who said that today's scientists do well to keep up with the cutting edge of their own disciplines, to say nothing of all others.

Ironically, our conversation occurred at an Academy function in the Academy's 130th year. Among the Academy's founders was Wisconsin's pioneer scientist Increase A. Lapham, who, without benefit of university training, mastered the botany, zoology, archaeology, meteorology, and geology of his day. But by 1870, when the Academy was founded, even Lapham had come to realize that specialization was the necessary future of science.

In retirement, I try to keep abreast of scientific news by reading *Science* magazine each week, a publication of the American Association for the Advancement of Science (of which Lapham was a member). Needless to say, the research reports are beyond me, but I do read the news, although I find myself reading a smaller percentage of that each week.

That bothers me because I am convinced that the products of science are the main agents of social change. The UW's stem cell research holds immense promise for human health even as it confronts some religious groups with unacceptable ethical consequences. Two science-based issues were at stake in the 2000 presidential election: global warming, advanced by the Democrat Al Gore, and an anti-missile defense system advanced mostly by Republican George W. Bush. My guess is that few voters had these issues foremost in mind when they entered the voting booths.

Also, genetically modified foods pose complex economic, ethical, and ecological challenges, and while it pleased me that the Academy worked to advance Wisconsin's popular understanding of this issue in its Fall Forum 2000, I wonder if it was too little, too late.

For this article, I quickly analyzed the membership of the NASW. Of its 2,200 members, fewer than 100 are full-time employees of mass-circulation newspapers. They are far outnumbered by freelance writers, a term that can apply to a writer who has published one story on science in a career or a writer who turns out a story a day. Other members are magazine and book writers and editors, radio and television producers, public information officers and public relations practitioners, and journalism professors who teach science writing.

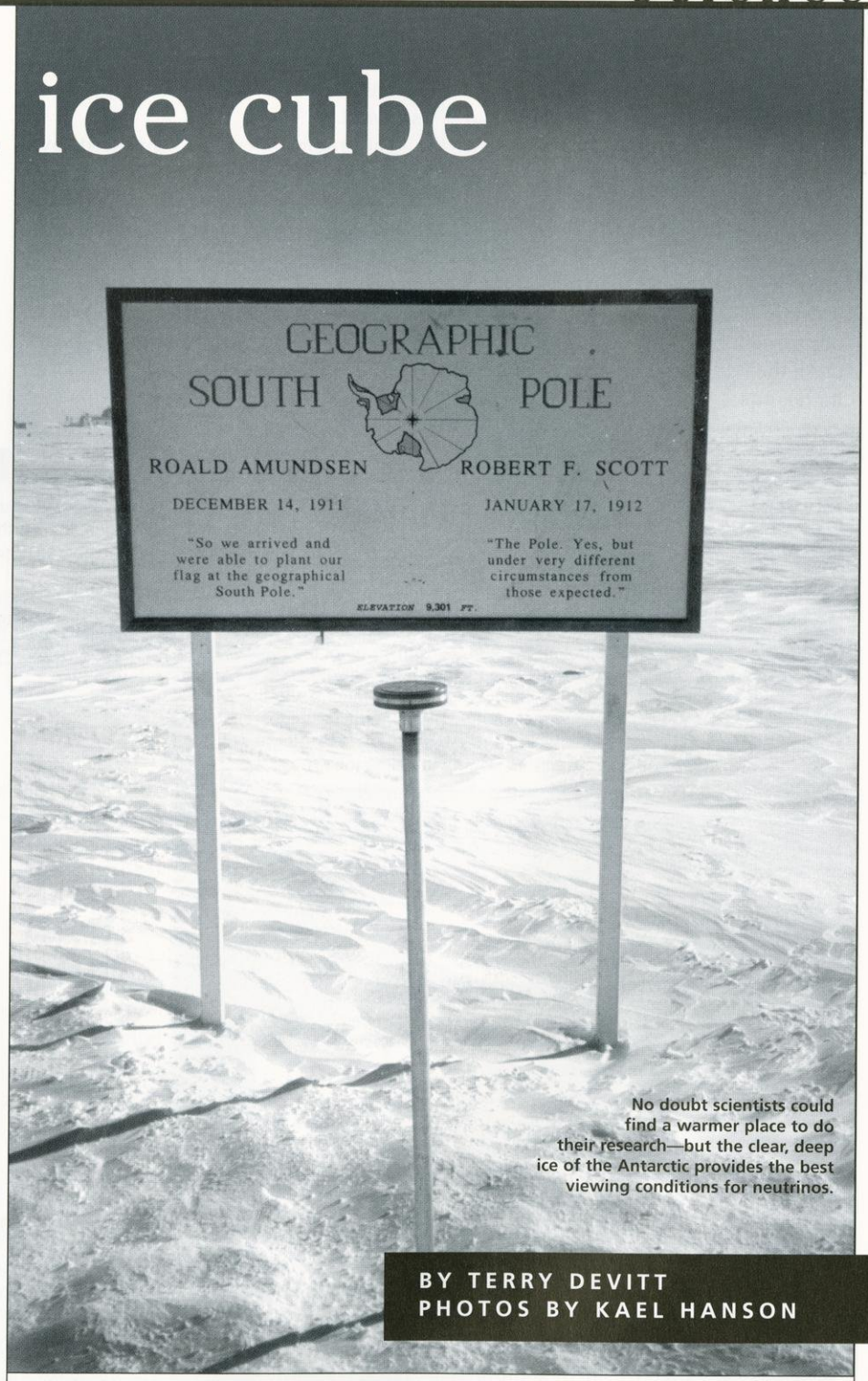
The shrinking number of full-time newspaper science writers obviously reflects the continuing trend to fewer newspapers and declining readership. I suspect it also reflects the liberal arts bias among editors to give science news, however important, short shrift, and to depend on others such as the *New York Times* News Service and The Associated Press for such news as regional newspapers print.

Try as we might to confront the social consequences that arise from science, I think we must concede that the gap between science and the public is growing and that we must wonder whether Barzun's vision of a divided society ruled by a small scientific elite, while the rest of us amuse ourselves with old illusions of democracy, is already reality.

Paul G. Hayes is an Academy Fellow, a member of the ***Wisconsin Academy Review*** *editorial advisory committee, and Vice President–Letters on the Wisconsin Academy Council.*

project ice cube

In Antarctica, a new telescope created by UW–Madison scientists heralds a vision of a distant, violent universe.



No doubt scientists could find a warmer place to do their research—but the clear, deep ice of the Antarctic provides the best viewing conditions for neutrinos.

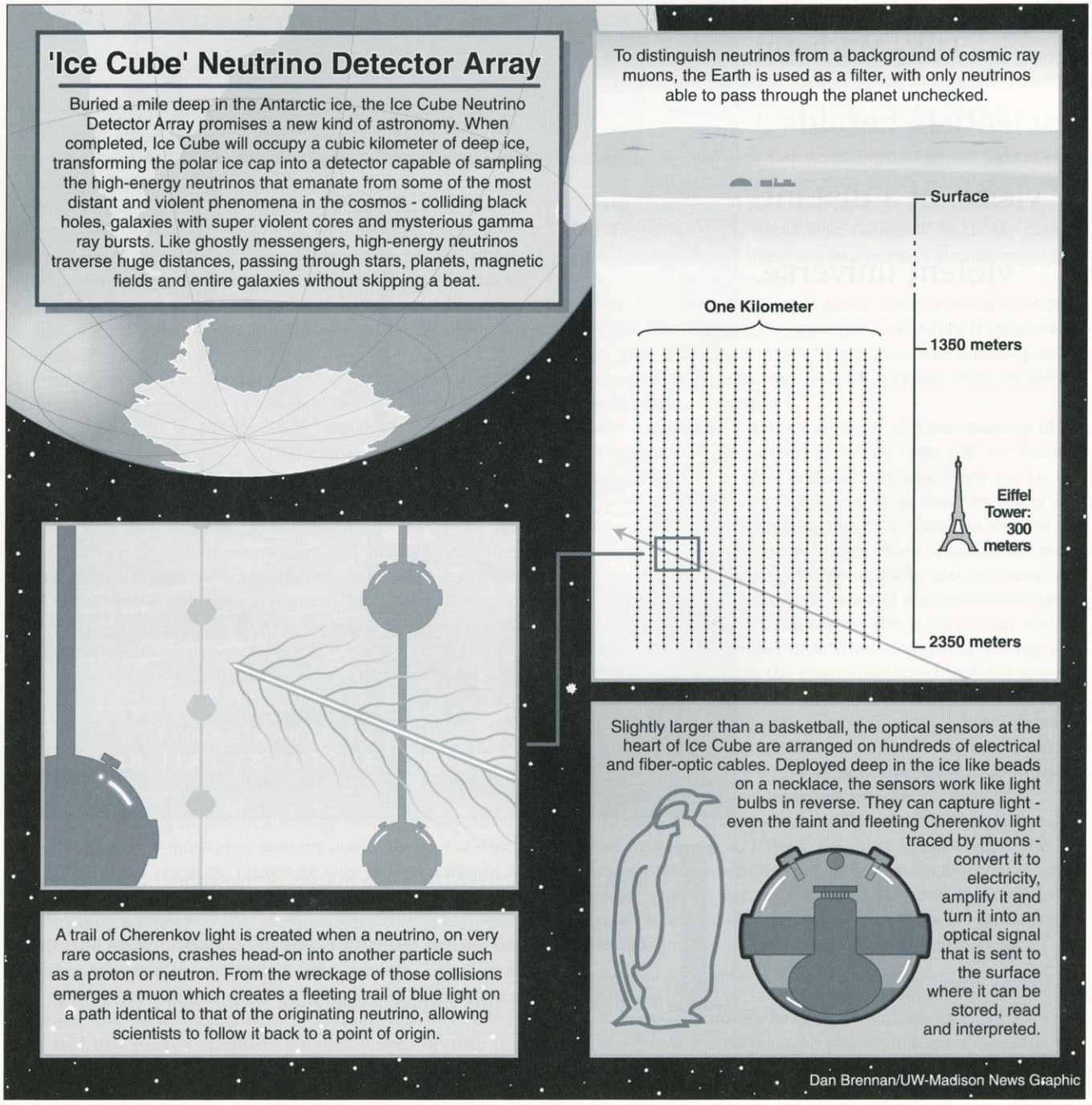
BY TERRY DEVITT
PHOTOS BY KAEL HANSON

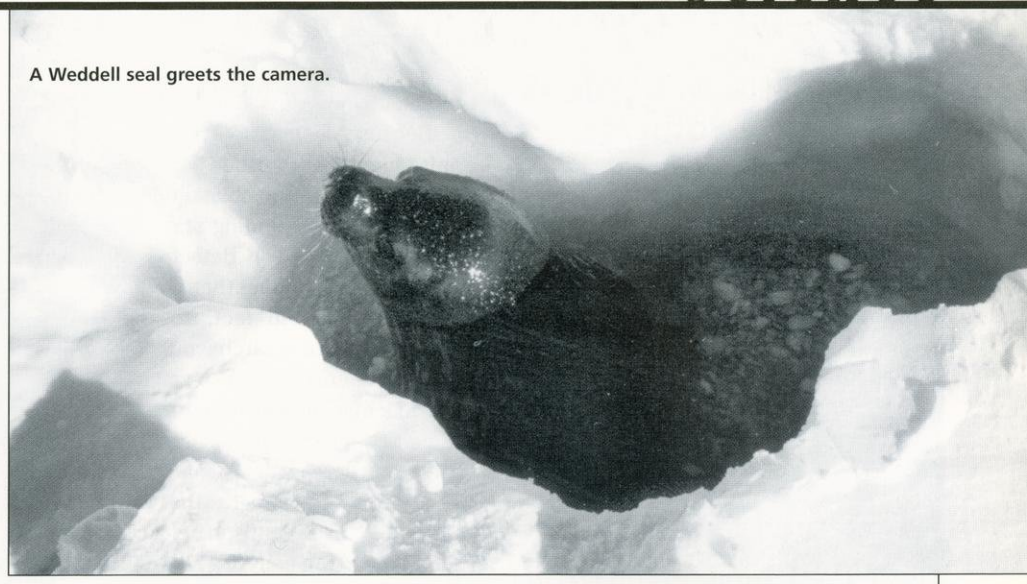
IN ALL THEIR INGENUITY, the makers of telescopes have never been as inventive as nature. From the time of Galileo, when the great Italian scientist first turned a telescope to the night sky, observers, with great regularity, have found the unimagined.

The first optical telescopes, the rudimentary instruments used by Galileo to discover the moons of Jupiter and demonstrate that the Earth was not unique, were first used for navigation and commerce. For the 15th-century merchant with the most powerful telescope, the ability to be the first to scrutinize goods aboard ships making their way into European ports amounted simply to opportunity, the opportunity to make the first trades and the most profit. No one imagined what astonishing new things might be found when this instrument of commerce was pointed skyward.

The radio telescope, invented by University of Wisconsin–Madison alumnus and junior Bell Labs technician Karl Jansky, was originally intended to pave the way for transatlantic radio telephone service by investigating sources of static that might interfere with radio voice communications. Jansky's discovery in 1933—using a large, rotating antenna known as "Jansky's merry-go-round"—that a steady hiss emanated from near the center of the Milky Way was the first inkling that the heavens could be explored in that region of the electromagnetic spectrum.

Gamma ray bursts, the subject now of an entire field of astronomy, were first detected by satellite-borne sensors invented to record Soviet nuclear explosions. The first X-ray telescope was built to observe the moon, but instead served to add new things, among them waltzing binary neutron stars, to the zoo of





A Weddell seal greets the camera.

objects that populates the cosmos. Huge optical telescopes built in the 20th century gave us our first surprising glimpse of an expanding universe. They were originally intended to study more mundane phenomena such as nebulae.

That nature has been vastly more creative than our ability to anticipate it is no surprise. But it is still humbling, according to Francis Halzen and Robert Morse, UW–Madison professors of physics who, with the help of an international consortium of scientists and extraordinary support from the National Science Foundation (NSF), have helped pry open a new window to the universe that may reveal a trove of insight into some of the most distant and violent phenomena in the cosmos.

That portal is the high-energy cosmic neutrino, a ghostly messenger, a particle with just a hint of mass, that can traverse enormous distances—billions of light years—and pass unhindered through stars, planets, magnetic fields, entire galaxies, without skipping a beat. "Of all high-energy particles, only neutrinos can directly convey astronomical information from the edge of the universe—and from deep inside the most cataclysmic high-energy processes," notes Halzen, a theoretician. "Their unique advantage arises from a fundamental property: they are affected only by the weakest of nature's forces (but for gravity) and are therefore essentially unabsorbed as they travel cosmological distances between their origin and us."

That the neutrino exists at all is a marvel. Its existence was first postulated in 1931 by Swiss theoretician Wolfgang Pauli, who needed it to balance an equation based on data on radioactive decay and energy conservation. The day after proposing it, he remarked to his colleague Walter Baade: "I have done a terrible thing, I have postulated a particle that cannot be detected."

Pauli was not quite right. Nuclear reactions spawn copious amounts of neutrinos, and the advent of the atomic age provided experimentalists with settings where the particles could be generated and detected. The first to see them was the late Fred Reines, a University of California at Irvine professor of physics and Nobel laureate, who, after discarding the notion of using an atomic bomb to generate the particles, settled on a more benign source, the nuclear reactor at Savannah River, to experimentally observe neutrinos and, presumably, relieve Pauli of any anxiety.

The sun, too, is a source of neutrinos. The neutrinos produced in the nuclear reactions in the core of the sun were first detected in the 1960s, and today in the world there are five solar neutrino detectors that can peer into the sun and have the added advantage of being able to study the basic properties of the particle. Beyond the sun, the only other known astronomical source of neutrinos is Supernova 1987a, an exploding star that sent many billions of neutrinos coursing through the Earth over a 10-second period on February 23, 1987.

THE TROUBLE WITH NEUTRINOS

Like electrons, neutrinos come in three flavors. The electron neutrino is produced in copious amounts by the sun, but these particles are of relatively low energy. Tau and muon neutrinos, on the other hand, pack far more energy, and it is these particles that scientists think may be diagnostic of such things as galaxies with superviolent cores and mysterious gamma ray bursters. Moreover, these elusive high-energy or cosmic particles, hurled into space from their galactic or stellar accelerators, may tell us about entirely new physical phenomena in much the same way that the particles created in Earthbound accelerators tell us about the nature of things at their most fundamental level.

From an astronomical observer's point of view, the trouble with cosmic neutrinos is that they are excruciatingly hard to detect. High-energy neutrinos are believed to be generated by a host of the most violent phenomena in the cosmos. Black holes, galaxies that have astonishingly violent cores, and gamma ray bursts are all suspected of producing high-energy neutrinos. But beyond the obvious sources—a nuclear reactor, the sun, or a handy supernova—where detectors can be concentrated to detect and study neutrinos that arrive in copious streams, "seeing" and following cosmic neutrinos back to their point of origin is exceedingly difficult and, so far, has never been done.

It is the phantom-like quality of the high-energy neutrino that makes it so hard to see. At any second, there are trillions of the high-energy particles zipping unhindered through the Earth. As you read this article, it is a safe bet that high-energy neutrinos will pass through your body. They course through matter "like bullets through a rainstorm," explains Halzen.

But while neutrinos are the ultimate antisocial particle, they do, on occasion, crash head-on into other particles such as protons or neutrons. When they do, from the wreckage emerges a different kind of particle, a muon, which will travel for hundreds of meters or even kilometers through surrounding matter. But unlike the invisible neutrino, the muon gives us something to grab onto, so-called Cherenkov light, the same eerie glow seen in the water covering nuclear reactors. And since the muon travels the same path as the neutrino, it is possible to look back along the muon's track to

WATCHING NEUTRINOS: Why Bother?

1 Cosmic neutrinos are the only particles that can directly convey information from the farthest reaches of space. Most photons, the optical astronomer's medium, cannot reach us from the most distant points in the cosmos.

2 Neutrinos not only travel long distances, but they also are easy to categorize. Low-energy neutrinos come from the sun, from cosmic rays crashing into the atmosphere, and other nearby phenomena. High-energy neutrinos reach the Earth only from distant, extremely violent events.

3 Neutrinos are as plentiful as photons.

4 Neutrinos are a window to some of the most boisterous events in the universe—colliding black holes, gamma-ray bursts, and the bizarre, violent engines at the cores of new galaxies.

5 Through the prism of the neutrino, all but the most interesting of cosmic events are filtered out.

6 Serendipity. No one imagined what Galileo would see when he turned his telescope to the night sky. The same is true of neutrino telescopes. Accidental discovery remains an important force in science.

see, perhaps, in what cosmic accelerator the neutrino originated.

Because cosmic neutrinos interact so infrequently with other particles (of the billions of neutrinos blasted through the Earth by the exploding star 1987a, only 20 were stopped in detectors in Japan and the U.S.), finding them requires very big detectors. In fact, to build such detectors from scratch would be prohibitively expensive. And so scientists have turned, ingeniously, to nature to provide the mediums, the detectors, in which these elusive particles can be captured.

To work, the detector that would form the heart of a neutrino telescope must be large, transparent, situated in the dark, and far enough below the surface of the Earth to shield against confusing cosmic rays. The first attempt to build a neutrino telescope capable of looking beyond the sun took place in the deep, clear ocean waters off Hawaii. Known as DUMAND for Deep Underwater Muon and Neutrino Detector, the idea turned out to be impractical. A raft of problems, from strong ocean currents and waves wreaking havoc with delicate electronic instrumentation to the bioluminescence given off by creatures of the deep ocean, interfered with the successful deployment and operation of that pioneering project.

Unfortunately, the DUMAND project was abandoned three years ago after 20 years of work. But while that great underwater telescope never succeeded in its goal to conduct cosmic neutrino astronomy, from it came the idea of using another of nature's transparent mediums —deep Antarctic ice—as an alternate route to neutrino astronomy.

ENTER AMANDA

The ice of the Antarctic, contend Morse and Halzen, is our best shot at co-opting the resources of nature to build a neutrino telescope. It is solid, providing stability for the delicate and often persnickety instruments of science: "With ice, one can walk on the experiment and keep all fragile electronics at the surface," Halzen explains. If you drill deep enough, there is no background light, nor is there the potential of interference from the luminescence produced by deep-sea creatures or the radioactive decay of sea salt. And, conveniently, the National Science Foundation operates a first-rate research station at the South Pole, providing a handy support infrastructure, something nearly all large modern scientific experiments require.

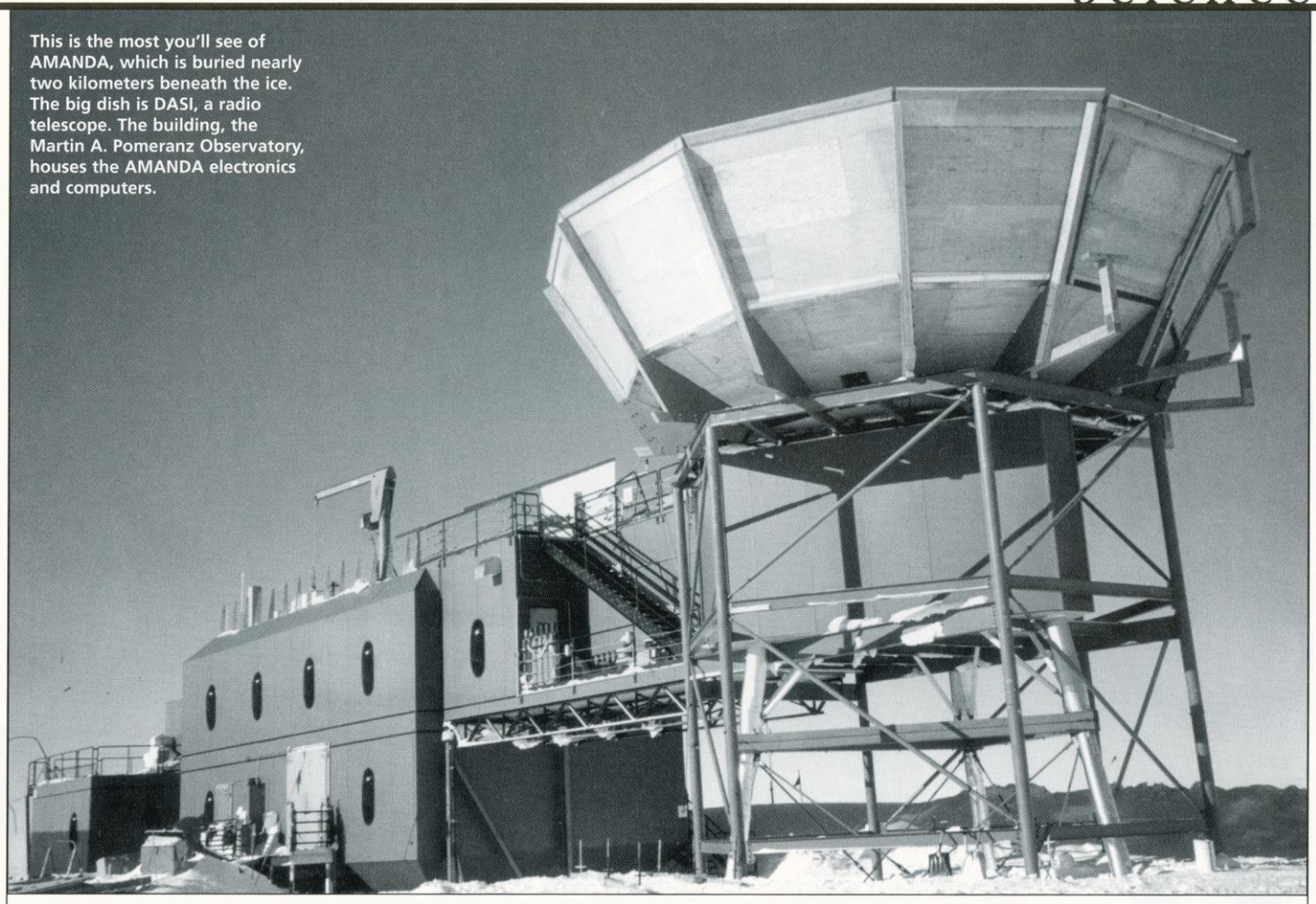
Finally, and most importantly, the deep ice of the Antarctic, laid down over tens of thousands of years, is extraordinarily clear, providing the optical conditions needed to make a working neutrino telescope. And like the ocean, it provides room to maneuver. The empty space of the Antarctic gives science the elbow room it needs to build one of the largest scientific instruments on Earth.

Morse has been building that instrument, known as AMANDA for Antarctic Muon and Neutrino Detector Array, since 1993. He has been thinking hard about the idea for even longer, since 1986 when he originally raised with the National Science Foundation the prospect of placing detectors in the ice.

Now, during every Austral summer, when the Antarctic weather calms down enough for humans to tolerate it, Morse has been overseeing the positioning of long strings of photomultiplier tubes (PMTs) in the Antarctic ice. These PMTs, basketball-sized glass spheres arranged on electrical cables, form the heart of the AMANDA detector. Using a hot-water drill he perfected at UW–Madison's Physical Sciences Laboratory, Morse and a small army of students and scientists from UW– Madison and a dozen collaborating institutions from around the world, have been steadily deploying the 677 optical modules that make up AMANDA.

Arrayed like beads on a necklace, the PMTs work like light bulbs in reverse, Halzen explains. They can capture light, even the faint and fleeting Cherenkov light traced by muons, amplify it, and convert it to an electrical signal that, sent to the surface by electrical cable, can be read, stored, and interpreted.

Like DUMAND before it, AMANDA is designed to look not up, but down, through the Earth to the sky in the Northern Hemisphere. Since neutrinos can and do skip through the Earth continuously, it is a logical direction to point the telescope in order to avoid sampling other, confusing high-energy events. The Earth between the detector at the South Pole and the northern sky filters out



This is the most you'll see of AMANDA, which is buried nearly two kilometers beneath the ice. The big dish is DASI, a radio telescope. The building, the Martin A. Pomeranz Observatory, houses the AMANDA electronics and computers.

everything but the neutrino hunter's quarry.

With only minor differences, AMANDA works like the numbered connect-the-dots games we played as children, Halzen says. "Here, the dots are firing, light-sensitive detectors, and the game is played in three dimensions."

Sunk more than one and a half kilometers beneath the South Pole, the PMTs that now make up the AMANDA telescope array are arranged in a cylinder of ice 400 meters in height and 120 meters in diameter. When a muon traces the telltale Cherenkov signal through the detector, the idea is to look back by connecting the PMT dots along the muon's path—neatly aligned with that of its parent neutrino particle—to some cosmic accelerator.

Indeed, in 1998 AMANDA yielded the first hard evidence—the illuminated trail of a cosmic neutrino that penetrated the Earth in the middle of the Pacific Ocean to collide with a subatomic proton in the ice below the detector—that neutrino astronomy was possible. Seen was the Cherenkov trail of a muon that coursed for 400 meters upward through the Antarctic ice between 2 and 1.5 kilometers below the surface. The event, according to Halzen, lasted about a microsecond. It was proof, finally, after 10 years of work, that the prototype large-scale neutrino telescope worked as advertised.

Building on this and other successes, Morse, Halzen, and their many collaborators have raised the cosmic neutrino ante, proposing the instrumentation of a cubic kilometer of Antarctic ice. With AMANDA at its heart, the newer bigger telescope, known as Ice Cube, will set the table for routine observations of neutrino events, bringing this exotic form of astronomy within easy reach of the observer.

In the hunt for these elusive high-energy neutrinos, size truly matters. "The secret here is to just look at as much ice as you can," Morse says. "There is no such thing as too big a neutrino detector." Thus, as the AMANDA telescope is transformed into Ice Cube, it will grow from 677 optical modules or PMTs to 4,800 optical modules occupying a volume of ice 30 times larger than AMANDA. It will, says Morse, have the ability to detect neutrinos from the farthest edges of the universe when it is completed sometime in 2008.

It is there and in between where colliding black holes and careening, crashing neutron stars ignite the celestial cataclysms capable of hurling high-energy neutrinos toward Earth. It is these neutrinos, explains Morse, that provide the only direct window to objects and processes that cannot be seen in any other way. And the only way to sample those neutrinos, if all goes well, will be through the prism of AMANDA, Ice Cube, and the deep Antarctic ice.

Terry Devitt is science editor with the University of Wisconsin–Madison Office of News and Public Affairs, where, for the past 16 years, he has covered the physical and biological sciences. He is also editor and project coordinator for the Why Files, a web-based exploration of the science behind the news produced at UW–Madison (see the Summer 2000 issue of the ***Wisconsin Academy Review*** *for Devitt's article about the Why Files).*

madison then & now

two photographers two eras one city

PHOTOGRAPHS BY ZANE WILLIAMS AND ANGUS MCVICAR
TEXT BY TRACY WILL AND ANN WAIDELICH
INTRODUCTION BY JOAN FISCHER

AN UNUSUAL COLLABORATION BETWEEN TWO RENOWNED PHOTOGRAPHERS OF TWO DIFFERENT ERAS HAS RESULTED IN A TELLING, OFTEN POIGNANT, TESTIMONIAL TO CHANGE IN WISCONSIN'S CAPITAL CITY.

Angus McVicar (d. 1964) earned a living as a commercial photographer in Madison between 1925 and 1957, in the process capturing all manner of beloved sites and landmarks: the Capitol Square, Lake Monona, Manchester's department store, the old Dane County Courthouse, Rennebohm's drugstores. In a series of logbooks he meticulously noted the date his photographs were taken, along with subject and client.

Zane Williams, whose credits include several photo-illustrated books, guidebooks, calendars, and even a U.S. postage stamp, saw McVicar's work five years ago and decided to, in essence, retrace his footsteps. Williams had been studying various rephotography projects around the country and became interested in doing one in his own "backyard."

"I felt that the McVicar archive presented myself and Madison with a unique opportunity to create a more rigorous survey than had previously been done on an American city," he says.

This was in large part due to both McVicar's records and his camera technique. "McVicar's large-format views from an 8-inch-by-10-inch view camera and diligent record-keeping gave me an advantage over other projects that had to rely on photographs of unknown date, by many different photographers, using varied cameras and lenses," Williams notes.

Zane Williams retraced Angus McVicar's footsteps as meticulously as possible.

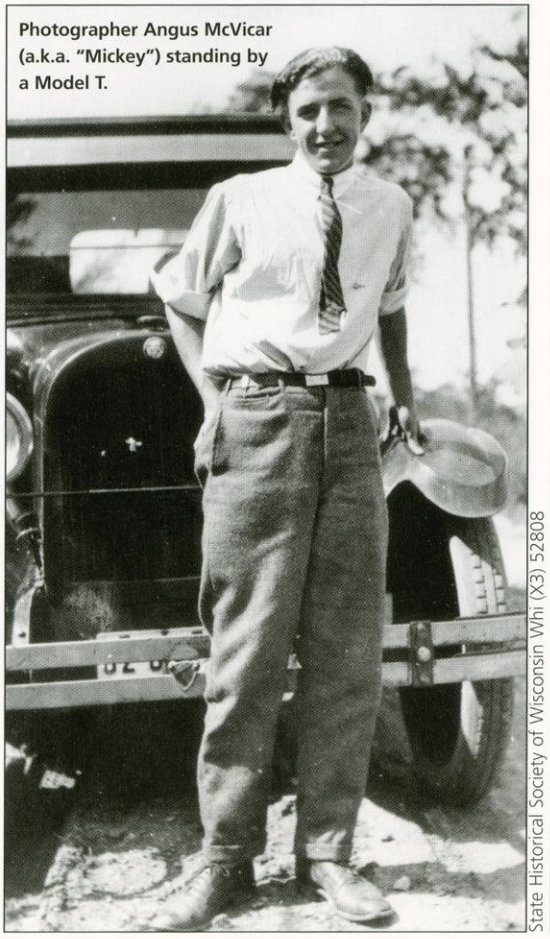
Photo by Bob Rashid

Williams re-created the shots from the same vantage point as McVicar, often on the same day of the month and time of day as the original photographs. He has assembled some 130 photo pairs in all, many of which will be featured in a book entitled *Double Take—A Rephotographic Survey of the City of Madison, Wisconsin,* to be published by the University of Wisconsin Press next year.

We are pleased to present a small sample in this edition of the *Wisconsin Academy Review*. Context and commentary have been provided by Madison historian Ann Waidelich and writer Tracy Will. Let your eye move from the historic photo to the contemporary photo and back again. What has changed, what has remained the same? You might also ask: What seemed to be the driving forces behind the decisions made and directions taken in the name of progress?

In any case, we hope you enjoy the opportunity to notice differences large and small, to reflect on their effects and consequences, and to appreciate what time and human vision have done to our capital city.

Photographs by Angus McVicar photos courtesy of the State Historical Society of Wisconsin



Photographer Angus McVicar (a.k.a. "Mickey") standing by a Model T.

State Historical Society of Wisconsin Whi (X3) 52808

This photograph shows Olin Terrace, the intended site for the Monona Terrace project envisioned by Frank Lloyd Wright. Angus McVicar took the photograph for attorney Carrol Metzner, a Madison Common Council member and state representative who opposed Wright's intended use of the site. Metzner preferred to use the Lake Monona site as a park and "pleasure drive." He successfully campaigned to pass a bill in the State Legislature to prevent construction of any structure on Lake Monona's north shore in Law Park to be built higher than 22 feet. Metzner's opposition postponed the project and Wright died in 1959, the grand plan unrealized. But the idea never died. It took nearly 40 more years for Monona Terrace to reach fruition as a convention center using a revised design based on Wright's original plans.

"Wide Angle View—Olin Terrace"

March 3, 1957

Angus McVicar Collection WHi (McVicar) A-2763

Wilson Street Entrance to Monona Terrace

4:09 p.m., April 6, 1999

Zane Williams TM 31-3

The Sherlock Hotel was built as an office building in 1855 during Madison's first boom. Madison added dozens of new buildings during the 1850s as it grew from a village to a city. In 1889, a new owner added a floor and named it the Sherlock Hotel.

The Capital Times commissioned McVicar to photograph the Sherlock just before its demolition to make room for a new gas station at the corner of King and South Webster. The gas station was torn down in the 1970s and turned into a parking lot, in hopes of attracting a new building for the site. However, nearly 40 years of leaking petroleum products doomed the site for development. Attempts to locate a dining car restaurant there in 1992 unearthed soil contamination problems and blocked further plans to develop the property.

"Sherlock Hotel"

March 30, 1934

Angus McVicar Collection, WHi (McVicar) 4503-B

100 Block of King Street, from Southeast Corner of King and Doty

3:26 p.m., January 14, 1999

Zane Williams, TM 95-3

The Pennsylvania Oil Company filling station at the corner of State and Gorham Streets sat on the site of one of Madison's earliest breweries. The Capital Brewery occupied the site beginning in 1854, before the Hausmann family purchased the property in 1864. The Hausmann Brewery operated until it closed during Prohibition, and fire destroyed the building in 1923.

McVicar's photograph shows cars lined up for a free oil change, a promotion by the Pennsylvania Oil Company on the heels of one of the worst cold spells on record. The Jacobson auto dealership and the Fox Motor Sales Company owned adjacent buildings. They represented one-third of the automobile dealerships located just off State Street. The trolley tracks visible in the photograph lasted another eight years. A severe ice storm on February 13, 1935 paralyzed the trolley system, forcing its owners to close and scrap the system later that month.

Although automobiles soon reigned supreme, the Pennsylvania Oil Company filling station remained only 15 more years. The little gas station was demolished in 1942 and replaced by a larger facility that lasted until the early 1980s.

"Line-up of cars at State and Gorham for free oil"

January 17, 1927

Angus McVicar WHi (McVicar) 169-B

Southeast Corner of State and Gorham Streets

11:28 a.m., April 1, 1999

Zane Williams, TM 101-2

McVicar's photograph records Dane County's second courthouse in the last year of its existence. Built after 1884 of red brick with Chequamegon brownstone detailing in the Romanesque Revival style, the courthouse was designed by A. C. Koch and Company of Milwaukee in a style that resonated with another of their designs—Science Hall, completed in 1883 at the corner of Park Street and Observatory Drive on the University of Wisconsin–Madison campus. His firm, Conover and Porter, in 1894 again employed the Romanesque Revival style in designing the Armory, or "Red Gym," on Langdon Street near the UW–Madison campus. While the Red Gym and Science Hall remained in full use on campus into their second centuries, the Dane County Courthouse was razed in 1958.

The photograph was taken as the county transferred its court functions into the newly built City County Building. Located at South Fairchild and West Main streets, the courthouse property became a parking ramp to serve the ever-increasing stream of government workers driving in from Madison's expanding neighborhoods and growing suburbs.

"Dane County Courthouse (Wide Angle) record shot"

November 17, 1956

Angus McVicar Colllection WHi (McVicar) A-2741

Dane County Parking Ramp from Steps of Saint Raphael Cathedral

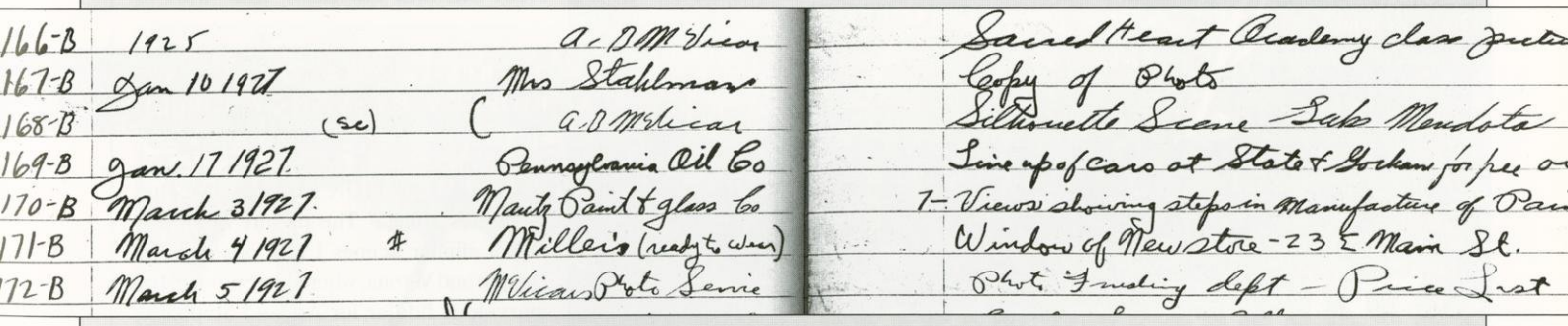
10:01 a.m., November 20, 1999

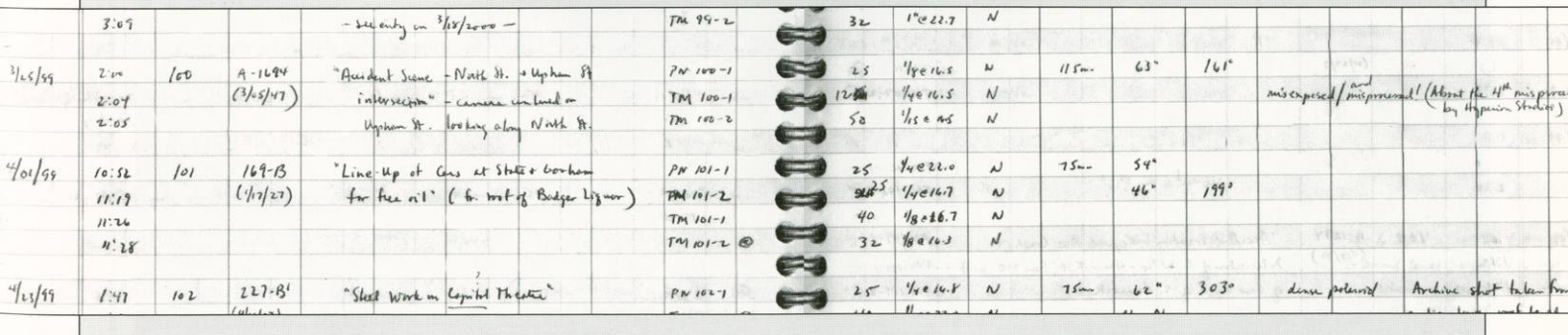
Zane Williams, TM 88-4

thoughts on rephotography

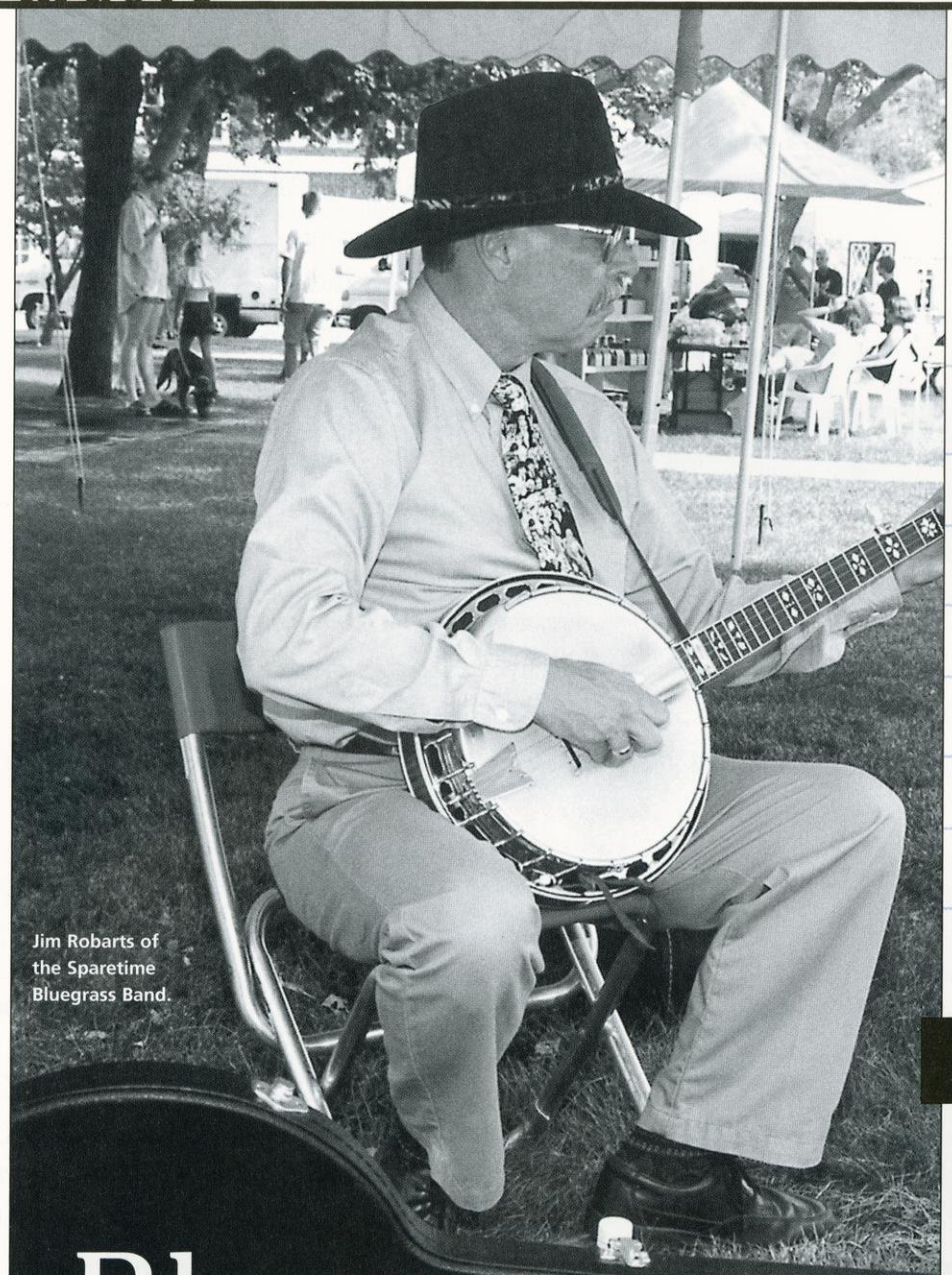
In rephotographing a historic archive one attempts not only to reframe the original scene as precisely as possible, but also to replicate the qualities of light and seasonality. Bound by this set of preconditions, the rephotographer must set aside artistic inclinations, personal politics, and ego. Unable to substantially alter or "improve" his view, he must shoot whatever he happens to find at the vantage point selected by his predecessor. Sometimes the results are chaotic—trees, buildings, or signs may now intrude into the view where before sight lines were unobstructed. Nonetheless, for approaching an understanding of time, place, and change, there are few other methodologies as successful as paired photographs, side by side, separated only by time. They are a view onto change. And regardless of other facts, we tend to believe our eyes.

by Zane Williams





The photographers' logbooks, then and now: Angus McVicar's careful notes (top) helped Zane Williams rephotograph his images.



Jim Robarts of the Sparetime Bluegrass Band.

Bluegrass Wisconsin

High lonesome in the heartland? Some great local bands and enthusiastic crowds are turning the state into a "mountain music" mecca.

THE NOVEMBER 2000 issue of *Fireball Mail,* the newsletter of the Southern Wisconsin Bluegrass Music Association, ran on its front cover an enchanting picture of three small children who sat listening raptly to bluegrass music at the festival that is held each year in East Troy.

BY BILL C. MALONE
PHOTOS BY NANCY CUTLIP

A LARGE CAPTION READ, "Love That Bluegrass Music." The picture reminded me of similar scenes I had observed in Oregon and Verona, where Len Springer, the marvelous fiddler for Art and Stephanie Stevenson's band Highwater, has been conducting his popular and successful "Bluegrass in the Schools" program. These incidents seemed to be evidence of a "bluegrass renaissance" in Wisconsin.

It wasn't always this way. I recently asked Bill Jorgenson—once described by Bill Monroe as "the father of Wisconsin bluegrass"—about the strength of bluegrass in the state when he was first introduced to the style in the early 1950s. He said that Wisconsin was the "worst state there was" for bluegrass. To many people, the linking of "bluegrass" and "Wisconsin" probably seems incongruous. Bluegrass music evokes visions of Appalachian mountain coves, cabins, and churches. Its high lonesome sound, many believe,

could be achieved only in the Southern clime, a product of isolated living, hard experiences, fundamentalist religious belief, and an Anglo-Celtic inheritance. No state seems more alien to such traits than Wisconsin, the land of the polka and the accordion, and an area known and celebrated for the diversity of its ethnic groups and the frigidity of its weather.

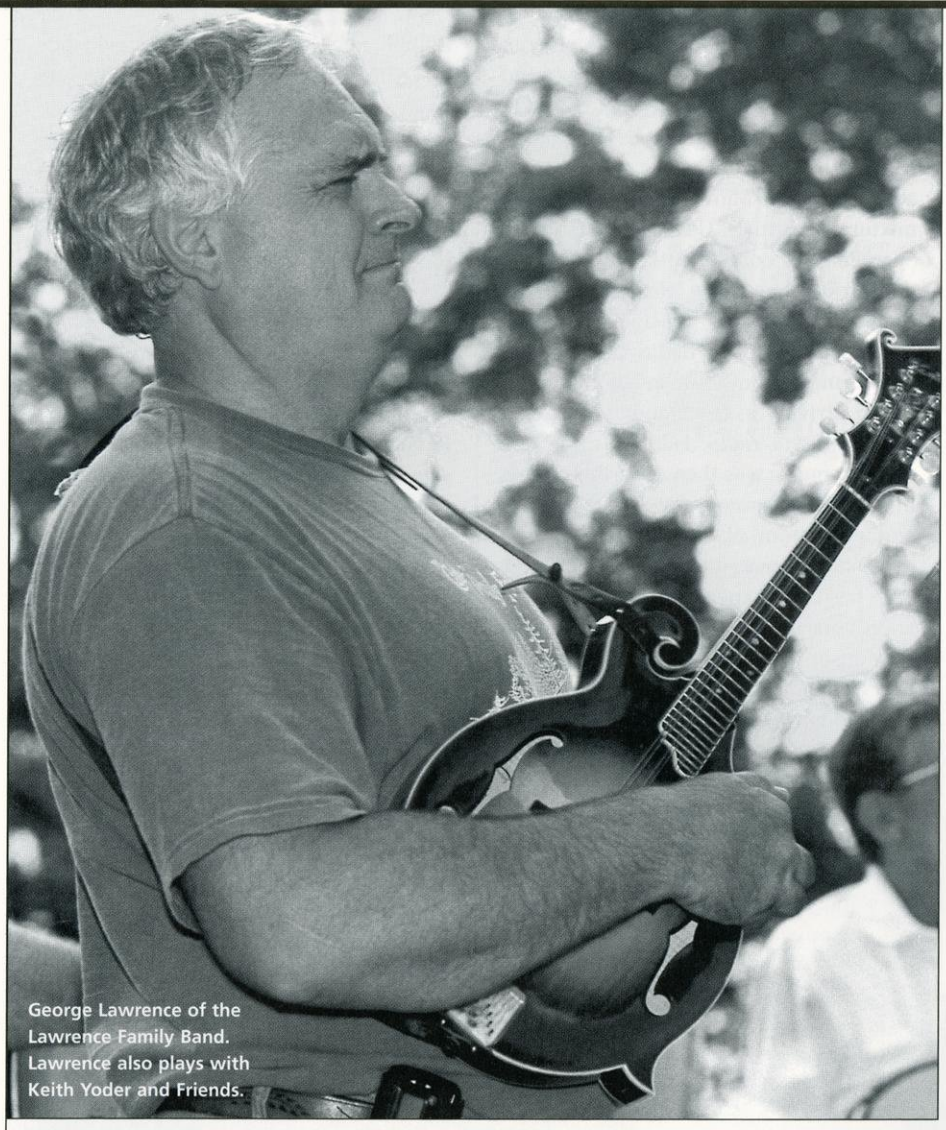
These perceptions, of course, are seriously flawed, if not downright false. Bluegrass is not an ancient Appalachian art form, and Wisconsin is not simply a northern European outpost in America. Rural music has always thrived in Wisconsin. It came with the original white settlers and, interestingly, has achieved a powerful presence among the state's Native American residents (WJOB, the Ojibwe radio station in Hayward, in fact, broadcasts a steady diet of bluegrass and old-time country music). Fiddling, string band music, ballad singing, and house parties were integral parts of the social landscape, just as they were in the South. When the fabled Goose Island Ramblers appeared on my radio show, Windy Whitford, George Gilbertson, and Bruce Bollerud regaled me with many stories similar to the ones I heard my father tell in rural East Texas. Up into the 1940s many Wisconsin people often cleared their rooms of furniture and invited neighbors in for a Saturday night session of picking and singing, just as they did in the South. The rural music of Wisconsin and the Upper Midwest, though, was a mixture of British, German, Polish, and Scandinavian components, and it lacked the African American element and the religious evangelical passion that made Southern rural music distinctive.

A form of "Southern" music, however, began arriving in the Upper Midwest in the 1920s via radio. Hillbilly music, as country music was then described, came from WLS in Chicago and WSM in Nashville, and even from places like Des Moines over such powerful stations as WHO. WLS barn dance performers appeared at state fairs and other social functions in Wisconsin, and the powerful Chicago station sometimes sponsored "home shows" in various towns where local musicians were encouraged to play the parts of popular barn dance entertainers. Karl Brandenburg, for example, who has since become one of the major promoters of bluegrass music in Wisconsin, remembers playing the role of Arkie the Woodchopper when one of these shows came to his hometown of Brodhead. Hillbilly music's popularity was evidence of a profound hunger in the 1920s and 1930s for rural music and values. Radio barn dances evoked a warm, fuzzy feeling, almost like the sense of going home to grandmother's for Thanksgiving.

FEEL THE TWANG

Country music and bluegrass, however, are not synonymous. The hillbilly styles of the 1920s and 1930s were predecessors or sources of bluegrass music. All one has to do to understand the difference is listen to competing versions of, say, Charlie Poole's version of "White House Blues," recorded in 1930, and Bill Monroe's version of 1950. When one hears Monroe's supercharged performance of the song, complete with a driving three-finger style of banjo and Monroe's high, keening tenor, you can understand why folklorist Alan Lomax described bluegrass as "folk music with overdrive." Bluegrass music certainly inspires a strong sense of tradition. Its musicians often resurrect old-time songs, and the music awakens old-time feelings in fans—a sense of nostalgia, a longing for the little cabin home on the hill and the old country church, or the rustic solitude of an

Winners of the "band scramble" contest at the East Troy Bluegrass Festival. (Left to right) Bill Anderson, John Losinieki, Benjamin Sanders, Lee Lorentz, and Bob Laitinen.



George Lawrence of the Lawrence Family Band. Lawrence also plays with Keith Yoder and Friends.

Appalachian glen (especially if one has never worshiped or lived in such settings).

Bill Monroe's music would have been known to many Wisconsinites as early as 1939, when the powerful Kentucky musician joined the Grand Ole Opry. The show also coincidentally began a 30-minute segment on NBC in that same year. Carmen Burnett, who has become the most passionate apostle of bluegrass in the state, has fond memories of growing up on a farm in Minnesota and hearing the music of the Opry, and she recalls that her father, Melvin Hommedahl, was an ardent fan of Monroe's music. Monroe's high-tenor singing and blues-inflected mandolin style, featured on such popular songs as "Footprints in the Snow," set him apart from other performers on the Nashville radio show.

But even though Monroe called his band the Blue Grass Boys (in honor of his native state of Kentucky), the style of music he played before 1945 was not "bluegrass." Bluegrass as we know it today is a product of innovations made by Monroe and his fellow musicians in the years immediately following World War II. In those prosperous years, when a proliferating number of radio stations and record labels dispensed country music to a receptive nation, Monroe set out to keep old-time acoustic string band music viable in a society that seemed increasingly geared to urbane and electronic sounds. Happily, he found a group of talented musicians—banjoist Earl Scruggs, guitarist Lester Flatt, fiddler Chubby Wise, and bass player Cedric Rainwater—and together they forged and popularized a style that has since been imitated around the world. Drawing upon ingredients borrowed from all over the South and from both African American and Anglo American sources, Bill Monroe and the Blue Grass Boys popularized their music through Grand Ole Opry broadcasts, Columbia recordings, and innumerable personal appearances. Sometime between the mid-1940s and 1960 the word "bluegrass" became widely affixed to a sound and style of music played by people who had either worked with Monroe or had imitated what they heard in his performances.

Bluegrass music apparently made little headway in Wisconsin until the years of the folk revival in the late 1950s and early 1960s. Country music definitely had its adherents in the state, but fans of the older styles met increasing frustration during the Elvis Presley era and during the country-pop period that followed. "Traditional" country music virtually disappeared from radio and jukeboxes. I suspect that many people were drawn to bluegrass because they saw it as a refuge for old-time styles at a time when mainstream country was being inundated with rock-and-roll and pop sounds—a yearning for tradition similar to that felt in the 1920s and 1930s. These experiences were shared by Bill Jorgenson. When he returned from the Korean War to his home in Sturgeon Bay, Jorgenson began playing the older country styles that he had always loved. But around 1953 he fell in love with the voice of Mac Wiseman, the soulful singer from Cremora, Virginia, who was one of many who carried on the tradition of Bill Monroe. Jorgenson may not have realized it at the time, but he was being swept into the emerging bluegrass revolution.

The folk music revival of the early 1960s provided a crucial context for bluegrass development everywhere in the United States. In 1959 the Kingston Trio unleashed a vogue for folk and folk-like music in the nation with their hit recording of "Tom Dooley." The enthusiasm was strongest on college campuses, where fledgling musicians and fans began picking guitars, banjos, and other string instruments and searching for old-time songs and styles. A rather logical progression occurred in the decade that followed. Some fans soon grew tired of the mild and ersatz sound of the Kingston Trio and began searching for performers whose music reflected authentic blue-collar roots. Ellis Bauman (husband of Madison mayor Sue Bauman) was one of many New Yorkers who matriculated at the University of Wisconsin in the 1960s.

Before he discovered bluegrass music, Bauman was a fan of the New Lost City Ramblers, a New York trio that revived old-time hillbilly music. Today he plays bluegrass in the many jams that occur in Madison, but he still shows a fondness for the Ramblers and can sing virtually all of the songs in their repertory. He and other campus folk music friends gravitated toward bluegrass because it appeared to be a supercharged updating of the old country string band styles. Even though neither Bill Monroe nor the other founding members of the bluegrass style came from Appalachia, it was tempting to believe that their music grew from Southern mountain roots. Bluegrass appealed, then, because of the musicianship of its practitioners, and, symbolically, because of its alleged linkage to traditional values that seemed under siege in modern America.

THE MADISON CONNECTION

The University of Wisconsin in Madison was apparently the incubus of bluegrass in the state. A group of students, including Eric Weissberg, Marshall Brickman, Rod Moag, Jerry Wicentowski, Earl Spielman, Joe Davis, and Ellis Bauman, mostly from New York or other Northeastern states, brought to the campus an interest in folk music that had been honed at Washington Square gatherings and similar scenes. It must have been exciting and exotic for other students when Weissberg and Brickman played their versions of the Scruggs style on their five-string banjos. Their partner, Paul Prestopino, who played several instruments, came to the university in 1960 as a lab technician in the physics department. Each member of this talented trio eventually moved on to prestigious careers in show business. Brickman became a screenwriter for Woody Allen. Prestopino became a member of the Chad Mitchell Trio and still travels as a musician with Peter, Paul, and Mary. Weissberg won notoriety as the arranger and musician for the "Dueling Banjos" scene in the movie *Deliverance*.

While much of the initial performance of bluegrass occurred in dormitory rooms or at the Memorial Union, musicians also began frequenting the bars and clubs, such as Glen and Ann's and Club DeWash, that lay near the campus. In these crucibles of cultural confrontation and change, college students and blue collar workers began learning music from each other. Prestopino, Moag, Wicentowski, and other fledgling bluegrass musicians sometimes sat in with the Goose Island Ramblers during their gigs at Glen and Ann's. The bluegrass community was already exhibiting that remarkable confluence of cultures that is rarely seen in any other form of music. Intellectuals, professionals, blue-collar workers, liberals, and conservatives coexisted congenially in bands and audiences (Joe Davis recalls, however, that such harmony did not always prevail during the heyday of Vietnam War protests, when he and other long-haired bluegrass musicians took their instruments to the outskirts of town to such working-class bars as the Packer Inn). Rod Moag may seem like an exotic flower in the garden of bluegrass, but his personal story was not far different from that encountered in other academic centers. Moag, who is now a professor of Indian languages at the University of Texas in Austin, played music between research stints in India and organized one of the first bluegrass bands in Madison, the Front Porch Backsteppers. His second band, organized in 1967 and called the Bluegrass Hoppers, included Don Gale on banjo, Earl Spielman on fiddle, Jerry Wicentowski on guitar and vocals, and Moag on mandolin and vocals. This band was known for both its musicianship and its erudition, and Moag was not the only member who had rare academic interests. Wicentowski, for

Nob Hill Boys (left to right) John Fabke, Jon Peik, and Dan O'Brien. The cover photo includes fiddler Paul Kienitz and bass player Josh Perkins.

instance, was a student of Hebrew and Semitic studies, and Spielman was studying to be an ethnomusicologist. Wicentowski was already shaping the reputation that he still carries today as one of the finest singers in bluegrass music.

A NETWORK OF TRUE BELIEVERS

A new wave of bluegrass enthusiasm came in the mid-1970s among musicians who had been weaned not only on traditional country and urban folk styles, but also on the varieties of music that had become paramount among America's youth. Bluegrass musicians in Wisconsin, and throughout America, continued to exhibit a fondness for the music of Bill Monroe, the Stanley Brothers, and other pioneers, but increasingly they also showed a receptivity for styles and songs introduced by blues, jazz, rock, and urban folk musicians. Simms Delaney-Potthoff, a founding member of the Madison band Stone Oak, was not alone in his admiration for the music of Stephane Grapelli and Django Reinhardt, and he took lessons from Jethro Burns, the venerated country-jazz mandolinist. Stone Oak, the Piper Road Spring Band (Whitewater), Grass Food and Lodging (Milwaukee), Tom Schwark's Brew County Ramblers (Milwaukee), Bob Stanton's Himalayan Mountain Band (Madison), and Art Stevenson's Wisconsin River Bluegrass Boys (Stevens Point) were only a few of the bands that were active in Wisconsin during the 1970s and early 1980s. The Monroe Doctrine hailed from Colorado, but it worked so frequently in Madison that it was identified with the city. One of its chief distinctions was the presence of bass player Mark Hembree, the only Wisconsin musician who can claim accurately that he has been a member of Bill Monroe's Blue Grass Boys. All of these bands worked proudly within the bluegrass idiom, but they roamed freely for musical material.

By the 1970s bluegrass had also fashioned a national infrastructure of festivals, concert networks, independent record labels, and radio shows that enabled the music to survive in a music world dominated by the Top Forty mentality. Chris Powers' Friday morning radio show, "Mud Acres," broadcast for three hours on WORT–FM in Madison, has contributed immeasurably to the popularity of bluegrass and acoustic music in the state. Since 1979 the Philadelphia-born musician has kept his listeners aware of the newest bluegrass releases and has made his program available to both local bands and such visiting groups as the Austin Lounge Lizards.

Wisconsin bluegrass fans have also enjoyed a variety of festivals that convene annually in such communities as Mole Lake, Manitowish Waters, Cecil, East Troy, Brodhead, Bayfield, Cave of the Mounds (in Blue Mounds), and Folklore Village near Dodgeville. Often compared to religious camp meetings, the festivals bring true believers together in rustic outdoor settings and permit both amateurs and professionals to commune with and learn from each other. Professional musicians such as Bill Monroe, Alison Krauss, and Del McCoury arrive as evangelists who galvanize local musicians into stronger commitment to the bluegrass idiom. Unfortunately, the hedonism of the rock festivals has sometimes intruded into bluegrass, and drunkenness, drug use, and violence have occasionally marred the placid, pastoral spirit typically enjoyed at the meetings. The festivals held at Mole Lake after 1975 bequeathed a legacy with which Wisconsin bluegrass patrons have ever since had to contend. Many fans recoiled against the "bikers" and other rowdy elements that thronged to the festivals. But Art Stevenson, while admitting that conditions got "pretty rough" at Mole Lake, still contends that the festival changed his life. Hearing Bill Monroe, Doc Watson, and Ralph Stanley at the festival whetted his appetite for traditional sounds and confirmed his resolve to be a bluegrass musician. Nevertheless, festival promoters in Wisconsin—such as Karl Brandenburg in Brodhead, Carl Solander at Red Cliff, and Melissa Sherman in East Troy—have consciously strived since the mid-1980s to create wholesome, family-style affairs that celebrate old-time music and old-time values.

The Cork n' Bottle String Band takes a playful approach to bluegrass.

Photo by Lisa Hinzman

WINNING THE YOUNG

A pivotal event in the emergence of the contemporary bluegrass scene in Wisconsin came in May 1983, when Bruce Nichols organized the Southern Wisconsin Bluegrass Music Association. Since that time the Association has worked diligently to promote bluegrass acceptance through sponsorship of concerts; jam sessions; and its newsletter, *Fireball Mail*. While many people have made tireless contributions to the organization, no one has worked more unselfishly for the music than Carmen Burnett and Carolyn Hegeler. A Red Cross nurse for more than 20 years and a lifetime fan of country music, Burnett insists that bluegrass "saved her life" after her husband died in 1974. She discovered the music of the Piper Road Spring Band and the Stone Oak Band and began devoting her life to the music, a commitment expressed through her work as a publicist, promoter, and "den mother" for visiting musicians. Carolyn Hegeler came to Madison in 1990 with a love for the five-string

banjo and as an alumnus of the Augusta (West Virginia) Folk Center. Once she had succeeded in booking her one-time instructor, Alan Munde, for a series of banjo workshops in Madison in 1992, Hegeler became actively involved in promoting concerts for other bluegrass musicians. Today she serves as president of the SWBMA, promotes bluegrass concerts, and plays music each Monday night, along with her fiddler husband Fred Newmann, at the bluegrass jam at Dudley's Bar in Madison.

The fortunes of bluegrass have ebbed and flowed in Wisconsin since the 1970s. Despite the presence of Jerry Wicentowski, the Milwaukee bluegrass scene has become almost dormant. A resurgence, though, has been under way in Madison since about 1995 and can be traced largely to the activities of a small circle of musicians and enthusiasts such as Carmen Burnett, Carolyn Hegeler, Wendy Brotherton, Jim Nikora, John Fabke, the Sparetime Bluegrass Band, Art and Stephanie Stevenson, and the Cork n' Bottle String Band. The Cork n' Bottle String Band, named for and sponsored by a liquor store on Johnson Street, play each Wednesday night to increasingly large crowds at Ken's Bar near the state Capitol. While the standard roster of bluegrass songs that deal with death, tragedy, and aged mothers are certainly not absent from Cork n' Bottle performances, the group's overall aura is one of good-natured high jinks and frivolity. Their infectious spirit translates easily among the hordes of college students who frequent the bar and who go away yearning for even more of the newly discovered bluegrass fare.

In 1997, largely through the urgings of mandolin player Jim Nikora, Art Stevenson and John Fabke began hosting weekly jam sessions at the Green Room (a large bar and pool hall) on the West Side of Madison. The Monday night sessions were successful beyond anyone's dreams, offering encouragement and exposure for amateur musicians and fans and spawning at least one new band when Fabke and Dan O'Brien organized the Nob Hill Boys. Green Room sessions also marked the initial Madison appearances of Len Springer, who has since become the most active fiddler in Southern Wisconsin (most often as a member of Art Stevenson's band, Highwater).

After about a year and a half at the Green Room, the Monday night sessions moved to the Copper Grid, across from the old UW Field House, and from there to Dudley's Bar on Park Street, where Bob and Lisa Steeno (of the Sparetime Bluegrass Band) act as hosts. The attendance at Dudley's has been large and enthusiastic, but bluegrass partisans still remember the Copper Grid with affection. Through the active promotion of Wendy Brotherton, the club had become more than a site for jam sessions; it had also emerged as a popular venue for visiting professional musicians. Bluegrass fans also converge on the Riley Tavern outside Verona (near Madison) in summer months for outdoor Saturday jam sessions.

No one can predict the future of bluegrass in Wisconsin, even though the Cork n' Bottle Band continues to win new converts, and Jerry Wicentowski, the Nob Hill Boys, and Art and Stephanie Stevenson make music that can easily compete with the performances of musicians anywhere in America. The real hope for a secure and lasting bluegrass community in the state may lie with those eager students in Len Springer's "Bluegrass in the Schools" program. From first grade through high school, youngsters learn the basic skills required of bluegrass musicians, experience the truth that America's popular arts are worth preserving, and discover the beauty that lies in a commercial music form that reconciles tradition and stylistic innovation.

Where's it playing?

For information about bluegrass jams and concerts in southern Wisconsin, contact the following groups:

Southern Wisconsin Bluegrass Music Assoc.
www.jvlnet.com/~swbmai
e-mail cody@chorus.net
Tel. 608/233-3558

Milwaukee Area Bluegrass Music Assoc.
www.folklib.net/index/wi/mabma
lsander@execpc.com

If you live outside southern Wisconsin, these organizations are a good first stop for information about groups elsewhere in the state.

Dean of Country Music

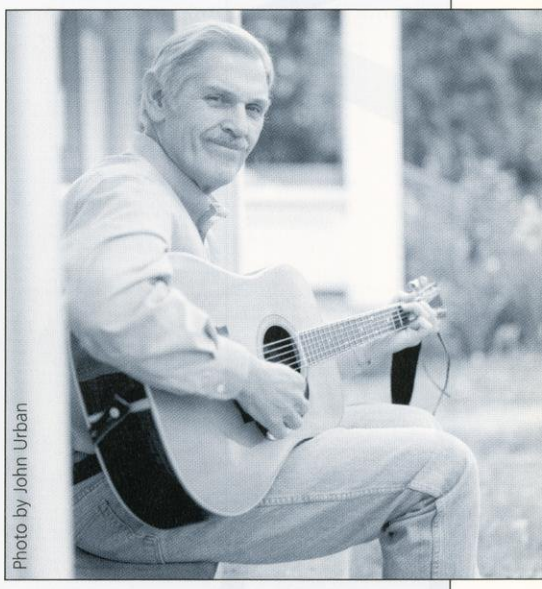


Photo by John Urban

Bill C. Malone, one of the nation's leading authorities on country music, is the author of *Country Music, USA* (University of Texas Press), which is widely considered to be the definitive reference work on the history of country music from its earliest commercial beginnings to the present. In 1981 he helped the Smithsonian Institute compile an eight-album package of country music that earned a Grammy nomination for Best Historical Recording. Malone, who hails from Texas, taught at Tulane University for 25 years and spent two years teaching at UW–Whitewater. In Madison, Malone teaches music history at UW Extension and hosts a popular Wednesday morning radio show called *Back to the Country* for community-sponsored WORT (89.9 FM). He and his wife Bobbie can also be seen jamming at various bluegrass sessions around Madison, with Malone on guitar and Bobbie on mandolin.

poetry

The Laws of Gravity and Motion

I suppose that some time soon the planets, moons and stars
will get back to their polonaise of pull, and twirl and orbit
And maybe then they'll move again like fond familiar lovers
if you pause from what you're doing and let them go back to it

but I'd rather that you didn't. I don't think they'd mind much
if we kept them waiting, you with your book and I with my head here
in your lap, your thumb and finger idly orbiting my earlobe. You've just
rubbed out all the laws of gravity and motion. I'm drifting near

some nebula; there's stars and planets whirling like a ballroom mirror
suns and moons set free to wander. Math and physics? Just some
vague abstraction. All my universe is rolling over
one ecstatic thumb and fingertip. Let them run

loose a little longer. There's nowhere that they need to be.
You're lost in your book. I'm lost in your lap. It's heavenly.

By Peter Sherrill

Sunset at High Cliff

Clouds and fire swirl on the horizon
arcing overhead to molten blue
in the east, faint stars drift into vision.

On the picnic table, just we two
with pens and paper, make this time a photo
write our ink-and-paper memories.

You've turned your lens wide open, catch the flow
of seagull, smell of nightfall, shadow-trees
that finger twilight colors fading gray.

I zoom my lens for distance, touch far shoreline
inky black beneath the dying day
and scratch dark smokestack-fingers on the skyline.

We drink our coffee from one cup, now cool
enough for you, still hot enough for me.

By Peter Sherrill

Peter Sherrill has published in ***Fox Cry Review, Riverrun,*** *the* ***Wisconsin Poets' Calendar****, and the* ***Wisconsin Academy Review****. He is the first recipient of the Muse Prize for Excellence in Poetry from the Wisconsin Fellowship of Poets. He will become president of the Fellowship this April.*

Frost

Fields languish under striped sheets
ridges white
furrows dark

The first hard frost of the season
is as brittle as its name
fr— o —st
fr— —st
cold slivers of sound

words, perhaps, from an earlier time
when names narrated:
frrr!
breath between chattering teeth
st!
thin ice breaking

Maybe danger then was more immediate
the speared, angry beast
the sure festering of a wound

perhaps dying had less leisure
less of the *—ah—*
that grips *fr—* and *—st*
lengthens their sound

less slow glazing over of mind and soul
that draws us repeatedly to bedsides
bleaker than these fields

By Sheryl Slocum

Photo by Bill Blankenburg

Beauty Fix

Last night, the sugar maple by the beauty shop
wriggled out of all her leaves.
Now they circle her
like a yellow ball dress slipped off
and left on the floor.
All day, farmers' wives,
balding clerks, hopeful teens
walk over cloth-of-gold for their beauty fix.
They emerge, tinted, poufed, trimmed, curled,
while the naked tree stands on her dress
as beautiful, as graceful as ever.

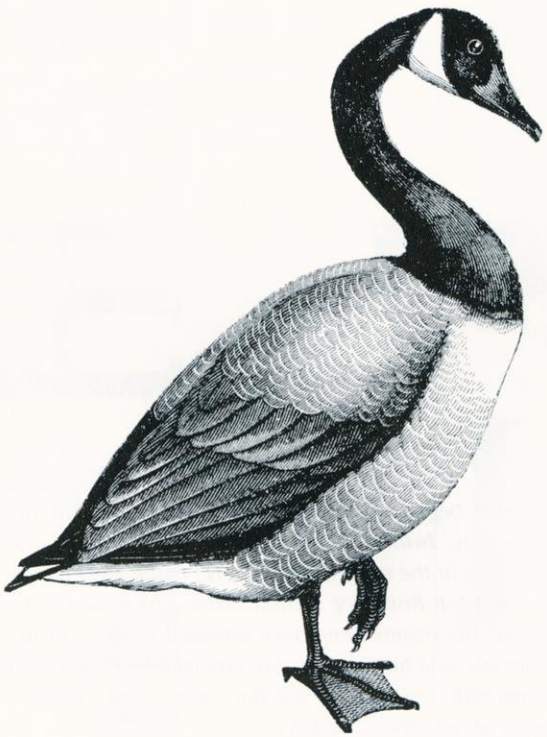
By Sheryl Slocum

Sheryl Slocum lives in Lake Geneva and teaches English as a Second Language at Alverno College in Milwaukee. She is a member of the Wisconsin Fellowship of Poets and the Root River Poets. Her poetry has been published by such small presses as ***ByLine, The Lyric****, and the* ***Wisconsin Poets' Calendar.***

Canadian Geese

"You see the geese? How they fly in a V? How one
line's longer'n the other? Know why that is?"
He knew nothing of geese, of course. Only that this
time of year they fly somewhere south. But
his grandson was only seven, and would still listen.
"Know why that is?" The boy shielded his eyes
and watched the sky. He shook his head.
"More geese in it!"

He didn't laugh until
the boy had turned and looked at him, confused.
The man patted the boy lightly on the back
and laughed aloud which led to a fit of coughing.
The boy smiled and looked back to the sky.
The calls filled the still, crisp air
and he wondered how far they would go.



"Look here!"
his grandpa said and pointed across the way.
The cornfield was barren—the tall green stalks
where he ran and hid all summer had gone
for now. Brown stalks remained, jutting
from black frozen ground. Among them,
geese—they'd blend and disappear completely
if they didn't move—but they walked and preened
themselves
and milled about the field, hundreds and hundreds,
black and brown amid the stalks, quiet.
"Just having a rest," grandpa said. "Not even
halfway home." He stood with hands on hips.
Next day the field was empty again, still frozen
and the cows ate the stalks all winter.

By Robert Chappell

Farmdog Elegy

Embarrassed, awkward silence. Two men can stand
in silence, and not mind a bit, except
when one's in pain. They stand in silence regardless,
but not comfortably.

"Christ," he said,
finally, "I know he's only a dog. But Christ,
you know?"

"I know," I said, and meant it.

"The best
part of the day," he said. "You been out fencing,
or planting or haying or picking rocks. You come
back to the truck, you think he wandered off,
and there he is, under the truck, or in
the bed, or—"

He folded his arms and looked away,
toward the house. "I know it," I said. I gripped
his shoulder. "He's a good dog," I said.

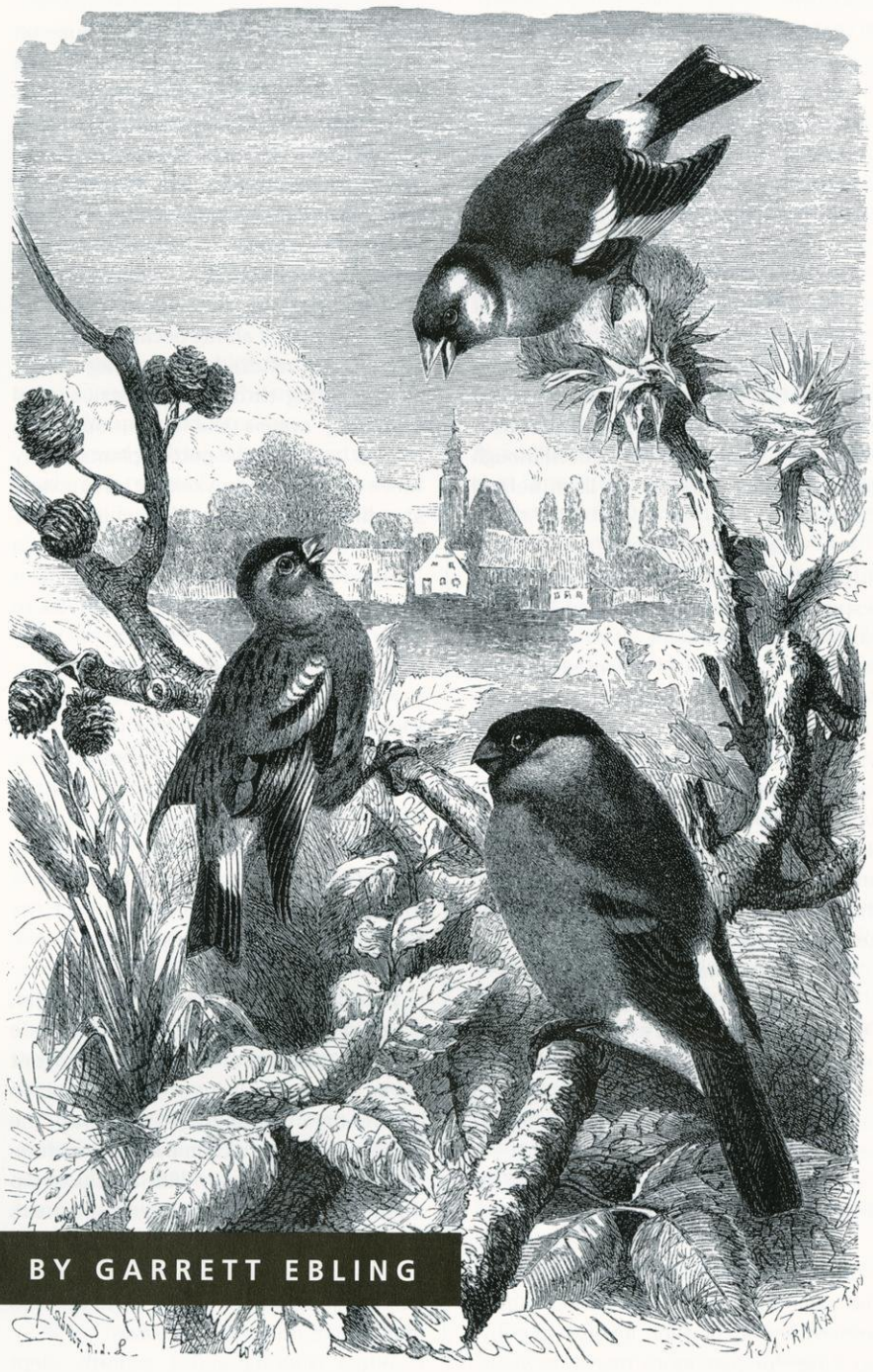
"Ah, hell."

He kicked at the grass and sighed deeply. "I'm
alright. Guess after while have to get a new pup.
Do all that training and..." His arms stayed folded tight
and he kicked the ground again. "Yep, after while."
I carried the shovel and we walked in for supper.

By Robert Chappell

Robert Chappell began writing before he could read. His first volume of poems, ***Interview With a Farmer****, appeared to excellent reviews in the autumn of 1999. He is the 1999 winner of the Bulwer-Lytton Romance Fiction Prize, which honors the best in parody. His poems have been included in regional and national journals, and his first novel is expected in the winter of 2001. He currently writes copy for the Lands' End catalog—"Small poems about shoes," he says.*

the thistle and the finch



BY GARRETT EBLING

IN THE KITCHEN of our family home in New Ulm, Minnesota, there is a transparency that sticks to the window above the stainless steel sink. It is of a rainbow, and below it—written in flowery script—are the words: "Whenever the Lord closes a door, he always opens a window."

However, in my family's case, irony flows through this modern-day proverb. In reality, none of the windows in our house open in the traditional hold-your-breath-and-yank fashion. The panes crank open on hinges, like opening a greeting card—just enough to let the gentle breeze of a cool autumn day meander into that house nestled along the Minnesota River valley.

And the doors are always locked. Even when the sultry, prairie-swept winds of summer can turn that one-story rambler into a virtual crock-pot, the doors remain latched. My stepfather, Kirky, would annoy me when I would come home from school and find the front door locked, even though he was merely mowing the lawn behind the house.

But what frustrates me also flows through my veins. My pursuit of a respected education pushed me 330 miles eastward to Madison, Wisconsin. My roommate, John, and I rented a third-floor apartment on the South Side of the city. John thought it odd when I insisted that management put locks on the bedroom doors. And John still annoys me when I come home at night from my part-time job and find the front door standing unopened, but unlocked. He can sleep through the entire night like that and never cast a worry.

I used to be like that.

Since that Thursday night in mid-October, 1989, I cannot even once remember the family openly talking about what happened or how it has affected my mother, my stepfather, or my younger sister Rhonda.

Nobody questions why, still today, the doors remain locked.

•

Back then, the cast of characters was the same, but their roles varied slightly from today. My mother, Joyce, had courted Kirky for just more than one year. I was a gangly 14 years old. Girls weren't so repulsive anymore and acne was becoming a worry. I was starting ninth grade at the local Lutheran high school. Rhonda, at 12, had long, blond hair and blue eyes, and was dangling on the edge between Barbie dolls and lipstick. She delighted in hosting tea parties for her Cabbage Patch Kids and transforming the living room furniture into haunted mazes using sofa cushions, a few blankets, flashlights, and stuffed animals.

We lived in an old red brick house on the corner of 12th North and Minnesota streets. The three-level house was bordered on two sides by thick, chest-high hedges. Towering oak trees as tall as the house dotted the yard. On an autumn night, with the leaves fallen and the wind howling, the residence wore the aura of the setting of a spooky campfire story.

Its exterior was covered with cracks. In the summer, that abode became the home address for hundreds of box elder bugs, each slipping through the crevices and marching across the walls, onto the drapes, and into the potted plants. Many times I would arm myself with the extension hose attached to the vacuum cleaner and capture the black-and-red-winged intruders like a ghostbuster. It seemed that there was nothing we could do to keep them out.

•

I blamed myself for the break-in that night.

I had trouble sleeping those first few weeks that autumn. I would wake up in the middle of the night with terrible headaches. My mother attributed them to "growing pains," her same diagnosis for the stomach cramps I would often get. She kept the aspirin bottle in a cupboard in the kitchen.

Because my sister and I slept upstairs, I would have to trudge down the wide wooden staircase, through the front foyer, across the living room adjacent to where my mother slept, and into the kitchen in order to calm the tremors rumbling inside my head. With a gulp of tap water, I would traipse back up the stairs and into bed.

Except that night, four days before my mother's birthday, I didn't wake up. And that's what hurt me the most.

While Rhonda and I soundly slept upstairs dreaming about Care Bears and clear complexions, our mother stood in the foyer in her soiled nightshirt and her back to the wall. As she clenched a steak knife from the kitchen drawer, her eyes darted back and forth across the living room like high-speed pendulums. Where two months later the Christmas tree would stand, she waited in a corner for the police ... or for the first shadow that moved.

•

I didn't know right away that she had been raped. I was awakened at 12:30 a.m. My mother's best friend, Sonja, rapped on my bedroom door. Sonja was the first person my mother had called—even before dialing the police. She told me later: "I was scared to death of the police. They were men."

Sonja told me to grab some clothes to wear to school tomorrow, for my sister and I were going to stay at her house overnight. I tossed a pair of jeans and a shirt into a duffel bag and descended down the stairs in a sleepy stupor. In the foyer stood two policemen and Sonja's husband Mike.

I remember Mike saying, "I'm going to find that son-of-a-bitch and kill him!"

I couldn't understand Mike's anger. Later I found out that Mike and Sonja's two daughters had been sexually abused at their daycare. They knew the feelings that now lay at our threshold. What it was like to be tied down with kryptonite chains. To be stripped of all control over something that was inherently yours—your family, yourself.

•

The Lord had closed a door.

They never found him. The police kept asking my mother if she had been involved in any recent arguments with Kirky, even though he was working the graveyard shift at the local factory.

"At first they didn't believe me," my mother said recently with residual anger. "They wouldn't actively search for him. If someone had stolen my microwave or television they would've been more apt to find him."

The investigator said that without an accurate description, the police would be hard-pressed to find him. The DNA from the semen on her nightshirt would be put on file, and in the course of conversation with other authorities he would "keep an ear out" for any similar cases.

•

The rapist had opened a window.

The basement window, with a glass cutter. It was a small window, yet just big enough for an average-sized adult to slip through. It sat at ground level behind a dormant flower bed. That damn hedge stood between the window and the dimly lighted street.

The basement was a catacomb of unfinished rooms—cinder block walls and cement floors. The rooms housed our used cardboard boxes, winter sleds, and the washer and dryer. Spiderwebs, strung like silver garland, completed the decor. Sunlight rarely found its way into the basement's corners, and at night it had the blackness and silence of an underground cave.

He must have slithered along in the darkness—in and out of the black chambers—until he reached the landing below the basement steps. When we returned to the house a week after the rape, the black dirt fingerprints still clung to the stairwell, inching their way to the top of the steps and the unlocked basement door. The police had botched the fingerprints during their investigation, so the prints were of no use other than to haunt.

He climbed on top of her and held his filthy, blackened hand over her mouth, threatening to "knock her out" if she did anything. She submitted.

Later I asked her out of frustration why she didn't scream, waking us up. I would have beaten him to a pulp, knocked him unconscious with a bat, killed him. No stronger definition of maternal love have I found since the words that came in her response. She gave up control to a rapist because she didn't want him to go upstairs and find my sister and me.

•

It wasn't like a family crisis was alien to the three of us. Tough times seemed normal for my mother, sister, and I. It was what brought us closer together. My parents divorced when I was five years old. They would argue constantly about my father's drinking. The yells would echo through the hall and slip under the door of the bedroom that my sister and I shared. I would cover her ears with my soft, tiny hands so she wouldn't hear them shouting at each other.

We were always moving. Somewhere the rent was a little cheaper. Mom went back to college to get her teaching degree. We lived in low-income housing. Dinner came in the form of a TV dinner or a chicken pot pie. I can recall the time when we got to have cheeseburgers rather than plain hamburgers in our Happy Meals on special nights out. "New" coats and clothes were often hand-me-downs or Goodwill.

I am certain that many times Mom's checkbook balance read "zero," but she never let on to Rhonda or me. Instead of allowances for successfully completed household tasks, we got stickers to put in our sticker books. Other kids raved about the roller skates or G.I. Joes they had purchased with their allowances, but Rhonda and I didn't care. They didn't have a sticker that smelled like bubble gum.

In 1985 Mom graduated from Winona State University with a 3.8 grade point average.

"My grades were high because studies were an escape from the everyday problems," Mom would later say.

She found a job teaching first- and second-graders in a public elementary school just outside of New Ulm. We didn't need the food stamps anymore.

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Although in the past strife had sewn us together, paranoia caused by the rape was ripping us apart, stitch by stitch. Mom couldn't be left alone. A friend or relative would spend each night sleeping on the couch. Each day after school Mom would pull into the driveway and honk the car horn as my cue to come and get her. It became a daily ritual for me to walk out to the driveway and escort her back into the house. A total distance of 30 feet.

Public places nauseated her. Friends would do our grocery shopping, run our errands. Rhonda and I couldn't even sit in the backseat of the car when she drove. Anyone sitting behind her made her nervous.

"I remember for almost a year I would go to bed and think 'How am I going to wake up? By an alarm clock or by having a hand over my mouth?'" she later recalled.

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We moved out of the house three months later.

At the time of the attack, there were no crime victims' support groups in Brown County. Mom received counseling from a local therapist but had to drive 35 miles to Mankato for support therapy. The weekly half-hour drives continued for several years. The lack of local assistance chewed away at her. She took the initiative to write a grant to the state of Minnesota, recommending funding for physical and sexual assault victims in Brown County. She later served on the county's first Victim Services board. This was her way of therapy, making certain that others had an outlet for their pain and confusion, while at the same time keeping her mind off of her own.

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It has been 12 years. Mom and Kirky married in 1991. The four of us moved into the rambler on the other side of town. Mom is now teaching learning-disabled children at the elementary school across the street from our house. Normally she walks to school when the weather isn't brutally cold or rainy. She is different now. Sober. The smiles are infrequent. Stress used to be a motivator, but now it is only stress. She gets headaches. In addition to teaching, Mom also works part time at the city's most popular family restaurant. On Sundays, after church services conclude, the place floods with people. She paints on a smile to mask the weariness and pours more coffee.

Any one of those customers could be him. She would never know it. And it doesn't seem to matter quite so much anymore.

"I think it was someone who knew me to some extent, but not closely," she said. "I thought I would always remember his voice, but now I think I wouldn't anymore."

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Hanging outside of the kitchen window on a string is a plastic cylindrical bird feeder filled with thistle seed. It is there to attract the finches that migrate north to southern Minnesota during the short summer months.

Sometimes there are as many as 10 finches, attired in bright reds and golds clinging to the feeder that swings like a slow pendulum in the gentle breeze. Inevitably, some of the thistle seed falls to the ground and weeds sprout.

You need the thistles in order to grasp the beauty of the finch.

Rape isn't an act—it doesn't happen and then go away. You don't wipe away the tears and start over. That night each of us was cut open. The wounds healed but the scars remain. Each of us has learned to step outside again.

But when we return to our homes, we check the locks twice.

Garrett Ebling wrote this piece as a senior at UW–Madison. He now resides in Alexandria, Virginia, and is a copy editor for ***The Washington Times.***

toni's wild ride

Remember the e-commerce "Gold Rush" of the late '90s and early 2000? Remember the painful shakeout that followed? GUILD.com head Toni Sikes was there as one of very few Wisconsin entrepreneurs and even fewer women. Here's her story of war and the lessons learned.

IN 1985, TONI SIKES started a small publishing company, THE GUILD, in New York. The company published annual sourcebooks that marketed the work of artists to architects and designers. In 1990, she moved the company to Madison and began to publish additional books in the art field.

About the time the company was 10 years old, Sikes began to search for a way to grow her business and market artwork beyond the design trades—directly to consumers. It became clear that the Internet offered a dramatic way to do that and expand the art market for thousands of artists.

In 1998 Sikes wrote a business plan for a new Internet business and raised $800,000 from angel investors to start that business, GUILD.com. Since then GUILD.com has incorporated the book business that was spawned in 1985, raised $40 million in venture capital, grown to 80-plus employees, and become one of the leading Internet art sites in the world.

Recently, however, Sikes sold GUILD.com to Ashford.com, a premier luxury goods site on the Internet. At a gathering of the Wisconsin Women Entrepreneurs, Sikes spoke about the hard-learned lessons from the early years of e-commerce.

BY TONI SIKES

I blame it on Jeff Bezos. He made us all believe. Everyone looked at the success of Amazon and said, "If they can do it with books, we can do it with perfume or pet food." Do away with the middleman. No more messy inventory. No more brick-and-mortar retailers. The Internet's incredible efficiencies would drive the dinosaurs into extinction.

Of course, it didn't work out that way. There was one nagging problem with the whole scenario: PROFIT. Amazon sells more and more products while racking up bigger and bigger losses.

Which begs the question: If an e-tailer as formidable as Amazon can't make money, can anyone? I believe that the answer is a resounding yes. Those of us who have lived through the wars, and paid attention, and learned from our many mistakes, are in the process of building real (yes, profitable) businesses. Here are some of the lessons we have learned.

LESSON 1: E-TAIL IS EXPENSIVE.

I don't know if you can remember as far back as the early days of e-commerce—three to four years ago—but at that time the biggest and most fatal misconception was that doing Internet commerce was cheap. Contrary to early euphoria, you cannot simply slap up a homemade website and wait for customers to roll in. The fact is that if you strive to sell products to the world, as we did, you must build world-class technology and market those products in a big way. That requires world-class capital.

GUILD.com spent many millions on marketing and sales last year, and many more millions on technology and site expenses. The initial cost of doing a site well, with everything behind it that you need to scale the business, is vastly more expensive than most people have been led to believe.

On the other hand, the beauty of an e-commerce site is the ability to scale from that initial infrastructure, which far surpasses what a brick-and-mortar entity can do with the same investment.

LESSON 2: EYEBALLS ARE NOT ENOUGH.

In e-tail's adolescence, it was fashionable to spend whatever it took to attract attention. We are all familiar with the horrifyingly bad television commercials that ran during the holiday season in 1999. Internet companies that thought they could advertise their way into a known brand and lasting fame were just plain wrong.

The problem was that, in the early days of e-commerce, everyone—the press, the public, and even investors who should have known better—was assessing Internet companies on different metrics than their real-world retail counterparts. As a result, the emphasis was on amassing large numbers of "members" or tallying the highest traffic figures. In fact, attracting lots of eyeballs isn't worth much if visitors to a site don't have an inherent reason to do business there.

Just think about this. Let's use Wal-Mart as an example. Are they valued by how many people walk in the door? No. They're measured by how many people actually buy something. Finally, today, Internet companies are being evaluated by that same metric, and I think we are all better for it.

Wise e-commerce companies now focus on their natural markets instead of throwing money around in the hopes of widening their audience. In 1999, GUILD.com purchased advertising in upscale consumer publications such as the *New York Times* Sunday magazine, the *New Yorker,* and *Smithsonian* magazine. In fiscal year 2000, we spent half as much money on advertising as we did the year before, and that expenditure generated about half the visitor traffic but tripled our sales. This is because the advertising was focused on our best potential customers—art buyers who shop online.

LESSON 3: CUSTOMERS RULE.

This is the most important—and probably, the most difficult—lesson: We have to make customers our highest priority. If we don't provide stellar customer service, reliable ordering and delivery, and fair handling of returns, they won't come back.

Online buyers today expect a high level of customer service round the clock, seven days a week. They want good credit card security, and they want their privacy respected. They want to be able to check what's in stock in real time, and to follow the progress of an order through packing and shipping.

It sounds so obvious, but it's not. First of all, providing all of the various components of customer service is really hard. Second, it's a lot more fun to focus on things like finding great artists and marketing their work, designing a beautiful website, building a strong brand. Remember, we were trying to build a business very quickly and do all of these things, all at the same time. The customer tended to get pushed to the bottom of the priority list.

LESSON 4: IT'S A METHOD, NOT A MARKET.

This is the biggest change in perspective in the two and a half years since I started GUILD.com. We've learned that e-tailing is not a market in itself. It's a method of creating relationships with customers and conducting transactions.

At GUILD.com, we describe ourselves as an art company. We sell art. We sell art on the Internet, through our catalogs and books, and with a direct sales force that works with designers and architects around the country. I believe that in a few years there will not be such a thing as a pure e-commerce company, but that all large retail companies will have a substantial e-commerce presence.

LESSON 5: SURPRISE! IT'S ALL ABOUT THE BOTTOM LINE.

In the spring of 2000, investors stopped believing in the fairy tale. So investment bankers stopped pushing start-ups through the IPO gate. And when venture capitalists realized this, they stopped funding e-commerce start-ups.

Suddenly, an IPO was no longer the goal—profits were.

Internet retailers are responding with an old-line formula: tighten belts and grow sales. The sell-below-cost strategy is being jettisoned. Inflated top-line revenues are meaningless; it's all about the bottom line.

Personally, I like this change. It's a world where I know the rules. Before GUILD.com, I ran a small, 12-person publishing company where I sweated over budgets and sales, and occasionally worried about how I was going to make the next payroll. I welcome the responsibility that comes with accountability.

E-commerce is very young, only three to four years old. Early on, we were babies, then we were adolescents, making all of the painful mistakes that come with puberty. Now we are growing up, and starting to act like adults.

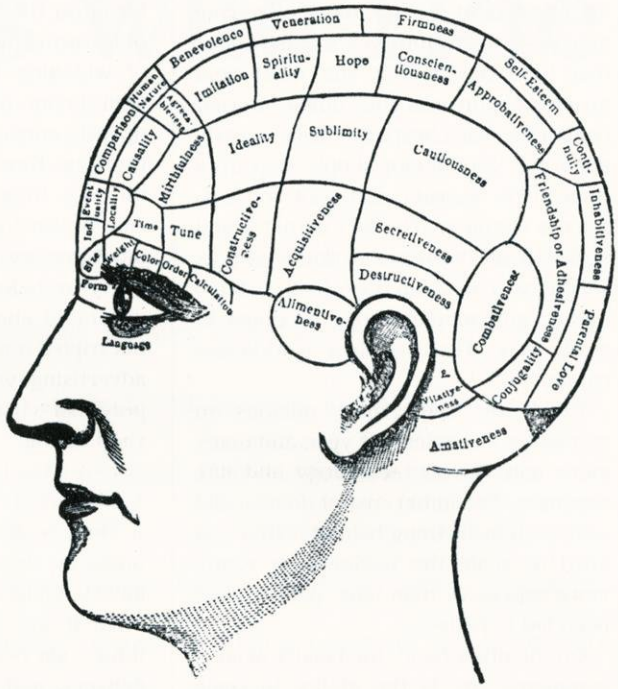
Don't get me wrong. In the last two years, I have had the time of my life. And I hope those of us in this business, as we get older and wiser, can hold on to the spirit of the early days of e-commerce—the curiosity, passion, playfulness, creativity, and open-mindedness that was part of learning about a whole new world of commerce.

That said, I keep reminding myself of a quote someone gave me last year, because I think it's so appropriate: "You are only young once—after that you need another excuse."

Toni Sikes is the co-president of GUILD Artists, the art division of Ashford.com.

The Great Wisconsin Brain Drain

No doubt about it—we're losing our minds. Here's what we can do to stop bright flight.



BY BILL KRAUS

THE NUMBERS of quality jobs required to fill the needs of the numbers of graduates is bound to be unbalanced in small states with major international education institutions.

Wisconsin produces 25,000 university graduates a year. There is no way we can hold them all. We can do better, but even if we do build a critical mass of talent and money for emerging business and industry, our population base is too small to provide enough high-quality jobs for all of our high-quality graduates.

We are high in high school graduates who go to college, low in college graduates as a percentage of the population. That's the drain statistic. We rank 49th in in-migration, seventh in out-migration.

The Wisconsin economy is disproportionately driven by manufacturing (22 percent of our jobs are there versus 14 percent nationally). The fact that two other major Wisconsin industries—paper and dairy—are on the endangered species list is bad. What is worse is the threat of foreign ownership. Hundreds of Wisconsin companies are foreign-owned. While there are exceptions, in most of the major consolidations and mergers that are increasingly prevalent in the new world economy, Wisconsin companies have often been the mergees. There is no known, workable, economic way to reverse this trend. Wisconsin seems destined to become a state of branches, not headquarters. The best and the brightest gravitate toward headquarters, not branches.

The economic strategy that will offset this deleterious trend is to focus on breeding, incubating, and growing new companies. The kinds of opportunities that new companies create can be—are in many cases—trend reversers. Our prolific education system is producing

people with the ideas and motivation to implement this strategy that will, in turn, slow and reverse the brain drain. The various incubators are also spawning a diversified mix of ideas that have the potential to become products, and products that have the potential to become companies. The most obvious opportunity is biotech, but it's not the only one.

Even biotech, despite our increased investment in educational resources and the promise of investment capital from the state retirement fund, will probably mostly add to the drain. The big players in this new, hot sector of the new economy are the pharmaceutical companies. The money flowing from them and private investors is in the B (for billions), not M (for millions) category. Can we get that money to come to us so that we keep the starter companies we are cultivating? We can try.

The danger is that these fledgling economic building blocks will starve in Wisconsin or, to survive and prosper, will have to follow a hunter-gatherer strategy and go elsewhere for the food they need. To create a high tech-, knowledge-, and e-based industry you have to start with a critical mass of venture capital. Wisconsin gets less than 1 percent of U.S. venture money; 2 percent would be average. We have four new venture capital funds with around $50 million in assets apiece. The venture capital firms in Silicon Valley are routinely raising billion-dollar pools. This means they are both richer and less risk averse. Because they are richer they can afford to take more and bigger chances. The other thing that is an essential part of the critical mass is a skilled support system of consultants, lawyers, bankers, accountants, and managers. Not only is Wisconsin venture capital limited and not very venturesome; Wisconsin banks show little inclination to delve into the innovative (and often risky) financing that their counterparts in places with "silicon" in their place names (Silicon Valley, Alley, and Gulch, to name the three most prominent) do routinely. Wisconsin lawyers and accountants can hardly develop high-tech skills and savvy without high-tech clients to practice on and for. What we do have (or can quickly produce in our brain factories) is a pool of people who can supply the other part of the critical mass: management savvy. One out of three is good in baseball, but to be in the new economy game Wisconsin is going to have to bat higher than that.

Until and unless we catch up in these areas where we are coming up short, what we court is a continuation of the brain drain at one step removed from the education process itself. Seedling companies are almost as mobile as college graduates. College graduates go where they go for several reasons, some of them almost whimsical. Seedling companies go where the management talent and support systems and daring money is. The reports to the contrary from last year's Economic Summit in Milwaukee notwithstanding, people who start seedling companies are not even thinking about tax rates and bureaucratic red tape. When they grow into establishment organizations, those issues will rise on their priority lists. At start-up entrepreneurs have a whole different set of needs on their short agendas.

Like many of the talented graduates of our extensive and excellent higher education system, these companies would prefer to stay here. But not at the cost of starving for management talent (it seems that every graduate of the Stanford business school wants to be the CEO of a high-tech company; our business schools are just nudging into this field), a hip support system, and large sums of venturesome money.

MILWAUKEE

There are many promising things going on in Milwaukee—Midwest Express, the new art museum, Nancy Zimpher's leadership at UWM (which has given that institution an economic focus), a new superintendent of schools with big and promising plans, a first-rate medical college, Robert Greenstreet and the UWM school of architecture and urban planning, a couple of major league teams, Miller Park. TechStar, the new business/academic/government consortium that was formed to give high tech a jump start, is also promising—but the fact remains that in many ways Milwaukee is still more a 19th-century than a 21st-century city.

University of Wisconsin–Madison economics professor Don Nichols says that more and more first-rate students pick a place where they want to live and worry about where they will work after they get there. A study by the *Des Moines Register Tribune* of out-migration in Iowa came to the same conclusion. The paper said that to draw or retain this peripatetic group of graduates Iowa would have to move mountains or create a teeming metropolis. Milwaukee lacks mountains, too, but it does have a lake. It is still a shrinking, manufacturing-heavy, segregated, small city with an uneven (at best) public K–12 school system. It is not Des Moines, but neither is it Denver, San Jose, Chicago, New York. or even Minneapolis.

Milwaukee lags not only behind the country but behind the rest of the state as well. Employment in Milwaukee is growing slower than elsewhere in Wisconsin even though it's the state's highest wage area.

Milwaukee suffers from competition with, and envy of, the Twin Cities and Chicago. Chicago has 30 percent of its college grads in business services, Wisconsin has 20 percent. Chicago, and to a lesser extent the Twin Cities, has a white-collar economy; Wisconsin is still pretty blue collar.

Some contend that Minneapolis and Chicago will determine the future of Milwaukee. What they seem to mean is that Milwaukee will get what those cities don't want.

Chicago is a curse and a blessing. It is near enough to be readily accessible, but it isn't necessary to live there to enjoy its big-city advantages. A more remote plus for Milwaukee is the easy access Midwest Express provides to New York and the West Coast.

The old saw that Milwaukee is a nice place to live but I wouldn't want to visit there describes a world that is not the new, new world. Milwaukee is a city on a Great Lake and features short commutes, an active cultural life, good clubs, access to country living, and good schools. It features these things, unfortunately, for the settled economic elite who can afford to live in the suburbs that ring the city.

Some contend that the fact that most graduates of UWM do not leave Milwaukee is good, anti-brain drain news. The reason for this seems to be that UWM is more like a commuter school where adults go to improve their

skills at jobs they already have. It is not a typical American university. But UWM can still lead the city and the state into the new economy. Madison may have the green space research park; Milwaukee can create a high-rise research park devoted to the e-economy in all its manifestations.

There is a small but encouraging residential movement back to downtown Milwaukee, but this is at least offset by, and maybe even overwhelmed by, a trend toward becoming an edge city. Milwaukee seems to be moving inexorably west, away from the lake, and away from the kind of metropolitan milieu that might make Milwaukee a destination city for the new, adventuresome graduates that will build the new economy.

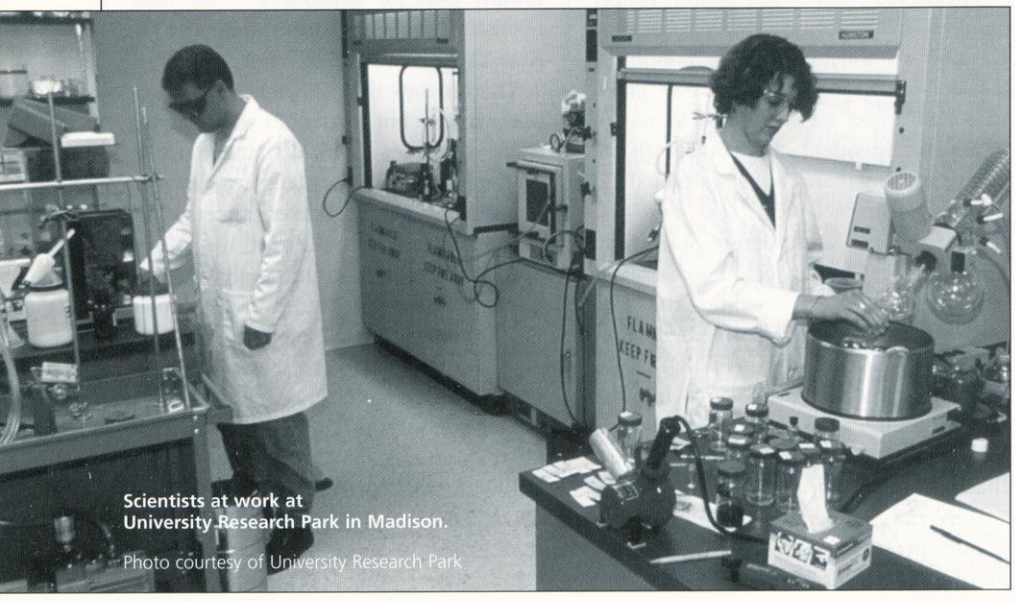
Milwaukee leaders acknowledge that in-migration is a serious problem. The only recent, large-scale success was getting Rockwell to move its headquarters to Milwaukee (importing 42 of the 120-plus headquarters people from California), and that decision was structural and personal. Rockwell sold its aerospace and defense divisions, which made them mostly a Midwest company, and the CEO who made the decision to relocate had lived in Milwaukee and wanted to return there.

A more relevant and alarming relocation is the merger of Firstar Bank into Union Bank of Minneapolis, which will be followed by a departure of yet another headquarters out of Milwaukee. When a rumor surfaced that the Foley & Lardner law firm, a Milwaukee institution, was relocating its headquarters to Chicago because it can't get the talented people it wants to move to Milwaukee, nobody argued with the underlying reason for that decision. That it proved to be unfounded is comforting, but the fact that most Milwaukeeans sort of nodded in agreement about the stated need tells us something about the way the power structure of that city views itself and its home.

The fact that venture is not simply a synonym for "high tech" helps Milwaukee and gives some credence to a growth strategy with an emphasis on bringing old-tech companies (like traditional manufacturers) up to high tech speed. But this requires attracting venture money that is no worse than tech-neutral. A challenge.

A superficial article on attractive cities for entrepreneurial companies in the December 2000 issue of *Inc* magazine ranks Milwaukee predictably low (22nd among large cities) and falling fast (from seventh in a similar article five years ago). The same article ranks Madison, which is almost a hotbed of entrepreneurialism, 37th among small cities. The article raises two questions: First, how did they miss what is going on in Madison? Second, how did Milwaukee ever get as high as seventh?

At the moment Milwaukee is part of the brain drain problem. Becoming part of the brain drain solution, while possible, is still mostly something that could happen.



Scientists at work at University Research Park in Madison.

Photo courtesy of University Research Park

MADISON

One Milwaukee business leader has suggested that Madison adopt Milwaukee as a sister city. He was kidding. I think.

Madison has everything Milwaukee lacks with one crucial exception—people. Madison is a small town, and even though it has—thanks to UW's research park, WARF, and thousands of high-tech grads who don't want to leave—a flock of new companies starting there, it is a long way from becoming the state's major city.

It may have what everyone needs in one interesting sector, though—a critical mass in biotechnology. But it, too, will need the support system, the money, and the management teams to fully exploit this emerging opportunity. Even if all of this does come together, it will not be Milwaukee's size. Probably ever.

The research park in Madison houses a formidable collection (88 companies, 2,500 employees, plus incubator space for more) of new economy start-ups. The management of the park also uses its leverage (and assets) with the financial community to help companies solve some of the money problems that plague embryonic start-ups. And, of course, it gives them their all-important first home, a place to live while they grow up. They build and lease space for these companies, and in some cases they stock the space with the furniture and equipment the companies need. All of this is very progressive and positive, but it does not make Madison Milwaukee. Madison's size problem is revealed in a couple of important ways. It is a branch office city in many sectors. Its big banks and law firms are satellites of places with headquarters in Milwaukee. Its air service is bush league. You cannot, for the most part, get to Madison from either coast without stopping some place that you don't want to stop. And you often arrive in undersized commuter planes.

The business leaders in Austin, Texas, trace their arrival in the new economy to the day they convinced American Airlines to give them a direct link to the West Coast. Madison could and should aspire to and work for this, but even so, Madison will not be Milwaukee.

A more likely—and ominous—prospect is that Milwaukee could become Madison: a branch office city. As we have noted, many major companies that

were founded in Milwaukee are now a part of international corporations that are headquartered elsewhere. Milwaukee's M&I bank is still headquartered there, but how long will they stick with that decision or remain independent?

If the business and political leaders of Milwaukee do not find a niche for the 21st century and reverse the westward slide of the city's jobs, Milwaukee could lead Wisconsin into mediocrity and servitude to masters in other, faraway places.

THERE'S ALWAYS IOWA

Wisconsin ranks 49th in brain in-migration. Iowa ranks 50th.

Iowa has all of our problems—in spades—and none of our opportunities.

Iowa is irredeemably rural. Wisconsin is less so, but because of the "cheesehead" image, we are thought to be more like Iowa and less like ourselves. Our dairy industry is big, but shrinking. We are more "paperheads" than cheeseheads now, and we would like to be "tech heads," to which we can aspire, and Iowa cannot.

Iowa's largest city is lakeless and no match in other respects for Milwaukee, although it doesn't suffer from being a stone's throw from Chicago—or from anywhere else, for that matter.

Iowa, its departing brains complain, has little high tech and no nightlife. Only 26 percent of their college grads stay in Iowa after graduation, but all want to come back to enjoy the leisurely lifestyle. Talk is cheap. The mating game in Iowa is second rate, they say, which means they have to leave Iowa to find a partner at the very least.

Their universities are good but not great; their colleges are better but small, and in small cities; so they don't have the opportunity Wisconsin has to become an education exporter.

THE EDUCATION INDUSTRY

We import thousands of students who pay tuition; live in our rental apartments; eat our food; bring visitors to our hotels; and, later, send money to our education foundations as a kind of thanks for the memories and the leg up on life (the UW Foundation gets thousands of contributions from faraway places every year).

We import students and their money, and their open, not-quite-educated minds, and we export trained brains. It is a given in higher education that a great educational institution must have a great facility, a great faculty, and great students. All those imports from the coasts and abroad that have come to Madison all those years have provided a large part of the third crucial leg of the "great" school. In addition, as those exported brains succeed, we get lifelong dividends from them, much of it monetary.

This suggests that there is an opportunity side of the brain drain coin. Wisconsin is an education factory. Others send us many of their best and brightest. They come with a lot of values, including money. Wisconsin trains, educates, and shapes this human raw material. Since we are a small state with a limited, if growing, market for the kind of polished talent our education factory produces, we necessarily export many, even most of the brains we produce. Is this the kind of economic power and intensity that Board of Regents chairman Jay Smith is looking for? He could do worse.

This brain factory strategy is not risk-free, politically. The complaints from, particularly, the Milwaukee suburbs about the inability to get their top high school graduates into UW–Madison are loud and rising. An investment to mute these might have to be a part of building the brain factory, either by creating another elite education option (in Milwaukee by taking UWM up another level? Why not?) or by expanding the undergraduate capacity of Madison pretty dramatically.

While the freshman and sophomore classes at UW–Madison are full to overflowing, there are many openings at the junior and senior levels. This suggests another, quicker solution to the political problem: the not-quite-ready-for-prime-time high school seniors in Wisconsin can be persuaded to start their collegiate experience elsewhere, and after succeeding, they can then move on to Madison, which will welcome them for their junior and senior years and beyond.

In another forum at another time, I opined that if Kraft Foods decided to move Madison's Oscar Mayer, an importer of hogs and an exporter of packaged foods, out of Wisconsin, the state would go into orbit or intensive care. On the other side of town, the UW talent factory is importing high school graduates and exporting skilled, highly trained, educated people who are well equipped to prosper anywhere the world economy takes them.

Which is the most valuable factory? Which is the most valuable export? Is there any serious question? The only reason that there can be any argument is that the taxpayers built the education factory and the stockholders built Oscar Mayer, and, since bricks and mortar are an inconsequential part of the cost of producing brains, this argument is not economically important.

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The Wisconsin brain drain story is a mixed bag. Until and unless our major city becomes something it is unlikely to become soon, a vigorous, high-rolling player in the new world economy with all of the venturesome money and the critical talent mass that role requires, Wisconsin is not going to provide enough relevant jobs to keep large numbers of our college graduates in the state after graduation. Problem.

We have, in Wisconsin, built and maintained from the middle of the 19th century a system of higher education that is large, prolific, and world-class. This makes us a candidate to be a processor and exporter of what the new world economy needs: well-educated and trained brains. Opportunity.

We can continue to do what we are doing to change our economy in ways that will make heavier use of the product our education system is pumping out. At the same time we can continue to produce what the world wants, needs, and will buy from us.

Thanks to a statehood-long history of serious, significant investing in education, and especially higher education, the Wisconsin economy glass is half full, not half empty. The Wisconsin brain drain presents an opportunity more than it does a problem.

Bill Kraus is a veteran strategist for the Republican Party in Wisconsin and has participated in numerous political campaigns and held various government positions over the past 30 years. He headed Lee Dreyfus' gubernatorial campaign in 1978 and served as his communications director. He is also a commentator on public television's ***WeekEnd****.*

slackers, dancers, adventurers

New books about people who break free from the norm make for interesting springtime reading.

BY DEAN BAKOPOULOS

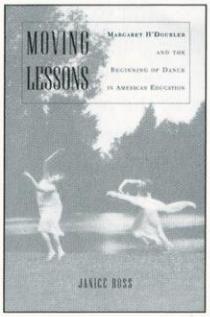
The Green Suit

by Dwight Allen
Algonquin

Madison's Dwight Allen released his first novel, *The Green Suit,* in September, and, after a nationwide book tour and glowing reviews in newspapers and magazines around the country, the literary world is keeping an eye on this funny and sharp new writer. *The Green Suit* is the story of Peter Sackrider, a man who drifts through life, making bad decisions and wrecking most of his relationships. An antihero in the classic tradition, Sackrider is a funny, streetwise young man, taking his licks in the school of hard knocks (but often missing the lessons). Allen writes with a generous blend of warmth and humor, and the result is stunning. Mixing the understated insight of an introspective narrator with the quick wit and keen observations of a world-weary slacker, Peter Sackrider becomes a truly memorable character, riddled with flaws but somehow endearing and engrossing. Allen lives in Madison with his wife and son after a long stint in New York City, where he was a staff writer at the *New Yorker.* He is at work on a second novel.

Moving Lessons: Margaret H'Doubler and the Beginning of Dance in American Education

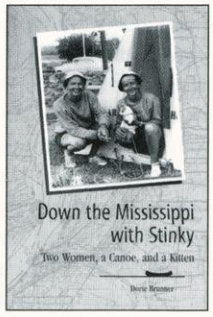
by Janice Ross
University of Wisconsin Press



This insightful and in-depth look at the emergence of dance as an academic discipline focuses on legendary UW professor Margaret H'Doubler (1889–1982), who, while on the faculty at Madison, established the first degree program in dance at an American university. This book provides a fascinating look at an intelligent and innovative woman who emerged from the constraints of Victorian society to revolutionize the way Americans thought about both the female body and the feminine mind. H'Doubler was instrumental in changing the American perception of dance as a vulgar activity that led to dangerous social interaction and immoral consequences. By challenging the cultural and religious biases that relegated dance to the lower classes of entertainment, H'Doubler brought dance to the forefront of American culture, helping the art form gain credence in the academic world. *Moving Lessons* is a profound book, deftly leaping from discipline to discipline. An important work of scholarship on the performing arts, women's history, feminist theory, and the history of the human body, *Moving Lessons* is long overdue and one of the most important books on dance in recent memory.

Down the Mississippi with Stinky: Two Women, A Canoe, and a Kitten

by Dorie Brunner
Prairie Oak Press



An interesting and exciting chronicle of two Wisconsin schoolteachers who in 1960 decided to travel the 2,300-plus miles of the Mississippi River by canoe. While an abundance of similar adventure-memoirs exist today, the fact that this story is set 40 years ago makes it particularly inspiring. Dorie Brummer and Lou Germann's story of that summer vacation is full of colorful characters, unwelcoming weather, and other dangers, and is a great addition to the library of Mississippi River tales currently available. Particularly heart-warming in this collection is the kitten, Stinky, rescued from the mud of the Mississippi to become a companion for the women as they traveled on this journey. Vividly remembered and wistfully nostalgic, this tale of two women who defied convention and ignored urgent advice to have an adventure—and the learning experience—of a lifetime will inspire just about anyone, especially young women about to set out on their own course.

Dean Bakopoulos is books editor of the ***Wisconsin Academy Review.***

troubled waters

Wisconsin lacks a comprehensive, long-term water conservation strategy. A new Academy program addresses how best to use and preserve one of our state's most vital—and threatened—resources.

BY CURT MEINE AND MICHAEL STRIGEL

Wherever you are in Wisconsin, you needn't look far to find the theme of a new Academy program. Water is the first topic of "the Wisconsin Idea at the Academy," a program that will examine a series of contemporary issues critical to the state's well-being.

For the Wisconsin Idea's debut project, the Academy is bringing together leading scientists, policy experts, decision makers, and other citizens during the next year to address the key issues confronting Wisconsin's rich inheritance of water.

Water is, of course, an all-embracing topic. The management and conservation of water affects our daily lives. Wisconsin's waters face important immediate threats and long-term challenges. To address them adequately, we need to look both within and beyond the state's borders and place these issues in a global context. For these reasons, water is both an excellent and a daunting choice as our initial Wisconsin Idea at the Academy project.

Since summer the Wisconsin Academy has met with more than 60 leading experts to assess the state of thinking on water science, policy, and conservation in Wisconsin and to identify the role that the Academy should assume in this arena. The conversations have involved people of diverse backgrounds, areas of expertise, interest, and responsibility involving water. They have addressed topics involving the state's groundwater and surface waters, the Great Lakes and Mississippi River systems, growing human demands, and conservation priorities.

Participants identified many headline-producing concerns: Perrier's proposed bottling plant in Adams County, the impact of the proposed Crandon Mine on the Wolf River, and the relative costs and benefits of the proposed cleanup of contaminated silt in the Fox River. We also discussed the quieter but often more pervasive problems of nonpoint-source runoff from our farms, suburbs, and cities, and the impact of new municipal and private wells in the Fox and Menomonee River Valleys on Eastern Wisconsin's most important aquifers.

Many participants also expressed concern that Wisconsin lacks a comprehensive, long-term water conservation strategy that might allow us to place these issues within a broader framework of understanding and action. The Academy's initiative will provide the needed framework for a broad policy discussion as well as address some of the specific problems identified.

Fortunately, Wisconsin is blessed with a wealth of institutions and programs devoted to water. These include the UW–Milwaukee's Freshwater Initiative; the UW–Stevens Point's Central Groundwater Center; the Water Resources Center of the Sea Grant Institute; research programs on limnology, watershed management, and restoration ecology based at the UW–Madison; the Wisconsin DNR's Science Council; the Wisconsin Section of the American Water Resources Association; and the offices of the Wisconsin Geological and Natural History Survey and the U.S. Geological Survey. The Academy brings to this rich base of knowledge its capacity for convening and catalyzing expertise in the public interest.

The Academy has begun organizing a working group for the initiative. Co-chairs include John Magnuson, director emeritus of the UW–Madison Center for Limnology; Patricia Leavenworth, state conservationist with the Natural Resources Conservation Service; and Steve Born, a professor with the UW–Madison departments of environmental studies and urban and regional planning. Their mission statement: The Wisconsin Academy's water initiative will provide a forum for citizens, policy makers, the private sector, and academic and government leaders to (a) undertake a comprehensive and integrated review of the state of Wisconsin's waters; (b) identify and assess present, emerging, and future demands for goods and services these waters provide; and (c) examine various strategies for addressing water management and conservation issues and ensuring a high-quality economic and environmental future for the state.

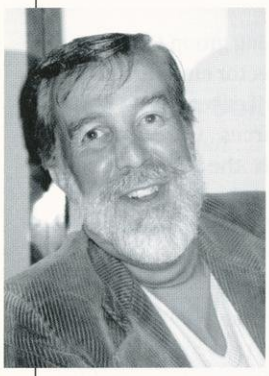
The co-chairs have begun establishing the criteria for participation in a working group that will contain 12 to 15 individuals. Participants will reflect local, state, tribal, national, and global perspectives and be made up of leaders from the academic, governmental, nongovernmental, business, and other sectors. They will seek out the views of diverse interests, including research, agriculture, tourism, industry, recreation, and environmental protection.

The committee's goal is to prepare policy recommendations and issue papers and educational materials that will provide a cohesive plan for the stewardship of Wisconsin's waters. In the process, they will prepare case studies involving some of the most important and complicated issues to illustrate the necessity of such a plan and to move those issues toward a solution. There is also talk of a statewide conference at the end of the process to share results.

Water is, as we have noted, the first topic of our Wisconsin Idea at the Academy program. To assist us in selecting topics we have assembled the following advisory board: University of Wisconsin System president Katharine Lyall; Wisconsin Manufacturers & Commerce president Jim Haney; state AFL–CIO president David Newby; and former governor Tony Earl (and until recently we also enjoyed the guidance of Bob Wood, chief of staff for Gov. Tommy Thompson). We would like to thank this group for their time and insight, as well as the diverse viewpoints they bring to the table.

The scope and focus of our water initiative continues to evolve, and the Academy welcomes input from its members and others. For more information, please contact Curt Meine, the Academy's Director of Conservation Programs (curt@savingcranes.org), or Michael Strigel, Director of Programs (mstrigel@facstaff.wisc.edu), 608/263-1692.

The Wisconsin Academy confronts monuments



What do the physical ruins of past civilizations have to tell us about our own civilization? What, I wonder, as I think about you, the members of the Academy, have you mused about as you have walked in and studied and observed the splendor and/or tantalizing remnants at Angkor Wat, the Roman Forum, Timbuktu, the pyramids, the defaced Buddha at Bamiyan, Hadrian's Wall, the Acropolis, the Forbidden City, the Red Fort at Agra, Stonehenge, Machu Picchu and on and on?

Clearly, we are seeking information, knowledge, and mind-expanding experiences, or we would not make the effort to get to these and other equally awe-inspiring places. Of course, pleasure is an important and appropriate component of these journeys, but I am certain it is the mystery of wanting to know what those citizens were thinking as they built and inhabited those structures that truly holds our attention.

This relationship of physical structures to a society's values is very much on my mind as I think about two of the major structures under construction right now in Wisconsin. One is the new medium-security prison at Redgranite, and the other is the Overture Center in Madison.

I had the opportunity last fall to tour the nearly completed, extremely modern high-tech prison (thanks to Tom Boldt of Oscar J. Boldt Construction, contractor for the project) in the company of Ann Peckham, president of the Wisconsin Academy Foundation, and Michael Strigel, the Academy's director of programs.

And then there's the Overture Center, Madison's new performing arts center presented to Madison by the extraordinarily generous and far-sighted Jerry Frautschi. It will provide, among many other performance spaces and art venues, a new home for the Academy Gallery. Again, along with Ann, Mike, and other Academy staff and friends, I went to the unveiling last fall of the glorious plans for the Overture Center designed by the world-renowned architect Cesar Pelli.

The contrast between the two structures was stunning, depressing, obvious, and thought-provoking.

I think it is too easy (albeit very tempting) to think that more Overtures would obviate the need for more Redgranites. Or is it? Is it silly to hope for the commitment of a society to put the momentum on the side of what Overture stands for, as President Bush said so eloquently in his inaugural address: "America at its best"?

I suspect we all recognize that the construction of major public buildings reflects one of the final outcomes of what a society judges to be important. Indeed, the need to guarantee the physical safety of a populace is basic to that society's ability to function. However, the need to nurture and showcase the best of human culture is equally fundamental to that society's welfare.

What will the Margaret Meads and the Howard Carters of the future learn about our society and culture as they poke around in the ruins of Redgranite and Overture? What will they say that we, as a theoretically cultured and educated populace, chose as our priorities? Where did we put our emphases? Why did we choose to invest as we did? Who made those decisions and why? Why is Wisconsin in the top five states (along with Georgia, Texas, Florida, and Virginia) in numbers of incarcerated people, with a substantial increase in absolute numbers (*Milwaukee Journal Sentinel*, August 10, 2000) and only 29th of all the states in the amount of per capita spending on the arts? (State Rankings 2000, Morgan Quinto Corp., Lawrence, Kansas.)

I always like to close with my by now (I hope) familiar query of what all this has to do with the Wisconsin Academy. Here is what I think. The membership of the Wisconsin Academy represents the best and the most thoughtful minds in Wisconsin (and even outside the state). As such, I think the membership of the Academy is called upon to look for ways to reinforce and participate in the primacy of thoughtful analysis in determining what the priorities of our civilization should be. Lots to think about, I think!

As always, I will appreciate your comments.

All the best,

Robert G. Lange
Executive Director
rglange@facstaff.wisc.edu

Fiddler Paul Kienitz of the Nob Hill Boys.

Photo by Nancy Cutlip

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