FARM FUTURES

Even as the number of farms keeps dropping, a few young Wisconsin grads have found a way to make a career out of the life they love.

By Susan Lampert Smith '82
Photos by Bob Rashid '87

It's tough to make a go of it in farming these days. Wisconsin has lost more than 23,000 farms since 1975. In the Badger state and nationwide, the average age of the farmer is creeping past sixty. And a UW-Madison study found that more than half of the farmers polled in Wisconsin earned the majority of their income from off-farm jobs.

Are UW-Madison's agriculture students still going into the field? And if so, are they making it work?

Recent placement statistics for the 457 students who graduated from the College of Agricultural and Life Sciences (CALS) in 2001 show that only two of the 277 students who responded to the survey have job titles that sound as though they're working on farms — one as a farm owner, and the other as a dairy herd manager. Both were dairy science graduates; no graduates in traditional farm majors such as agronomy or animal science showed job titles that reflect farming.

But those statistics can be misleading. The college surveys students three months after graduation, and many young farmers spend a few years collecting a regular paycheck before they can afford to make a down payment on a farm.

And many individuals who are planning to become farmers may not enroll as full-time students at UW-Madison, choosing instead to enroll in the Farm and Industry course. This short course, which began in 1886, today has an enrollment of about 115 people during a seventeen-week semester that runs from mid-November through late March.

"That's where most of your farmers are," says Rick Daluge, director of the short course and an assistant dean of CALS. Daluge estimates that the short course has about five thousand living alumni.

But even those farmers face changing times.

"One of the issues is that the number of farms keeps dropping, dropping, dropping," Daluge says. "We have a lot of people, even in the short course, who don't have a farm to go back to."

Some aspiring farmers work as herdsmen or hired help on larger farms; others labor in some aspect of the dairy or farming industry. "There has been huge growth in the number of off-farm jobs that involve technical experience," says Lou Armentano, chair of UW-Madison's Dairy Science Department.

But Wisconsin does have some young grads who are determined to make a living in traditional farming. They're succeeding by turning contemporary trends to their advantage — using everything from Global Positioning Systems to a taste for gourmet cheese to beat the odds.

Mike Van Schyndle

It's one thing to be born to dairy farming, and quite another to seek out a lifestyle that involves a huge capital investment, long hours, and low prices.

Mike Van Schyndle '97 has heard it all from those who think he's crazy to pursue a career that hundreds of others abandon each year. It's not like he doesn't know another life. He grew up in Green Bay, where his father owns a plumbing company and his mother is also successful in business.

"Most people ask me why I didn't go into business with my dad — it's half the hours and twice the money," Van Schyndle says. "I've worked summers for my dad, and it's not what I like."

What Van Schyndle, twenty-seven, does like is farming. He got a taste of it growing up, working for his maternal grandfather and uncle, who run a dairy farm east of Green Bay near Luxemburg. He studied agriculture at UW-Madison, and spent summers working for several successful dairy operations.

Right out of school, he went to work as a herdsman for Lloyd '80 and Daphne '81 Holterman, who own a large dairy farm near Watertown. He helped manage as the milking herd grew from two hundred to four hundred, and then he returned to Green Bay to sell bull semen.

"When I graduated, it was my goal to have my own herd within five years," says Van Schyndle, who married Jill Zimmerman '99 in 2000. Today the couple lives near Lone Rock, where Mike is herdsman for the Kinyon farm and Jill is an agriculture teacher at Richland Center High School. As herdsman, Van Schyndle is in charge of the day-to-day management of the cattle.

The two own about a half dozen registered Holsteins, and are buying other cows from the Kinyon herd. They hope to partner with the Kinyons in the near future, but are putting purchasing cattle ahead of real estate or equipment.

"We didn't have a farm to take over," Van Schyndle says of the couple's slow move into dairying. But he says he thinks he's had advantages by working for others first.

"I've worked for a number of very successful dairy farmers," he says. "It opens your eyes to new ways of doing things, instead of just doing everything the way your dad or grandpa did it."

It's also given him faith that there is a future in dairy farming — something that even people who come from dairy farms don't always believe.

"I know people whose parents told them not to go into farming because there's no money," he says. "But I believe there's still a good living to be made in dairy farming."

Craig Carncross

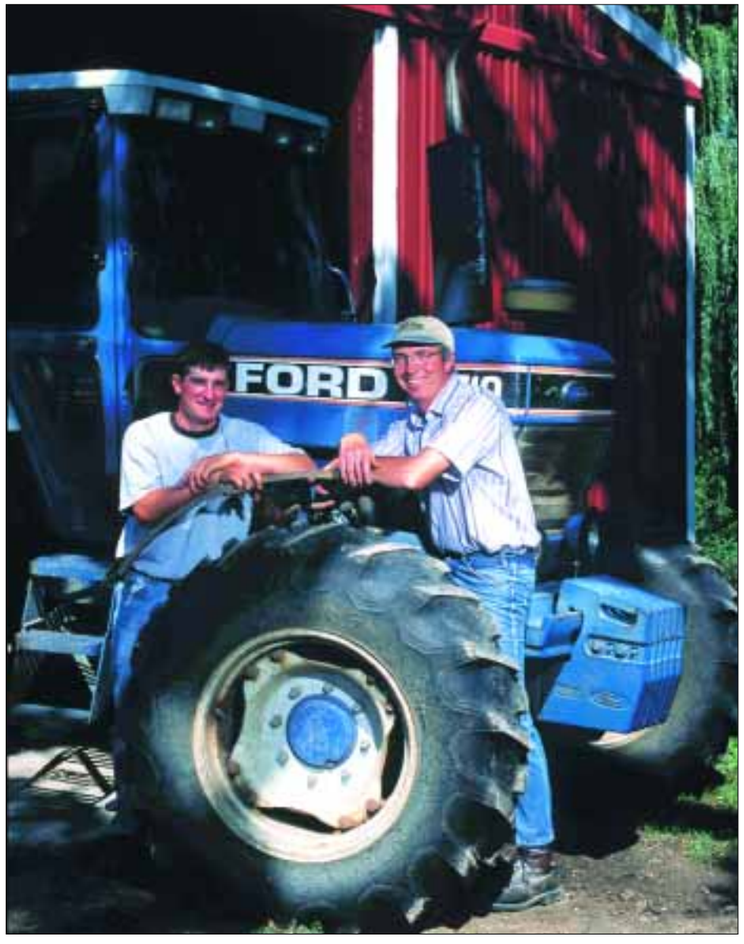
While he was a student living in the Alpha Gamma Rho house on Lake Mendota, Craig Carncross '99 saw his fellow ag majors heading out in their best suits for interviews with agribusiness giants such as Monsanto and John Deere.

"Those companies have a lot of money to lure you," says Carncross, who earned his degree in dairy science. "A lot of people tried to sway me in that direction, telling me I should work [in industry] for a few years. But that never appealed to me.

"I knew all along I was going to end up here."

"Here" is a picture-postcard farm tucked into the hills of southern Columbia County. Corn, soybeans, and alfalfa cover the rolling hills, and beyond the Wisconsin River, the blue-green forest of the Baraboo Hills beckons. Black-and-white cattle graze in a pasture above the house. And inside the tidy red barn, the milking herd of about fifty registered Holsteins rest like princesses on piles of the cleanest straw.

"I've always had a dream of having a well-bred herd of cows, with a good reputation, and having a farm that was a show place," Carncross says. "I realized that it's hard to find the money to get there on your own."



And so he came home to his dad's farm to find his dream. His father, Gordon '70, MS'71, graduated with degrees in dairy science and came home to farm with his father, Warren. The farm's name, Wargo Acres, comes from their first names.

"When my dad came home from school, he made some big changes," Craig says. Gordon got rid of the pigs, and, more importantly, upgraded the herd so it now includes only registered Holsteins. Today, in addition to selling milk, the Carncross family sells young stock, earning a good price for each heifer based on genetics and a reputation for quality.

The Carncrosses recently joined a new group of dairy farmers that has purchased a cheese plant and started Chippewa Valley Cheese. The group markets its own premium cheeses, with the goal of paying the fifty member-farmers a price of $15 per hundred pounds of milk. With traditional plants paying as little as $9 in recent years, the price sounded good.

But the Carncrosses had to make some changes. Customer surveys showed that buyers would pay a higher price for cheese from animals that hadn't been injected with bovine growth hormone (BGH) and hadn't been fed animal by-products such as bone meal. So they made a decision to stop those practices to qualify for the higher-priced milk.

"It was like jumping in the deep end without knowing how to swim," Craig says of tailoring their farming to meet customer demand. But if the changes lead to higher profits, he thinks that someday the decision may prove as important a milestone as his dad's decision to go with registered Holsteins.

"My dad has spent his life laying the foundation, and I just want to help build it up," Craig says.

Previous page: Herdsman Mike Van Schyndle takes a break in the field. He and his spouse, Jill, are building equity in cattle until they are ready to pursue a farm mortgage. This page: Craig Carncross, left, realized that he couldn't afford his own operation, so he returned home to collaborate with his father, Gordon.

Tammy Voegeli

Tammy Voegeli '98 always knew she wanted to work with her parents, Debbie and Louis, to continue building one of the state's premier Brown Swiss dairy herds. But she also wanted a chance "to spread my wings," so when she graduated, she took a job working for Semex USA, which sells bull semen for the more common Holstein breed of cattle.

"I don't regret the opportunity," says Voegeli, twenty-six. "It gave me a chance to learn about a different breed. I had to ask a lot of questions to learn what customers wanted."

She also learned to prove herself. "Because I'm a female," she says, some farmers "thought I didn't know diddley squat."

It was good practice for what she does today. With Brown Swiss breeding stock in short supply, buyers come to the Voegeli farm west of Columbus from several states away to buy young cattle. Tammy helps with the farm's breeding and selling decisions.

"Sometimes they'll ask, 'Who's in charge?' and when I say, 'I am,' they're surprised," she says. "And if they don't come back — hey, it's their loss."

Voegeli and her parents run a 250-acre farm, and milk seventy of the farm's two hundred head of cattle. She's a fifth-generation Brown Swiss breeder; her ancestors came from Switzerland and settled near New Glarus, where the monumental barn on the home farm is a landmark along Highway 69. Her grandfather, John, established her family's Columbia County farm in 1950.

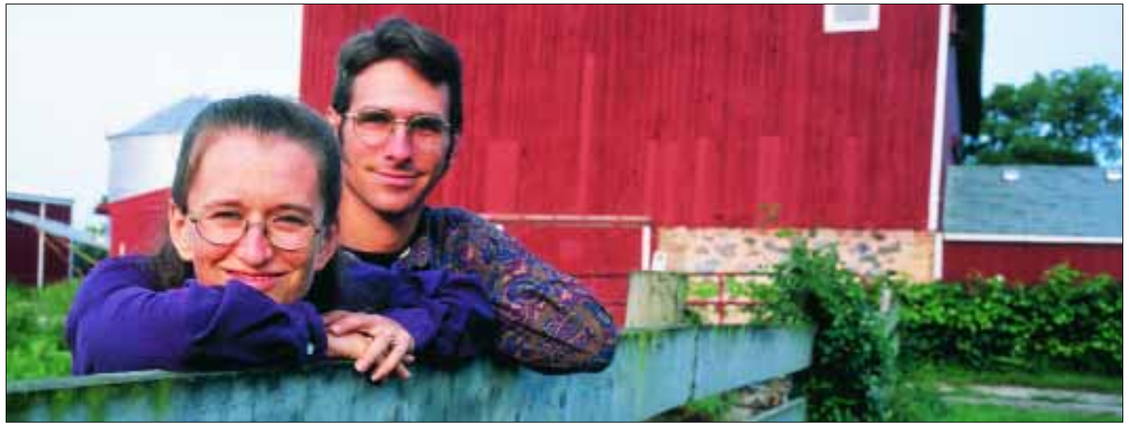
Voegeli especially enjoys encouraging youngsters who are interested in the breed — she's been known to give good deals to kids looking for Brown Swiss calves to raise as 4-H projects. "If we don't get them interested, where will we be in the future?" she asks. "I started going to [cattle] shows by myself when I was twelve years old."

Despite the daily milking chores, Voegeli says her parents have been great about holding down the farm so that she can represent the family at cattle shows and events such as the National Brown Swiss Convention. Her younger brother helps on the farm when he's not driving a semi, but Tammy and her parents handle the milking and other day-to-day chores.

After working in industry, Tammy Voegeli is relishing the opportunity to be her own boss. She and her parents are building one of Wisconsin's premier Brown Swiss dairy herds, and Tammy handles the farm's marketing and advertising decisions.

"We don't have any hired labor," she says. "It's definitely a family operation."

After working in industry, Tammy appreciates the chance to make her own decisions. "I love being my own boss," she says. She also treasures her dairy farm childhood, which involved hard work, but no boredom. "I wouldn't trade growing up on a farm for a million dollars," she said. "You learn responsibility, troubleshooting, problem solving. We're very fortunate to have the lifestyle we do."



Catherine and Dan Kleiber ignored all the skeptics who told them that they were unrealistic to think that they could just buy a farm and begin their own operation. They got jobs, lived frugally, and put a down payment on their own spread a year later.

Dan and Catherine Kleiber

Dan Kleiber '95 followed his father, Bernard '70 MS'72, and mother, Nancy '71, to UW-Madison, and to a career as a cash grain farmer. But he didn't want to do it in his father's shadow.

"If I were to go back and farm with Dad, I would always be 'Bernie's boy,' " says Dan, whose parents still raise soybeans and corn in the Whitewater area. "We get along real well, but I would have felt subordinate to him."

Instead, Kleiber and his spouse, Catherine Haning Kleiber '95, made their way to farming with a steely-eyed plan. Dan told his professors and anyone else who would listen how he intended to work just long enough to buy his own farm. Nearly everyone told him it couldn't be done — land and equipment were too expensive for people who weren't inheriting a farm. But Dan's parents encouraged the young couple.

"When we wanted to go into farming, we heard 'You can't do it,' " recalls Nancy. "And my father-in-law says he heard the same thing, too."

Dan and Catherine ignored the skeptics.

Catherine graduated with a zoology degree on a Saturday in May 1995, Dan with an agronomy degree on Sunday, and they married Sunday afternoon. By Tuesday, they were at their new jobs, living as frugally as possible to save up for their down payment. By spring of the next year, they had it in hand, and began looking for their farm with the dispassion of accountants.

"There are a lot of farms for sale, but not many *good* farms for sale," says Dan. "They're not even listed. The neighbor buys them before they go on the market."

Armed with soil maps and spreadsheets, they evaluated what was available. If the yields they could expect from the soil types didn't result in a positive cash flow, Catherine says, they didn't even bother looking at the farm.

They finally found the land they were looking for along the flood plain of the Crawfish River in northern Jefferson County near Watertown. Today, they own 230 acres of rich bottomland and rent 270 more from the neighbors. They raise soybeans and corn and are involved in a group trying to build a soybean processing plant. This year, the Wisconsin Soybean Association named them the state's Dupont Young Leaders.

They've instituted a ridge-till system that plants soybeans on high mounds, a method that cuts down on soil erosion and pesticide use. "Mostly we do it because it's cheaper and we can get by with less equipment," says Dan. Farther along the field, Catherine points out where burning the fence rows is encouraging prairie plants such as big bluestem and coneflower to reclaim their corner of the earth.

Dan has no regrets about turning his back on a regular paycheck to go into farming. "I got the better end of the deal," says Dan, who keeps up with college friends. "Anytime they come out here to visit, I can take off and spend time with them. I'm my own boss, and I set my own schedule."

Once the crops are in, summers are devoted to gardening and improving the farm. Catherine has also been active on the issue of electrical pollution, better known as "stray voltage." She says that rogue electricity on the farm made her ill until she learned to solve the problem. Her Web site, electricalpollution.com, has more information.

This wasn't the life Catherine was born to. She was raised in Madison and on the East Coast as the daughter of two physicians who assumed she would follow them into medical school. But she always wanted to be a farmer.

"I love combining," she says, referring to harvesting beans and corn with a rig that's the size of giant dump truck. "Dan's mother says that city girls make the best farm wives."

Melissa Sprecher's stepdaughter Sidney, left, helps out on the farm by picking sweet corn. The Sprechers use a Global Positioning System to create maps of crop yields, fertility, and other information for customers of their custom combining business.

Melissa Sprecher

Melissa Goldade Sprecher '95 was raised in farming — and had no intention of coming back. But like Catherine Kleiber, she finds herself "driving a big mean machine" as she helps her spouse, Marty, during the hectic fall harvest season.

Sprecher grew up in Viroqua, where her family managed the Vernon County Farm. As a girl, she was responsible for the cattle, and enjoyed raising animals for 4-H projects. But she didn't envision life as a farmer.

"I had decided my life goal was to go to Spain after I graduated and live there for five years," Sprecher says. She majored in dairy science and agricultural journalism with an international marketing focus, hoping to land a job overseas. But her father had heart surgery during her senior year in college, and Sprecher realized that her own heart lay closer to home.

She did marketing for an agriculture nutrition company before meeting Marty. In short order, they bought a farm near Lone Rock in Richland County and got very busy.

The Sprecher farm demonstrates another tenet of today's young farmer: trying new things to find a mix that works. They raise soybeans, oats, and corn on their 374 acres, and they also have a custom combining business, which brings the total acreage they cover to 2,800 as they do the fieldwork for other farmers. It's a high-tech form of agriculture. They use GPS (Global Positioning System) information to create maps of crop yields, fertility, and other information for their customers.

They also raise Jersey steers for beef, and sell meat and sweet corn at farmers' markets in Oregon and Waunakee. And most importantly, they're raising Marty's children: Brady, eleven, and Sidney, nine. The Sprecher children help with chores, and in the summer, they're responsible for picking sweet corn and leaving it at the end of the driveway for customers who deposit money in an "honesty jar." Their earnings go to support their 4-H projects, such as raising lambs and showing horses.

"There's never a dull moment," says Sprecher, who also teaches Spanish, does marketing work, and hosted a picnic for 175 members of the Wisconsin Agricultural and Life Sciences Alumni Association during Farm Progress Days in July.

Rick Daluge, assistant dean of CALS, attended the picnic. He says that young farmers such as Melissa Sprecher give him faith that young people won't abandon farm life.

Susan Lampert Smith '82 writes for the *Wisconsin State Journal*. She and her spouse, fellow CALS graduate Matthew Smith '77, own an asparagus farm near Blue Mounds. Susan also teaches in Life Sciences Communications, and enjoyed catching up with former students Dan Kleiber and Tammy Voegeli.

JEFF MILLER

Professor Bruce Christensen has powerful incentive not to harm mosquitoes. "They've been paying my rent for a number of years," he says.

Debugging the Bug

BY MICHAEL PENN MA'97

Mosquitoes have the power to kill by carrying deadly parasites. Can researchers render them powerless?

On a typically dust-choked Egyptian afternoon two years ago, Lyric Bartholomay set out with a group of researchers into the Nile River delta, looking for bioterrorists.

The delta, a region of small subsistence villages that feed off the bounty of the Nile, is prime breeding ground for the purveyors of biological warfare. They are born there, amid filth and squalor, and live for the sole purpose of preying on human beings. They have the capacity to kill, and they think nothing of doing so. They have already claimed millions of lives. And before the day is over, they will kill a few thousand more.

Forty-five minutes north of Cairo, the researchers stopped in Al-Aziziyah, a tiny hamlet connected umbilically to the great river by a long irrigation trench.

Bartholomay knelt by the edge of the canal and plunged an enamel pan into the murky stream, hoping to capture the killers. Looking at the teeming water, she knew she had found them. In the pan were thousands of mosquito larvae, little adolescent nuisances that would soon fill the air and feed on anything that moved. Each one would become an unthinking, unfeeling weapon of aerial assault — nature's perfect bioterrorist.

Few organisms succeed at wreaking havoc and spreading disease as effortlessly and thoroughly as the mosquito. The blood-sucking insect, a seemingly omnipresent annoyance in Wisconsin, is in other parts of the world the cause of catastrophe. Certain among their breed have an all-too-willing nature that allows hundreds of viruses, parasites, and other disease-causing biotics to hitch a ride between mammalian hosts, spreading infections, disease, and death. The organisms that cause malaria, yellow fever, dengue, filariasis, and a host of other ailments all travel by way of the mosquito taxi service, and, ultimately, humans end up paying the fare.

At any given time, 500 million people around the world suffer from malaria, between 50 million and 100 million from dengue fever, and around 120 million from lymphatic filariasis, a disease caused by tiny worms that infest the body and in some cases cause severe, disabling swelling of the limbs. More than one million people die each year from malaria alone. Almost all of them are poor, and most of them are children.

Humankind has been waging war against mosquito-borne diseases for more than a century, and, until recently, we thought we were winning. Industrialized nations deployed insecticides, drugs, and other defenses, and managed in some places to nearly eradicate diseases like malaria and yellow fever. After a global effort to contain mosquitoes and their various ills, by the late 1960s, malaria had almost vanished from India, Latin America, and parts of Africa.

Now, those diseases are back, and in some cases, they are sporting new immunity to the drugs designed to treat or control them. They've upped the ante.

Bartholomay, a doctoral student in the UW School of Veterinary Medicine, is among those working on an ultimate trump card. With the help of her mentor, Professor Bruce Christensen, she has been collecting mosquitoes from places such as the Nile River delta for a novel purpose. The researchers think that they can figure out the genetic wiring of the insects to learn why they're so hospitable to parasites. The plan then is to make them rude hosts — to rewire the bugs so that they don't bug people.

Although such applications are potentially years — or even decades — away, they've opened an intriguing new possibility in the fight against some of the world's most devastating diseases. Can we build a better mosquito?

The motion is automatic: you feel that twinge of skin, the pinprick bite. Instinctively, you swat. There's no reflection or remorse. It's a mosquito, after all. Who could really care?

Well, after more than two decades of studying mosquitoes, Bruce Christensen isn't so cavalier about dispensing with them. "I don't want to kill them," the UW professor of animal health and biomedical sciences laughs. "They've been paying my rent for a number of years."

Call it a debt of professional gratitude: Christensen is now devoting most of his time to figuring out how not to kill mosquitoes. He is trying to create, as he says, "a kinder, gentler mosquito." His lab is in the process of learning how to tweak the genetics of certain types of mosquitoes so that they no longer carry the parasites that transmit diseases, downgrading their bites from deadly to merely bothersome.

If it all sounds a bit futuristic, it is. "There's no question that technically we will be able to do this," Christensen says. "But that's a long, long ways away from actually thinking about using this as a viable control option in the field."

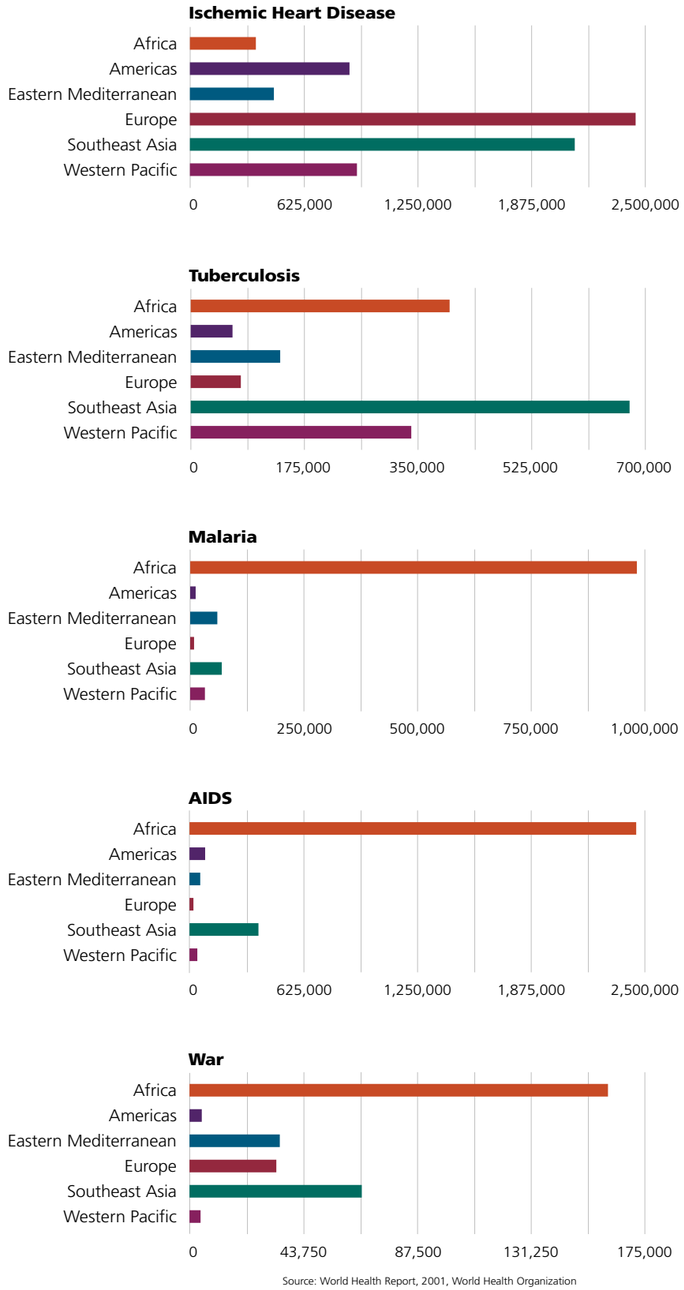
Still, in the sphere of public health — where threats keep arising, and defenses keep eroding — there are worse things than possibility.

Infectious diseases, including those borne by mosquitoes and those transmitted through other means, remain one of the leading causes of morbidity and mortality worldwide, responsible for fully half of all deaths in people under the age of forty-five. Failure to control them is a chief reason why developing nations don't develop, and why poor people stay poor. In Africa — where 95 percent of all new HIV cases, 84 percent of new tuberculosis cases, and nearly 100 percent of all new malaria cases occur — ill health has wrecked economies and contributed to political instability. A report issued this year by the World Health Organization estimates that battling malaria for the past thirty-five years has reduced the continent's overall gross domestic product by 32 percent. That's a cost of about one hundred billion U.S. dollars every year.

The loss of life from these diseases, Christensen says, compares to "anywhere from ten to

COMPARING THE KILLERS

Estimated number of deaths in 2000 due to selected causes, by region



Source: World Health Report, 2001, World Health Organization

eighteen jumbo jets full of children crashing every day."

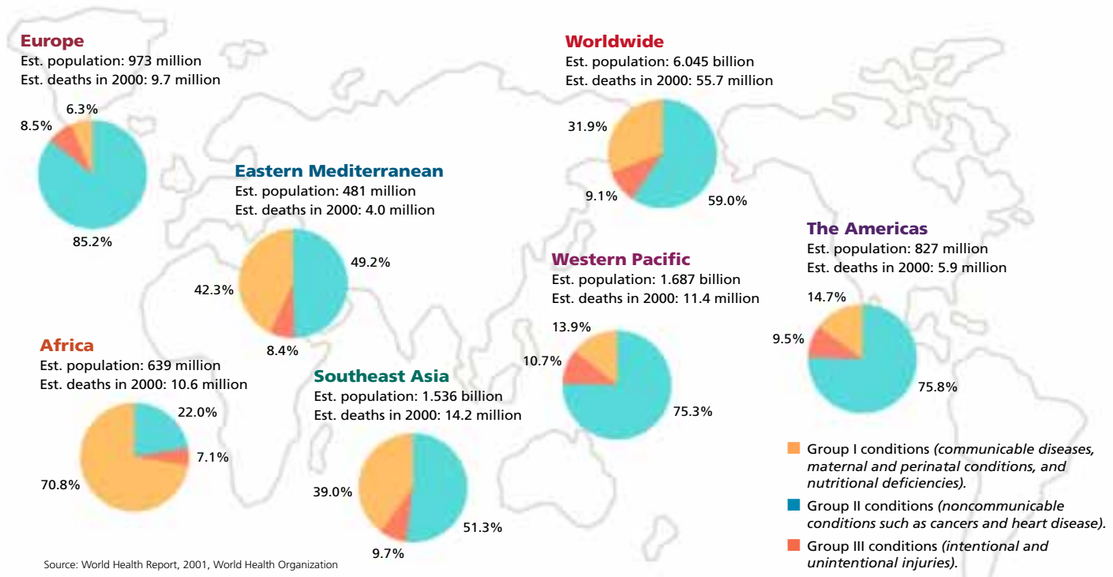
And, if anything, the diseases are growing more potent. Strains of drug-resistant malaria are emerging, and, despite a century-long quest, an effective vaccine for malaria has yet to be produced. The recent outbreak of the West Nile virus in the United States — which by the end of August had reached forty-one states and killed twenty-eight people — demonstrates the disregard parasites have for national borders. The Centers for Disease Control has called the spread of West Nile an "emerging, infectious disease epidemic," and, in an age where parasites hop continents as easily as do people, it almost certainly won't be the last.

With no vaccines and few drugs to work against them, the best option for controlling most mosquito-borne diseases is to control the mosquito — to eliminate the middleman, or middlebug, as the case may be. When malaria epidemics thwarted construction of the Panama Canal in the early 1900s, for example, it was only after engineers began draining the jungle swamps that harbored disease-carrying mosquitoes that the project moved forward. In recent years, insecticides have been the centerpiece of mosquito control, but they, too, are beginning to fail as mosquitoes grow immune to them. One of the most effective, DDT, a cornerstone of the global antimalaria campaigns in the 1950s and 1960s, has been shown to cause more problems than it solves, and it's mostly been shelved.

In the early 1990s, Christensen considered this diminishing arsenal and pondered a new approach. He and a handful of vector biologists — scientists who study the organisms that carry diseases — began talking about mosquito genetics. Most mosquitoes, it turns out, are harmless. Of the 2,700 different kinds of mosquitoes buzzing around our world, fewer than one hundred transmit diseases. The rest, when confronted with a parasite hitching a free ride, trigger biological defenses to surround and kill it. If you could teach the bad bugs what the good bugs already know, Christensen thought, you might be able to break the cycle of infection.

HOW THE WORLD DIES

Causes of death around the world in 2000, based on analysis by the World Health Organization



Source: World Health Report, 2001, World Health Organization

Today, that challenge lies at the heart of the work in Christensen's lab. On the third floor of the Animal Health and Biomedical Sciences building, he and a group of doctoral students, postdoctoral researchers, and technicians are analyzing the genetic make-up of various kinds of mosquitoes and beginning to understand how they function.

The researchers maintain a warehouse of mosquitoes, housed in an environmentally controlled room the size of a walk-in closet. The steel and mesh cages, each one covered with cloth, represent a mosquito all-star team, collected from as far away as India and Egypt. One of the key players here is *Culex pipiens*, the mosquito Bartholomay found in the Nile delta, which transmits some forms of filariasis.

Ringing the perimeter of the lab are sophisticated microscopes, which employ tiny tubes of suctioned air to hold mosquitoes in place while researchers analyze them or inject parasites. Within the past few years, science has developed certain molecular tools that have opened a new world to biologists. Christensen's team can now do things as detailed as identifying specific molecules within the salivary glands of a single mosquito. That, he says, has speeded up their research considerably. In fact, the early results have been quite promising. Christensen says the team is beginning to understand the genetics that underlie a mosquito's ability to kill ingested parasites.

It's hard to say, however, whether this knowledge can be used to introduce parasite-resistant genes into the millions of disease-carrying mosquitoes around the globe. "I'm not sure if it's possible," Christensen says. "But I think as scientists, we're always trying to improve on nature."

The frustrating thing about malaria, says Javier Nieto, is that it's basically preventable. Most of those who have died probably could have been saved, using something as simple as a bed net.

Nieto, the chair of the UW Medical School's population health sciences department, ticks off a list of other such situations — running the gamut from tuberculosis to heart disease. It is a truism of public health, Nieto says, that having medical answers often isn't enough. "Medicine is only a small part of all the sciences that are related to health," he says. "I could argue that economics are as relevant, or even more relevant, to the overall well-being of people than medicine."

New drugs are great, Nieto points out, only if patients can afford them. Preventive measures are good — if people take them. There are no panaceas. The best gains, he and other public health experts say, result from a cocktail of strategies.

In the past, American medical research and delivery has tended to emphasize individualized care and cures, but that may be changing. Nieto, who grew up and studied medicine in Spain, is working to foster more collaborative, integrated approaches to dealing with world health problems — an effort that was already beginning to take root at UW-Madison even before he arrived earlier this year (see sidebar, page 33).

JEFF MILLER

A mosquito is held in place by a tube of suctioned air, allowing researchers to inject parasites to test its immune system.

Christensen agrees, saying that vector biology is best considered not as a replacement for other measures, but as a component of a broad attack. "I don't think that anyone is bold enough to say that we're ever going to have a chance of eradicating this disease," he says. "What you want to be able to do is control it. It's going to have to be an integrated approach."

For vector researchers, that means balancing the big picture with the little picture. While they are enthused by the aims of their work, they also realize that it may ultimately be helpful in other ways. What they are able to contribute to the knowledge of genetics, for example, may help design new drugs or insecticides. Their chief priority is understanding the infector, so that others might better understand the infection.

That's no small task, given the plasticity of most disease-causing agents. Take the schistosome worm, for example. In humans, these worms reproduce and cause schistosomiasis, an often serious infectious disease that affects two hundred million people around the world. But the worms mature inside the bodies of snails. To get from their intermediate host to their final destination, the worms have developed the capacity to sense water vibrations around their snail hosts. Once near exposed skin, they can bore directly into the new host's body.

It's hard not to be impressed with such biological adaptability, says Tim Yoshino, who studies the schistosomes and their snail hosts. "They're very complex organisms, and we don't yet know what we need to know about them," he says. "But we're starting to develop some of the tools we need to understand them."

Yoshino, like Christensen a professor in the School of Veterinary Medicine, is running experiments similar to his colleague's, in which he is trying to identify and manipulate genes within snails so that they no longer provide a host for the worms. The potential of the work isn't lost on him, but he's also motivated by a simpler aim: a basic wish to know how these organisms function. "I think that, for myself and a lot of researchers, we're driven by curiosity, by our desire to know how these complex biological systems work," he says. "It's very motivating to work toward something that may be helpful to mankind. But I think even without that, I would still be interested."

The same holds true for Bartholomay, who was attracted to biology partly by attraction to the tiny subjects of her experiments. The daughter of Barry Beaty PhD'76, a Colorado State University professor who studies the mosquitoes that transmit dengue fever, she grew up appreciating the insects. Even now, she admits sheepishly, she sometimes allows a mosquito to bite her just so that she can watch it feed. "I think they're fascinating and beautiful little creatures," she says.

But she doesn't overlook the trouble that they cause. She and Christensen traveled to Egypt in 2000 and again this year to conduct experiments with researchers from Ain Shams University in Cairo. And the images from those trips are still vivid. "You can read those statistics and maybe see some pictures, but I don't think you really grasp how debilitating and terrible these diseases can be until you meet the people at risk," she says.

Bartholomay tells a story about when the group of researchers went to Al-Aziziyah to collect mosquitoes. Soon after Bartholomay began sampling the water — wearing gloves to protect herself from its many threats — she noticed that she was being watched. She looked up to see the faces of a dozen children, their amber eyes widened with curiosity. A few of the boys called out to her with hopeful bits of whatever English they knew, saying things like, "I love you." After a minute, an elderly man appeared, brandishing a stick. He scolded them, yelling in Arabic, "Go away! Leave the scientists alone!" The children scattered.

But Bartholomay knew the children weren't just outsiders, but in fact were central to her work. "Those were beautiful little faces that I was looking into, and to think about how their lives could be impacted forever by these diseases ... it's tragic," she says. "Of course, it's motivating."

As we talk, Bartholomay points out a Xeroxed page taped above her desk. It features a quote from Franklin D. Roosevelt: "The test of our progress is not whether we add more to the abundance of those who have much. It is whether we provide enough for those who have too little." Because I think this helps explain how she can love mosquitoes, yet hate what they do, I ask to borrow it. Instead, she gives it to me. "It's okay," she says. "I have it in my heart."

Michael Penn, senior editor of *On Wisconsin*, has experimented with various mosquito-eradication efforts, mostly unsuccessfully, in his back yard for years.

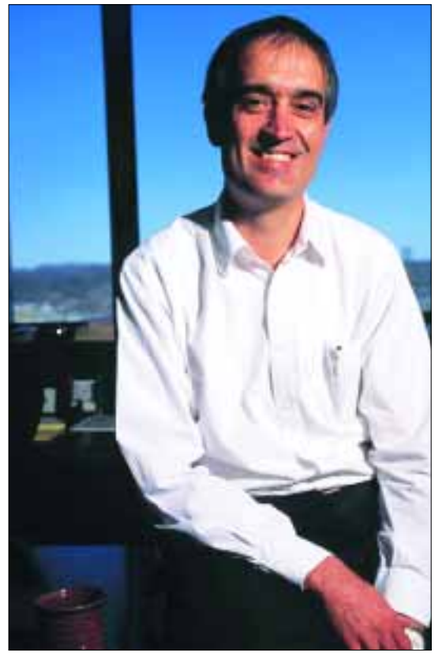
PUBLIC HEALTH

Glaring Problems, New Priorities

Early in her career as a family physician, Cindy Haq accepted a position in Uganda as the only doctor serving fifty thousand people. She relished the chance to pass on her knowledge. But it was she who learned the first lesson.

Now a UW professor of family medicine, Haq says she ran herself ragged trying to treat all the patients who came to the clinic. "The workers at the clinic would tell me, 'You could see patients twenty-four hours a day until you were dead, and you still will have had little impact here,' " she says. They implored her to stop thinking of medicine as one doctor treating one patient at a time, and instead look at the bigger picture.

Haq took the advice to heart, and began spending more time training health care workers, meeting with government officials, and getting involved in community efforts to clean up the water supply. "Every day I was taking care of children who were dehydrated," she recalls. "Well, they were dehydrated because they had no access to clean drinking water. You can say, 'How can I take care of all these patients?' or you can say, 'How can I help get them clean water?' "



BOB RASHID

Javier Nieto says good health requires more than just good medicine.

At UW-Madison, Haq has been working to erase the schism that she and many others feel has developed between medicine and public health. American medical students are trained to think in terms of treating individuals with diseases, she says, and they often overlook the role they can play in wider efforts to prevent illness and improve conditions. "In most places in the United States, at least, the infrastructure is there. The public health systems are very good," she says. But, she continues, public health officials and clinicians often communicate infrequently and miss opportunities to coordinate efforts.

Haq and other Medical School faculty have plans to change that. They've drafted a broad plan to integrate community health into the training of new doctors. Haq says this happens now, but it takes place mostly through extracurricular activities. "We want to build more of those experiences into the required curriculum for all students," she says. New student exchange programs are also being devised, which Haq hopes will help doctors in training appreciate the significance of culture and environment on health care around the world.

Another boost may come from the anticipated disbursement of Blue Cross & Blue Shield United of Wisconsin stock, which has been earmarked to benefit state medical instruction. If plans are approved, some of that funding may go toward establishing a master's degree program in public health, which would fill a gap in curriculum and meet growing demand among state health care professionals, says Javier Nieto, chair of the Medical School's department of population health sciences. Nieto's unit also plans to expand its curriculum, offering more instruction in epidemiology, health policy, and biostatistics.

Nieto came to UW-Madison in January from the Johns Hopkins School of Public Health, and, like Haq, he believes that UW-Madison must increase its presence in international health outreach and research. Many of those efforts are already under way, but, because UW-Madison has no school of public health to facilitate cooperation, they have tended to reflect individual, rather than institutional, priorities. To address that, the UW's four health sciences schools have recently created a committee to oversee international health programs.

"It is striking to recognize that we have a very large number of health professionals and researchers who are working abroad, but they don't tend to know about each other," says Haq, who chairs the group. "We hope to better coordinate those efforts."

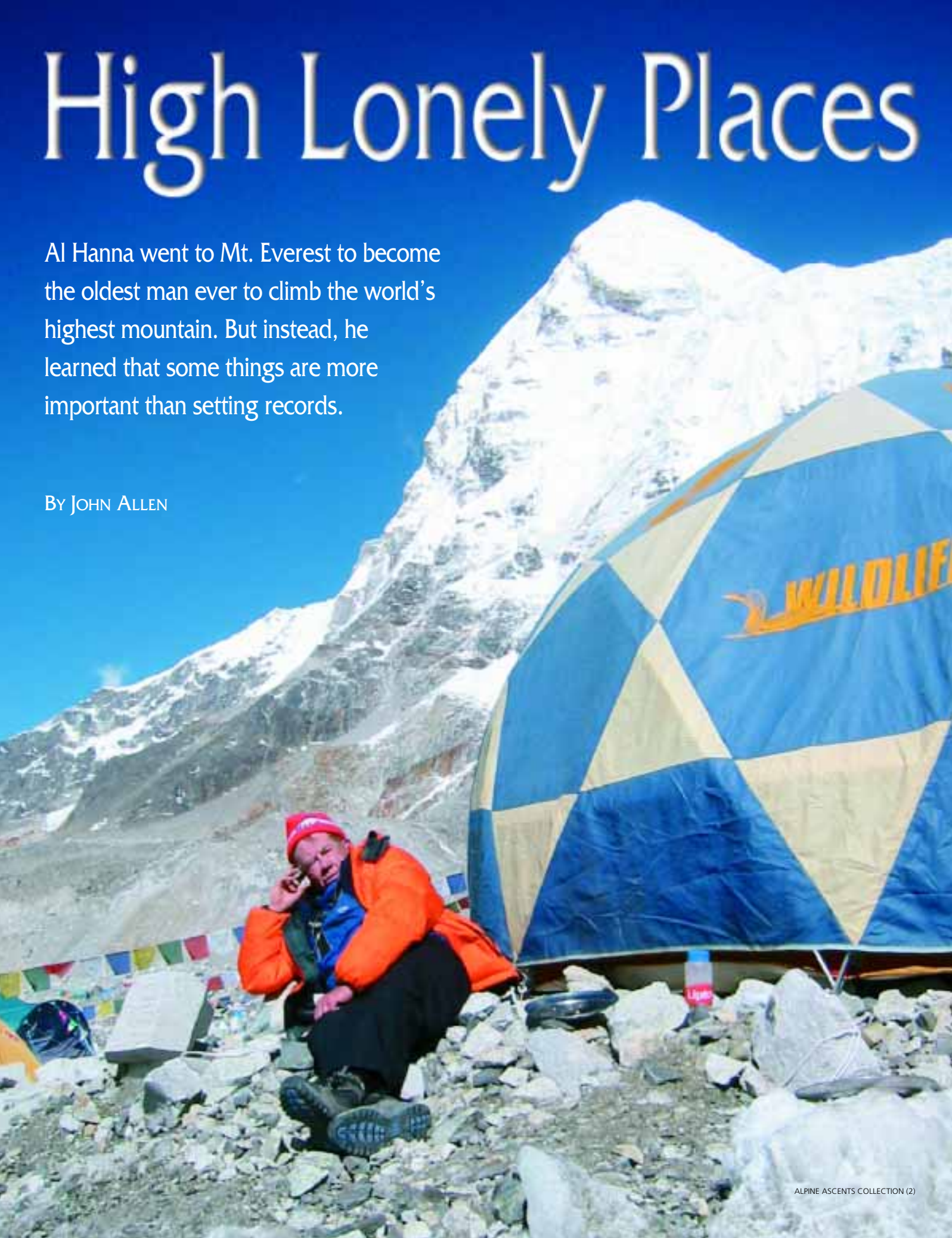
"It's critical for an institution of this size to be involved in helping solve those problems," Nieto adds. "There are so many opportunities for collaboration. The possibilities are almost infinite."

— M.P.

High Lonely Places

Al Hanna went to Mt. Everest to become the oldest man ever to climb the world's highest mountain. But instead, he learned that some things are more important than setting records.

By John Allen



ALPINE ASCENTS COLLECTION (2)

This is, perhaps, not the story *On Wisconsin* was hoping for.

When Al Hanna '52, LLB'55, MBA'57, aged seventy-one and ten months, set out to scale Mt. Everest, he seemed to be the sort of character that alumni magazines like. He aimed for the superlative — to be the oldest person to climb the world's highest mountain.

And he wasn't just some crackpot. He appeared to have a legitimate shot at the record. He'd tried three times previously, and on the last attempt came a mere three hundred vertical feet short of the summit. Hanna had already climbed some of the world's most challenging peaks, and in fact, topping Everest would complete not one but two records. He would also become the oldest person ever to climb all "seven summits" — the highest peak on each of the seven continents.

Further, Hanna had a sense of dash and romance. Sounding like a modern-day Charles Lindbergh, he went, he says, in search of "high lonely places — into the silent, empty land, so pure and suffering." Stories previewing Hanna's climb appeared in *TIME,* the *Wall Street Journal,* the *Chicago Tribune,* the *New York Times,* and even the *Oconomowoc Focus.* While it's exaggerating to say that Hanna-mania was sweeping the globe, certainly the mountaineering community was well prepared to see him achieve his records. And *On Wisconsin* was prepared to cheer him on.

But *On Wisconsin* was destined for disappointment.

The only thing that stood in the way of this story's triumphant conclusion, it turned out, was Albert C. Hanna.

"A combination of common sense and love of life turned me around," he says. Battling a bronchial infection and the effects of altitude, Hanna decided that seventy-one was too old for Everest after all. But if his age deprived him of

Everest, says Hanna, is "harsh, hostile, hazardous, and uncompromising. It's also unforgiving. You don't make but one mistake."

the stamina of younger climbers, it gave him the wisdom to see that some things are more important than setting records: "When I got to 27,000 feet, I said, 'Guys, I can get up there, but I won't get down.' And I decided that God and I had a pact to get me down off the mountain with my fingers, hands, toes, and nose intact. So God sent me down, fingers and all."

At the last moment, in fine weather and with just over 2,000 vertical feet to go, Hanna called it quits. Common sense had won. Hanna would return with five-fingered hands, but no record. His drive for the superlative had failed.

THE HISTORY OF MT. EVEREST

is littered with characters who preferred the superlative to the sensible — though perhaps the man for whom the mountain is named isn't one of them. In 1841, Sir George Everest was the surveyor general of British India, and when he surveyed the mountains along the border between Nepal and Tibet, he became the first European to mark each peak on a map. As he had a mathematician's sense of romance, and as he thought these peaks were nothing special (at the time, the Andes were thought to be the world's highest), he called the tallest of them "Peak B." He hoped it would ultimately bear a local name — like Chomolungmo, which is what the Tibetans call it, or Sagarnatha, which is its name in Nepal.

But Sir George was overruled.

In 1852, the Great Trigonometrical Survey of India came along and, after consulting their theodolites and sextants and abacuses, discovered that Peak B and its neighbors were really, really tall. So they honored their former boss by ignoring his wishes and hanging his name on Earth's highest summit. The National Geographic Society now lists Mt. Everest's official height as 29,035 feet and growing — according to geologists, the summit pushes upward four millimeters annually, meaning that it should reach 29,036 in seventy-six years or so.

But it was back when Everest was only 29,034 feet — just a few years before Hanna was born — that a Briton named George Mallory first sparked widespread interest in setting climbing records there. Unlike Sir George, Mallory was a romantic, and when

Left: Al Hanna lounges at Everest Base Camp. At 17,600 feet above sea level, the camp is already higher than any peak in the 48 contiguous United States.

Right: Hanna poses with Pemba Sherpa, another Everest record holder. She's the first Sherpa woman to summit the mountain from both its north and south sides.

a reporter asked him why he wanted to risk his life climbing a freakishly big Asian hill, Mallory uttered the words that have been associated with Everest ever since:

"Because it is there."

He was in a fit of pique at the time, and would likely be disappointed to know that line will forever be tied to him. But the words have the ring of truth: the mountain is still there, and for that matter, so is Mallory. He made three attempts at the summit between 1921 and 1924, none successful. On the last, he and partner Andrew Irvine disappeared. Mallory's body turned up seventy-five years later, its mummified hands thrust outward as though failing to prevent a fall. The climbers who found his remains buried them under a pile of stones near where they'd been discovered.

Twenty-nine years and at least thirteen corpses followed Mallory before New Zealander Edmund Hillary and Sherpa Tenzing Norgay reached Everest's peak in 1953. Since then, the mountain's history has been told in a laundry list of superlatives — first American to reach the summit: James Whittaker, 1963; first woman: Japan's Junko Tabei, 1975; first successful ascent without the aid of bottled oxygen: Italy's Reinhold Messner and Austria's Peter Habeler, 1978. First ascent in winter, first successful ascent by the north slope, fastest ascent, fastest descent, most climbers in a single party, first ascent by a blind skier — Everest enthusiasts keep close track of all such records.

It's no surprise, then, that "oldest climber to reach the peak" would be a coveted title. The current record holder is Sherman Bull. He stood on the summit in 2001, at the age of sixty-four, ending the reign of Toshio Yamamoto, who was sixty-three when he reached the top in 2000. Before him there was Lev Sarkisov, aged sixty years and 161 days in 1999. And before Sarkisov, there was Ramon Blanco, sixty years and 160 days in 1993.

The determination to set such records has led to a heavy death toll. At least one climber has died on Everest every year since 1978, and in the worst climbing season, 1996, fifteen were killed in a series of storms and accidents. This debacle inspired Jon Krakauer to write *Into Thin Air*, a best seller, but it didn't inspire much caution. In 1997, hundreds of climbers returned. Eighty-five reached the summit; nine more died trying. Currently, more than 120 corpses lie along the slopes of Everest. Climbing conditions are so strenuous that dead bodies are seldom brought down. Most of them, like Mallory, are left to mummify in the frigid air.

"There are hundreds of crevasses," says Hanna, and "the séracs sometimes break off and fall on you.... It's scary as hell."

Everest, says Hanna, is "harsh, hostile, hazardous, and uncompromising. It's also unforgiving. You don't make but one mistake."

His fatal mistake nearly came in 1993, on his first attempt. While crossing an ice bridge, he fell through a hole and would likely have tumbled to his death in a crevasse, had he not caught hold of the bridge with his ice axe. He eventually turned back, allowing that youngster Blanco to set the age record.

But crevasses are merely one of many challenges facing those who climb the world's highest mountain. For starters, there's the financial burden. An expedition typically costs between $50,000 and $70,000. Alpine Ascents, the company that Hanna has traveled with, charges $65,000, which doesn't include airfare or such necessities as an ice axe, crampons, carabiners, vapor barrier socks, or any of the other fifty-three items of clothing and equipment specifically mentioned on the company's recommended gear list.

After the financial drain of outfitting, there's the threat of physical exhaustion. Climbing Everest isn't merely a walk straight up a 29,035-foot hill. "Really," says Hanna, "you climb the mountain three times to make one shot at the summit."

The reason for all these ups and downs is oxygen. At Everest's peak, the air pressure is approximately one-third of that at sea level, five and a half miles below. Climbers typically spend nearly two months on the slopes of Everest, acclimating to the thinner air, before they're ready to spend just a few minutes on the peak. The cumulative strain takes a heavy toll.

"As the weeks go by, you begin to lose your appetite," says Hanna. "It's an altitude thing. Food begins to taste just awful. Sometimes you gag when you try to eat." Hanna normally weighs 140 pounds. At the end of each of his trips to Everest, he was down to 125 or less.

Most climbers, including Hanna, prefer to attack Everest from the south or Nepalese side — Edmund Hillary and Tenzing Norgay's route. Base Camp there is at 17,600 feet, already higher than any mountain in the lower forty-eight United States. At the beginning of each climbing season, a team of Sherpas appointed by the Nepalese government establishes the route from Base Camp to the summit. The Sherpas' job is to find the safest path and put in place the ropes and temporary bridges that later climbers will depend upon. The route they choose connects four advanced camps — way stations as the climbers put themselves through the slow process of acclimating.

The passage from Base Camp to Camp I is 1,400 vertical feet, says Hanna, "about a four-hour climb for Sherpas, and about eight hours for an old man like me." This stretch of the mountain is known as the Khumbu Ice Fall, a glaciated pass that takes climbers over crevasses and under hanging blocks of ice called séracs.

"There are hundreds of crevasses," says Hanna, "some only six feet across, others twenty to thirty feet. Those first climbers place ladders across them, and when we come forward, we walk upright

over the ladders. The séracs sometimes break off and fall on you, so there's danger from ice above and injury below. It's scary as hell."

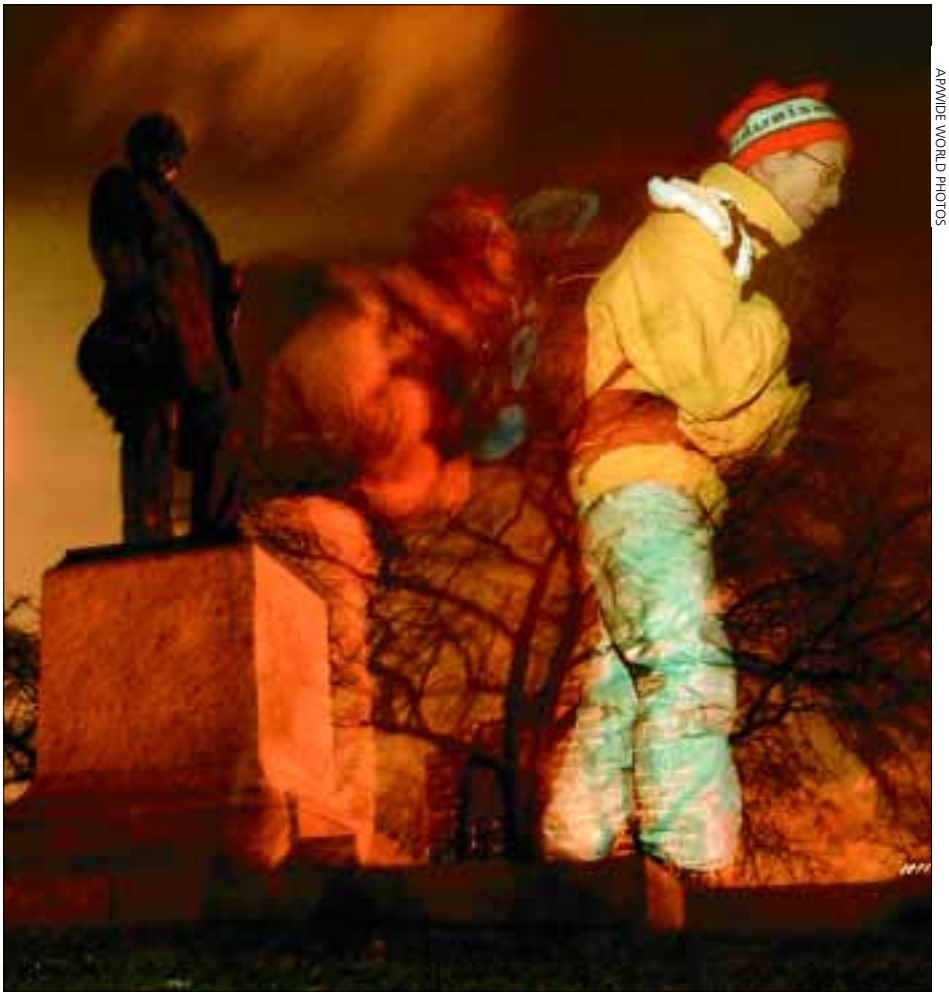
Nevertheless, climbers like Hanna make the trek over the Khumbu Ice Fall several times. First, they climb halfway to Camp I, to 18,500 feet, before returning to Base Camp. After a few days of acclimating, they return and go all the way to Camp I, where they spend a night, then descend again for several days in Base Camp. On the next trip up, the goal is to spend another night at Camp I, then proceed on to Camp II, a six- to eight-hour journey that Hanna describes as "remarkably safe" compared to the ice fall, "though nothing on the mountain is completely safe." Again, climbers make multiple trips up and down, spending nights at different camps to acclimate and build their lung capacity. Then, when they feel ready, they must cross the most dangerous part of the mountain, the Lhotse Face, to reach Camp III. This is a sheer climb up 2,000 feet of blue ice.

"A lot of deaths come on the Lhotse Face," says Hanna. "It's so precarious, so icy, that if you don't clip in to the fixed rope correctly, and if you slip, you're a goner. There's nothing to stop you — it's just a long chute down."

In 1995, on his second attempt at Everest, Hanna saw a young Sherpa lose his grip on the Lhotse Face. "He took the crash and went straight down 2,000 feet," says Hanna. "And then he did not move again."

This stretch takes another six to eight hours, and again climbers make the crossing several times, descending to lower camps and even Base Camp as they slowly acclimate to the reduced oxygen at Camp III, 23,000 feet above sea level. From there it's another 3,000 feet to Camp IV, the entrance to what climbers call the "death zone."

"Above 26,000 feet, there isn't much atmosphere, not much air or moisture, and your whole body suffers," says Hanna. "Climbing in the death zone takes everything you've got."



AP/WIDE WORLD PHOTOS

To prepare for Everest, Hanna set himself a brutally repetitive training regimen, which included long nighttime hikes up and down a hill in Chicago's Lincoln Park. The only fun in all this, he says, "was talking to the night people — the street people, the crazies, the drunks."

Although crevasses, avalanches, and sudden snowstorms are common on Everest's lower slopes, above Camp IV, the major dangers are the cold (temperatures can fall to forty degrees below zero), the wind (which gusts up to 125 miles per hour), and the inescapable thin air. Climbers face an increased risk of hypothermia, frostbite, fatigue, nausea, double vision, and hallucinations. In the oxygen-sparse air of the death zone, climbers may also suffer cerebral edema (a swelling of the brain) or pulmonary edema (in which the lungs fill with fluid). Both can be fatal.

BUT EDEMA ISN'T A COMMON danger in Stevens Point and Mosinee, Wisconsin, where Hanna grew up. Nor is falling into a crevasse or being crushed by an avalanche. In fact, nothing in his background seems to have prepared him for the challenges of the death zone. Though an Eagle Scout when young and a soldier immediately after college, Hanna didn't make a single foray into mountain climbing until he was fifty-eight years old.

"I felt dull, like I was retreating into a deep cave of existence," he says, "and I knew I had to do something different." When he took a mountaineering course in Alaska, he found his calling. "I loved the challenge, I loved the risk, and I loved the new kinds of people I was meeting," he says. "It was a delightful experience — just the kind of risk that a businessman wanted to take."

Hanna has always sought out risk. He runs his own mortgage banking firm, MidNorth Financial Services, in

Chicago, but when he entered that field in the late 1950s, he didn't know a thing about it. He had recently returned from service in Korea, with no business experience. "I wasn't loading rifles anymore," he says, "I was moving papers," performing office work. When fellow law school grad Richard Downing '56 asked him if he wanted to get into real estate finance, he jumped at the chance. "I don't think I knew the difference between a two-by-four and a joist at that point," he says. "I sure do now."

During the following decades, he fostered a successful business and earned enough money to finance not only a hobby as expensive as mountaineering, but another pricey pastime as well: litigation. If there's one group of people who might be happy to see Hanna spend more time on the side of a mountain, it's the attorneys for the city of Chicago — he's currently battling them in four separate lawsuits. The only thing that gets Hanna more exercised than Everest is Chicago's zoning laws, which he feels shut African-Americans and Latinos out of certain areas at the behest of wealthy neighborhood organizations. To date, he's spent more than $1.5 million trying to combat such ordinances.

"I'm accusing the city of racial cleansing of our high-cost lakefront areas," Hanna says. "I understand what the city is doing. I understand their morally and intellectually corrupted legislative process, and I'm challenging that. I'm a little ACLU."

Hanna has had a measure of success in the courtroom. In 2001, one of his suits overturned zoning ordinances that would have prevented the construction of affordable new housing in his Lincoln Park neighborhood. The city is appealing, but meanwhile, Hanna is pressing on with other claims.

"I've always accepted challenges, and I've always loved risk," he says. And that's what drove him to pursue Everest. Two years after he finished his mountaineering course, he returned to Alaska, this time to climb Mt. McKinley. While he was there, another climber told him about the seven summits, and Hanna saw his goal before him. "I thought, God, that's a challenge, that's a threat," he says.

Fewer than seventy climbers have successfully completed all seven summits, and none of them were even close to Hanna's age, but he has set a fast pace. Between 1990 and 2002, he traveled on more than twenty climbing expeditions, knocking off McKinley (20,320 feet) in 1991, South America's Mt. Aconcagua (22,840) in 1992, and Australia's Mt. Kosciusco (7,130) in 1994. In 1995, he topped Africa's Mt. Kilimanjaro (19,340) and Antarctica's Vinson Massif (16,067), and in 1999 added Europe's Mt. Elbrus (18,481). For good measure, he threw in Indonesia's Carstensz Pyramid, which at 16,023 feet is the tallest peak in Oceania.

"Having again tried and having returned safely leaves me a stronger person," he says. "The climb was a physical, mental, and emotional strain, but it renewed my strength of character and spirituality."

Only Everest eluded Hanna. His first attempt, in 1993, was more educational than satisfying.

"At the time, I simply didn't have the experience, the knowledge, or the understanding to try Everest," he says. So when he returned home, he set a brutal training regimen for himself. Since Chicago has no mountains — or really any serious hills — he based his workouts on repetition. Four days a week, when he went to his office on the corner of Wacker and Wells, he took along a backpack loaded with thirty pounds of weights. During breaks, he'd walk ten times up and down the same flights of stairs, climbing from the first floor to the fourth and back down. Five nights a week, he'd load a pack with sixty pounds of weights, and at 2:00 a.m., he'd walk a couple of blocks to Lincoln Park and then climb and reclimb the same modest hill for three hours. At home, he'd spend an hour a day lifting weights.

"One thing I wanted to do was build up my strength and get used to carrying the weight," he says. "My other goal was to deal with the boredom — to close down my mind and stop thinking about things. The fun part, if there was anything fun, was talking to the night people — the street people, the crazies, the drunks. Occasionally, I'd have a good conversation. They were all curious about what I was doing. Sometimes they were threatening at the beginning, but once they found out what I was doing, they were all intrigued."

His spouse, Chris, was supportive as well, though perhaps less patient. "For the last year, I was so tired, I'd fall asleep anywhere," he says. "My wife gave up taking me to the opera — she said it was just an expensive nap."

By the time Hanna made his second attempt at Everest, in 1995, he was better prepared for the strain. He and the team he was climbing with reached 28,000 feet, but heavy snow forced them all to turn back. When Hanna returned again in 2000, he made it even higher, reaching Everest's lower, south summit at 28,710 feet. But well into the death zone, he was beginning to tire. "Death was waiting for a candidate," he says, "and I didn't want that candidate to be me."

He decided to turn back, go back into training, and make one more attempt. Since he was nearing seventy, he suspected that the next try would be his last.

ON MARCH 27, 2002, AL HANNA left Chicago to make that last assault on Everest. He had joined another Alpine Ascents expedition, and this one included another record setter, Jeff Mathy, who at twenty-three was working to become the youngest person ever to scale the seven summits. In all, the team had six paying climbers and five

PHOTO COURTESY OF AL HANNA

At 27,000 feet, Hanna needed to wear goggles and an oxygen mask as protection against the cold, thin air. Even so, the elements beat him back. He was forced to give up his quest shortly after this photo was taken.

professional guides, including Vernon Tejas, Hanna's private guide.

The Nepal Hanna and his companions arrived in was not the same as the country he'd left two years earlier. Since the summer of 2001, a series of crises have emanated from the capital, Katmandu. First, a bizarre royal family feud turned bloody when the crown prince murdered the king, queen, and several others before killing himself. Then peace talks broke down between the government and Maoist rebels; in the ensuing fighting, nearly three thousand people died. Since November, Katmandu has been under a state of emergency.

Yet Alpine Ascents — and sixteen other expeditions — came to Nepal for the sake of Everest. Hanna arrived in Katmandu on March 29, and during the next week, he and his companions traveled overland, first to Namche Bazaar, where they picked up eleven Sherpa porters. From there, they had to ascend more than a mile just to reach Base Camp.

By the middle of April, the Alpine Ascents team was ready to begin its climb. Though all the usual dangers were present, the weather didn't seem particularly bad, and it wasn't until they began to cross the Khumbu Ice Fall that the trouble started. According to Eric Simonson, a climber with another expedition, the Sherpas who had prepared the route had done a poor job. "There are numerous loose anchors," he wrote for the Internet site EverestNews.com, "many pickets driven in only part way, loose ladders and ropes, and generally shoddy work."

On April 23, the Maoist rebels cut off telephone contact between the Everest region and the outside world, which was inconvenient. Much worse news came on April 30. As Hanna and the Alpine Ascents team were proceeding up and down in their yo-yo path toward the summit, word came that a British journalist named Peter Legate, climbing with an expedition from Hungary, had lost his hold on the Lhotse Face. He fell 600 feet to his death, becoming the first casualty of 2002.

In mid-May, Mathy began to suffer from severe stomach and bronchial infections. As the Alpine Ascents crew continued, climbing and descending, he returned to Base Camp to receive intravenous treatment. He tried to rejoin the team on May 20, but decided that his illness was too much and gave up.

Now one member short, Alpine Ascents made their way toward the peak, and on May 23, they finally reached Camp IV and the death zone. There they would spend the night before pushing on to the summit. Outside, the snow was eighteen inches deep and soft — not treacherous for climbing, but tiring to walk through. Hanna, like Mathy, was now suffering from a bronchial infection, straining his lungs when they needed all the capacity they could get.

"I had chest congestion," says Hanna. "I had a cough, which is common at high altitudes, and this chest congestion was beating me down."

The next morning, May 24, Hanna got up with the rest of the climbers to make the final assault — a twenty-two-hour round trip. But as he climbed the first thousand feet above Camp IV, he could see that he was falling behind the rest of the team. He could barely breathe, even with bottled air, and physical exhaustion had weakened his knees and joints. As Hanna tried to focus on each struggling step, his judgment told him, he says, that another day of climbing would have left him "in a crevasse, lonely and dead." He began to wonder if he should turn back. His companions expressed disappointment, but Hanna says they didn't push him to go on.

Continued on page 64

High Lonely Places
Continued from page 39

"The rules of the mountain are that you don't convince anybody to do anything," he says. "We expect everyone — even the old ones — to exercise good judgment. There's just too much risk, not only to the person who might get hurt or die, but to those who would have to stay behind to help him. How do you carry a 140-pound body like mine down a mountain? You can't. You've just got a real major problem."

So, 2,035 feet short of the highest summit on earth, Hanna decided to give up his last chance.

Between 10:30 and 11:18 on the morning of May 25, the four remaining climbers, five guides, and eight of the Sherpas from the Alpine Ascents group summited the mountain. Hanna, back at Camp IV, waited for them to return for the descent.

ON JUNE 3, HANNA CAME HOME to Chicago, to his stairs and his street people and his lawsuits. He had lost more than a tenth of his body weight during his fifty-five days on Mt. Everest, and the first order of business was getting a few pounds back on his frame. "I'm eating a lot of cake and ice cream," he says. "It's my favorite."

His quest for Everest has, in four attempts, cost him more than a quarter of a million dollars. There won't be a fifth. The seven summits are off the agenda. In fact, Hanna may not climb another mountain.

"I don't know," he says. "Seventy-two-year-old legs weren't made for mountain climbing."

But if Hanna is deeply disappointed, it doesn't show. His 2000 climb to the south summit made him the oldest person ever to reach that height, he notes, "for whatever that's worth." But he seems less concerned with records than with the pleasure of facing the challenge.

"Having again tried and having returned safely leaves me a stronger person," he says. "The climb was a physical, mental, and emotional strain, but it renewed my strength of character and spirituality and was a personally rewarding effort."

The major media have gone. Having covered Hanna on the way up, they disappeared when he failed to reach the top. This is, perhaps, not the ending they were hoping for. Neither is it the story Hanna had wanted. But if common sense, a love of life, and a renewed strength of character is the disappointment he's destined for, it's one he'll take.

Thanks to weeks of diligent research, John Allen, associate editor at *On Wisconsin* Magazine, now knows the difference between a crevasse and a crevice.

Coming Home

As Nathan Lynch began facing a painful truth, he knew exactly where he wanted to be: UW-Madison in the fall.

By Michael Penn MA'97 Illustration by Barry Roal Carlsen MFA'83

Fall, in the unique rhythm of academic life, is a season of beginnings. It is then, even as the sun declines and nature recedes toward the nocturne of winter, that universities shake off summer's slumber and prepare for the dawn of a new year. Chalkboards are scrubbed clean, the paint is fresh, and new textbooks, their spines yet unbroken, are piled in neat stacks. A university in fall is something of an unblemished notebook, full of potential and stories yet to be written.

It was on a glorious fall day that Nathan Lynch came back to Madison. He returned on Labor Day, in the golden light of a near-utopian early evening. From the back seat of a rented car, he watched familiar sights roll by: picnickers at a lakeside vista, the ivory glow of the capitol dome, students greeting each other in excited voices.

All along, the goal had been fall, to get to fall, to get back here. Ever since the terrible day in March, when doctors discovered the cancer, when he was hurried into immediate treatment, when the radiation sessions forced him to withdraw from school, Nathan had envisioned a day just like this: Madison in fall. If spring had been his unwanted ending, then fall would be his new beginning.

In the front seat of the car, Michael '63, MBA'68 and Susan '67 Lynch quietly took cheer from their son's mood. They were no strangers to the magic of Madison in the fall. They had both experienced it firsthand as students, having met in the Commerce Building library on an evening in September 1965. They had dated in fall, cheered at football games in fall, and fallen in love in fall — and not just with each other. They didn't so much attend UW-Madison as absorb it. As family and careers carried them from Madison to Chicago, Cincinnati, Salt Lake City, and, finally, to southern California, distance only resolved their feelings. Susan became active in Wisconsin Alumni Association activities, and the family made frequent trips back to the campus they loved. Usually, because they were season-deprived West Coasters, they tried to visit during fall.

Although Michael and Susan never forced their Badgerism upon their children, they secretly hoped one would eventually choose UW-Madison. Nathan, their youngest, always seemed the most likely. His hair was a dead giveaway — a thick tassel of fiery red. That alone, Michael reasoned, had to be a sign. Indeed, after graduating from Laguna Hills High School in 1999, Nathan enrolled at Wisconsin.

The Lynches had made similar trips with their older children, and they knew the bittersweet taste of letting go. But nothing had prepared them for this trip.

For parents, the journey that takes a child to college is both a beginning and an end, at the same time a culmination of years of support and togetherness, as well as the birth of new goals and visions. The Lynches had made similar trips with their older children, and they knew the bittersweet taste of letting go. But nothing had prepared them for this trip.

Before Nathan's diagnosis, he had been set to declare a major, and he was starting to define the horizons of his adult life — horizons that now included cancer. They knew the facts and the probabilities, but they also knew their son. For a twenty-year-old to be kept away from school in September wasn't ordinary, and, when fighting cancer, sometimes it is as important to be ordinary as extraordinary.

As Lake Mendota came into view, Nathan broke the reverie that had settled over the car. "I'm so glad to be back," he said softly. "This is where I want to be."

Michael and Susan said that they were happy, too. Being in Madison never felt like being away to them. It always felt like coming home.

It was no surprise to the Lynches that Nathan had a plan. Coming last among five high-achieving children, Nathan had seen life modeled again and again. His siblings were out ahead of him, mapping the terrain, and by the time Nathan came to an important passage, he had a good idea of what to expect. As a result, he rarely stepped blindly.

Once, applying for a scholarship, Nathan laid out his college plans: "I do plan to negotiate territory with my roommate, live off dorm food, cram for finals, go to the big games, neglect my laundry, and just have a full, fun-filled college experience." When he enrolled at UW-Madison, he did his best to live up to those expectations. During the two years he lived in the campus residence halls, Nathan emerged as the one who pounded on doors and got people out of their rooms. "He was the glue that held the hall together," a friend later said.

He had had the same sticking power within his family. Though close, the Lynch kids were a wildly diverse bunch, full of contrasting styles and attitudes. Nathan seemed to have inherited the best of each of them. Like his oldest brother, Todd, he was artistic and creative; like Chris, athletic and competitive; like sister Aimée, he was sentimental and thoughtful, never failing to remember birthdays and anniversaries; and like Blake, closest to him in age, he was willing to take up a cause.

"He was our common denominator," says Michael.

In 2000, Nathan's plans expanded to incorporate his brother Chris, who entered the UW business school to pursue an MBA in international business and marketing. Seven years older than Nathan, Chris had enrolled at UW-Madison as an undergrad before transferring to UCLA, and he saw buddying with his little brother as "an excuse to be an undergraduate again." Of his siblings, he was probably closest to Nathan, who shared his social aims and vigor for new adventures. They imagined that they'd have the time of their lives.

But from the beginning, things hadn't seemed right. Soon after the start of the school year, Nathan told Chris that he was taking a semester off from crew, a sport he'd fallen in love with as a freshman. As the year wore on, Nathan seemed to just wear out. "Every time I called him up, he seemed half-asleep," Chris says. "He was always just waking up, even in the middle of the afternoon. I didn't think too much about it then, but now it makes sense."

> "Nathan never gave up on anything. He was always talking about the future and making plans. I don't think there was ever a doubt in his mind that he'd make it back to Madison."

On March 1 of last year, as he studied for an exam, Chris received an urgent call from the UW Hospital. Nathan had been admitted. Chris was incredulous, asking, "Why? What's wrong?" He pressed the nurse for details. Finally, she relented. "The melanoma is back," she said.

It took Chris a few seconds to process the information. He had forgotten Nathan had had melanoma.

Some people call melanoma the *Tyrannosaurus rex* of cancers, but in truth, it's a more insidious beast. Melanoma, one of the cancers of the skin, is among the most common forms of the disease, and in certain circumstances, one of the most deadly. The National Cancer Institute projects that fifty thousand new cases of melanoma will be identified in the United States this year — a number that has more than doubled in the past twenty years — and seven thousand people will die because of it. It is estimated that a white male (for whom the risk of melanoma is highest) has a one-in-seventy-five chance of developing melanoma during his life. By that math, if you followed the male student population of UW-Madison through their lives, nearly three hundred would eventually wind up as melanoma patients.

In its most common form, melanoma is quite survivable, which some doctors worry allows people to underestimate its danger. If a cancerous tumor is detected in its earliest stages, before it can thicken beneath the surface of the skin, surgical removal of the tumor is almost always successful at eradicating the cancer. Melanoma returns in less than 5 percent of these cases.

In cases where the disease progresses unchecked, however, the odds are much less promising. "What separates melanoma from other skin cancers, and what makes it so concerning a disease, is its ability to get into the bloodstream," says Mark Albertini, the medical director of the UW Comprehensive Cancer Center's melanoma clinic, and the person who became responsible for Nathan's care. Albertini explains that blood vessels can become a superhighway for cancer cells, carrying them to distant organs and tissue. Once in the blood, melanoma might metastasize in the liver, brain, lungs, or lymph nodes, or it might float around for years before finding purchase. Doctors don't know why, when, or where it will strike.

Nor do they know specifically what causes melanoma to arise. Prolonged exposure to the sun has been definitively linked to rising rates of melanoma, but the disease affects far more than sunbathers. Nathan, for example, was no sun worshipper, his parents say. He was fair-skinned and freckled, and he knew to be careful.

Nathan's first melanoma came in high school. He had a mole surgically removed from his back, and it proved malignant. But the tumor had been thin, and doctors had no reason to believe his future health was at risk. In fact, there's nothing to suggest that the melanoma that returned to Nathan's body in 2001 was at all related to his first case. He appeared to be a victim of extraordinarily bad odds.

The news that March was grave. Nathan was diagnosed with Stage IV melanoma — one of its most severe progressions. Cancer had entered his bloodstream and metastasized in his liver and in the bones near his spine. Most patients with such severe progression, Albertini says, die within six months.

Even before his family could get to Madison, Albertini rushed Nathan into radiation therapy. Within a few days, he was fitted with a cumbersome brace, which covered his back and neck and protected his spine in case the tumors caused it to break. He would never again walk without assistance. Arriving at the hospital that day, Chris found his brother sitting in a chair, quietly weeping. It was one of the first times, and last times, that Chris saw his brother's tears.

Nathan's apartment at Hawthorne Court, near State Street, was no more than a fourteen-foot square block of brick and plaster, but to him, it was Shangri-la. He told his family exactly where to put everything — the bed near the window, the couch facing the bed, the television within easy sight. He hung a Swedish flag over his bed to honor his mother's heritage, and he put a poster for *Boys Don't Cry*, an old album by The Cure, on the opposite wall. It was only much later, as the Lynches cleaned the room, that Chris thought about it: *boys don't cry*. If Nathan intended the message, he never let on. He preferred to live his mottoes.

The decision to come back to Madison, in retrospect, was remarkably easy. "It wasn't whether we were going to do it — it was, 'This is what we are going to do,' " says Susan. "In his mind, he had planned all along to be there. It was on his agenda, and we wanted to be able to help him achieve the goals he had laid out for himself."

After a summer of chemotherapy, Nathan's health was stable, if not rosy.

For the moment, the tumors had stopped progressing, although neither were they shrinking. It was likely only a matter of time before they ultimately won over Nathan's defenses. But in Nathan's mind, it wasn't how much time, but what kind of time. From the moment he returned to California, he let everyone know he didn't intend to stay.

"Nathan never gave up on anything," says Gavriel Kullman, his best friend from high school and now a student at the University of California-Riverside. "He was always talking about the future and making plans. I don't think there was ever a doubt in his mind that he'd make it back to Madison." Chris adds that his brother wasn't thinking about a dramatic "last semester" or some other life-punctu ating quest. "He looked at it as, 'I have to be at school in September, because school starts in September,' " he says.

Nathan signed up for Introduction to Film, a course that he had been forced to drop when he began radiation treatments. Given his limited mobility — although he could still move his legs, he used a wheelchair — and the time commitments of his therapy, it was an ambitious choice. The course, the first in the communication arts department's film studies sequence, required attendance at lectures and discussions and a long list of mandatory reading and viewing. Nathan was undeterred, and his reasoning was simple: He wanted to study film, and he'd need the course to graduate.

To outsiders, Nathan's insistence on the routine might hint at denial, but his friends and family say it reflected his sense of balance in dealing with his disease. They point to repeated concessions Nathan made to his condition and say he pushed only when it was sensible to do so. He tempered his will with pragmatism, and tempered his pragmatism with hope.

"From day one, we had very open discussions about the seriousness of his condition," says Albertini. "He knew all the statistics. He knew that very few people could beat the odds, but he also hoped, as I think all of us would, that he would be one of them.

"He had the interest and the need to experience life to its fullest for as long as possible, and his family and friends were willing to give him the support he needed to do it," Albertini says.

After the buoyancy of his return, however, matters soon began to decline. His mother, a registered nurse who had moved into Nathan's apartment, noticed him growing weaker. A visit to Albertini on September 19 confirmed her fears. The cancer was progressing again, and appeared to be nearing a final course. In the days after a national tragedy, the Lynch family gathered to await a very personal one.

But it didn't come just then. As he had so many times before, Nathan rallied. He still had plans, and dying wasn't in them.

Nathan's life again took on the comfort of familiar rituals. He went back to class and set about the business of being a twenty-year-old. Because he was losing weight and strength, a new system for getting him into and out of his third-floor apartment emerged. When Chris brought Nathan home, he would call his mother and Allen Engel, Chris's best friend and business-school classmate. Chris and Allen would lift Nathan onto a small metal chair and carry him up the three long climbs, while Susan directed.

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To get Nathan out of his unwieldy wheelchair, Chris usually had to wrap his arms around his brother's back and draw him close to his chest. It was an awkward maneuver, but one that Chris came to appreciate. "We're tough brothers," Chris says. "For me, it was hard to give him a hug. He didn't want that. He didn't want sympathy or anything. So I kind of looked forward to carrying him up the stairs, because I could give him a hug."

On the morning of October 27 — Homecoming Day — Chris Lynch was bleary and sleep-deprived and still trying to kick off the mental residue of a late-night party. He was lying in bed when he heard a knock at his door. Had he been more alert, he might have panicked. The day before, Nathan had been pensive and punkish, almost as if he knew something significant was coming.

They say good news rarely visits in the morning, but on this day, it did. Chris staggered to the door and was surprised to find his mother waiting. "Your brother wants to go to the football game," she said.

Chris was stunned, but happily so. There had been a time when Nathan lived for Badger football Saturdays, completing the whole tailgate-to-house-party smorgasbord with practiced execution. But cancer had robbed him of his stamina and made it difficult to sit up for long periods of time. He hadn't been interested in going to a game in weeks.

Homecoming was a bright, chilly day that portends winter, the sort of day that makes one want to hold on to fall. Chris pulled on his Wisconsin sweatshirt and hurried to get Nathan. In his haste, he forgot to bring a camera. Halfway to the stadium, he wanted to go back and retrieve it, but Nathan said they were already late. "We'll get it next time," he said.

There wouldn't be a next time. Seven days later, on November 3, Nathan died peacefully in his apartment, surrounded by family. No one can say what he felt waking up on the morning of Homecoming, whether he sensed a last opportunity. Even during the following week, as he grew weaker, he still probed Albertini about new therapies, asking, "Isn't there something we haven't tried?" All anyone can say for sure is that Nathan had a plan.

Chris and Nathan stayed for the entire game, relishing the Fifth Quarter and its traditions. At one point, Nathan saw Bucky and waved. Bucky plodded over and gave him a high-five. Chris yearned for a camera to record the

moment. He spotted Engel, who ran fifty rows back to his seat to fetch a friend's camera. Although today Chris is grateful to have the image, he sees that day through the lens of his memory almost every night, before he falls asleep. He will never need a photograph to remind him.

Sometimes, cancer patients have a last rally, a period during which, for a final time, the body takes the upper hand. Homecoming was Nathan's rally. From the game, he and his brother made their way to the Delta Upsilon fraternity, where Nathan had pledged shortly before his illness. The brothers had turned out by the dozens at the hospital in March, elevating Nathan from pledge status to full brother — "not because we feel sorry for you, but because you've earned it," they told him. At night, the Lynches returned to Hawthorne Court for a Halloween party. Nathan dressed as Professor Xavier, the wheelchair-using scientist from the movie *X-Men*. He spent the evening as he spent his life, in the company of friends.

Chris doesn't recall thinking about endings that weekend. He was too busy being with his brother. "He just loved it here, and he didn't want to leave," he says. "I have so many good memories. Any memories are good, even if they're under trying circumstances.

"I look back at it now, and it was the best semester I ever had."

If academic stories begin in fall, they often end with examinations. Nathan's story is no different. On the Monday after Homecoming weekend, Nathan willed his ailing body to Vilas Hall for a ninety-minute written test for his Intro to Film class. It was a midterm, but, in another sense, a final exam.

Nathan had long ago impressed his fellow students and teachers with his dedication and commitment to his studies. Even with his health wavering, he had been doing well in the class, leading his discussion section in thoughtful dialogues, and often surpassing his instructors with his knowledge of specific movies and directors. Kelley Conway, the assistant professor who led the course, recalls him as "a real cinephile." He didn't keep going because he needed to. He went because he wanted to.

And so it was with the midterm. Tests didn't faze Nathan, and in fact, he rather enjoyed them. He prepared well and, usually, he had few regrets about how he had done. Susan Lynch remembers asking Nathan years before about an exam he'd taken that day. He looked at her almost incredulously, as if to say, *Mom!* "I did my best," he told her. "I always do my best, and that's all I can do." For all the times Nathan had been tested, he'd come away feeling he did what he could.

He was determined to make his last test no exception, but he found the going rough. Tumors had laid siege to much of Nathan's body, pressuring his spine, competing for space with his lungs, leaving him breathless and exhausted. His hands hurt from the effort of writing. He had a full tank of oxygen to help him breathe, but it didn't do much for the coughing. At one point during the exam, Nathan coughed repeatedly into a metal basin. He just couldn't stop. He motioned to his brother to take him out of the room, so that he wouldn't disturb the others.

Nathan's professor had seen him leave the lecture hall, and, when he didn't return after a few minutes, she went into the hallway to look. She found him fully supine in his reclining wheelchair, holding his distended abdomen. "Are you okay?" Conway asked.

"Yeah, I'm fine," Nathan responded, despite that he almost certainly was not. With resolve that surprised his brother, he told her, "I know exactly what I want to write. I think I just need a few more minutes."

Looking at Nathan, Conway realized that it was the first time they had spoken face-to-face. While the two had communicated several times by e-mail, Nathan had never made himself conspicuous. It's one of the sad truths of big classes: normal students blend in, and often escape Conway's desire to connect with each of them. All of Nathan's effort had been directed to being just that — a normal student.

Later that week, days before Nathan died, Conway and teaching assistant Tim Palmer visited his apartment. They saw a dozen friends and family arrayed in Nathan's tiny efficiency. Nathan, on his bed, appeared half-alert. He'd been given pain medication, which caused him to drift in and out of lucidity. But when he saw his teachers, he brightened. He started to speak, although his diminished lung capacity made it hard for him to articulate sentences. It seemed that he wanted to talk about the movie *Breathless*, a 1959 film that the class had recently watched. "He was troubled by the editing," Palmer recalls. It caught Conway and Palmer off guard, but also put them at ease. Even through the haze of sickness and medication, Nathan was still unmistakably, delightfully, Nathan.

After Nathan had turned in his midterm, Chris had pulled Palmer aside and asked a favor: "Can you grade it quickly?" Palmer had. Nathan got a B, above the class average. When Nathan heard about his grade, he seemed pleased, although Chris later told Palmer that he had wanted to do better. He probably would have, they both agreed, if he'd just had a little more time.

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