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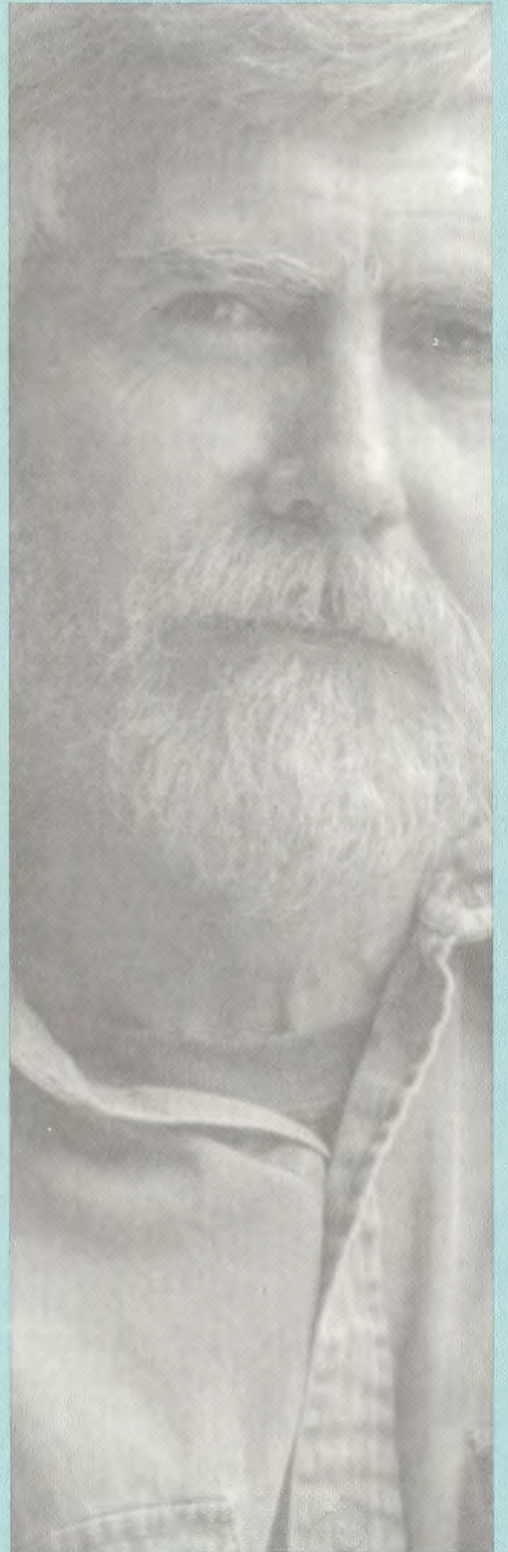
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UNIVERSITY OF NEW HAMPSHIRE

1996

Excellence



Teaching • Research • Public Service

Bringing out our best

SINCE ASSUMING THE PRESIDENCY in mid-July—and in previous visits during the search process—I've had the opportunity to meet a number of UNH faculty members. I continue to be impressed by their dedication to teaching, the breadth of their research interests, and their devotion to public service.

This publication serves as my more formal introduction to a group of faculty members chosen by their peers and students for special recognition. I'm certain readers of this publication will be as impressed as I am with the quality of these individuals.

Some award recipients can be found in the university's classrooms, while others travel off campus to pursue their research. One reaches for the stars through space science research, while another spends time looking down, hunting a species of spider.

Their diversification is our strength. The university encompasses a broad range of disciplines that seem unrelated, but, when taken together, they form a strong foundation of learning. And it is our faculty who work tirelessly to convey that learning to our students.

These award-winners are not the exception at UNH. For every award recipient, there are scores of other faculty members who effectively work and study and teach in our classrooms and labs. They all exemplify the university's long-standing tradition that what happens in the classroom and in the laboratory and in the field are inexorably tied together.

These men and women are why I chose to lead this institution into the next century.

Joan R. Leitzel
President



WHAT MAKES THE UNIVERSITY of New Hampshire a special place for our students is a faculty of active scholars who share their own learning with those they teach.

Students work directly with faculty on projects ranging from satellites to submarines, from presidential politics to play productions. We are a full-scale research university, where students can take advantage of a wide variety of programs at every academic level, but we also offer a campus with the 'feel' of the

traditional liberal arts college, where one-on-one collaboration across department and college lines is natural.

What makes this mix of research and learning and teaching possible is our faculty, of course. Through this publication, we recognize the special achievements of individual faculty members, allowing them to explain for themselves their work as teachers and scholars and researchers. I have said in the past this is my favorite UNH publication. The reason is simple: it readily conveys all that we strive for as an

institution—and provides ample evidence that we have achieved our goal.

At the beginning of each academic year, we distribute this publication to our students, faculty and staff on campus as well as select groups across the state.

We know of no better way to represent ourselves as a university than through the voices of our outstanding faculty.

Walter F. Eggers
Provost and Vice President for Academic Affairs

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Excellence in their careers

Reaching a career pinnacle means a continued commitment to students, departments, disciplines, and the institution.

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Excellence in research and public service

Along with teaching, research and public service are prized components of the university's three-part mission as a land-grant institution.

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Excellence in the classroom

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Smart food

Hot dogs, apple pie, and how much can I eat before 10 o'clock and not get fat? Ask Sam Smith.

BACK IN THE EARLY 1970S, THE Department of Animal and Nutritional Sciences faculty decided to add a course to give the department some relevance, some here-and-now, some oomph. They added a general education course on nutrition.

Sam Smith's "Animal Crackers" course, as it turned out, gave the department almost more oomph than it could handle. It even ran neck and neck in student popularity with the sex education class.

The first of several name changes came when people complained about the word "animal"—everyone knew animals were just too smelly—so it became "Animals, Food, and Man," later changing to the more authoritative-sounding "Food and Man."

The next step in its evolution coincided with the women's movement. "Food and People" seemed much more appropriate, everyone agreed, and today, students have simply dubbed the course "Foods 'n Dudes."

Smith laughs at all the changes. He can't figure them out and doesn't bother trying, since the course remains one of the most popular classes on campus.

"We see close to two thousand students over the course of a year," he says with pride. "It doubled every semester until the 1980s, when we had to limit it."

Why is the course so popular? Smith thinks students find it less intimidating than traditional science classes. And, he adds with a laugh, "they're interested in nutrition because they all eat. They're familiar with it."

The course has built its own reputation over the years, although Smith says students soon discover it's not a "gut" course. He and his graduate student teaching assistants will "do al-

most anything" to help students succeed. "We make a point of accommodating any special needs."

Smith wasn't even in a classroom when he first came to UNH thirty-five years ago. His first job back in 1961 was as a researcher in the university's poultry disease unit, and he continues, along with his wife, Betty, to actively pursue his research.

Their focus is heart disease and they use pigeons to detect early development of initial blockages in blood vessels. They study two lines of pigeons, one genetically resistant to disease and the other susceptible. Pigeons, Smith explains, are one of the few animal models providing a strictly clean source for genetic testing. Through his long years of research, he has worked with close to thirty generations of birds.

As his research flourished, so did Smith's teaching career. But it hasn't been without its lumps, he says with a laugh.

He still remembers the time that, in his exuberance of jumping from the stage to the floor to change overheads, he split his pants. His teaching assistant at the time—Patty Bedker, now associate dean of the College of Life Sciences and Agriculture—had to continue with the overheads so he could finish "hiding behind the podium."

He once even fell into the orchestra pit at the Paul Creative Arts Center giving a lecture—

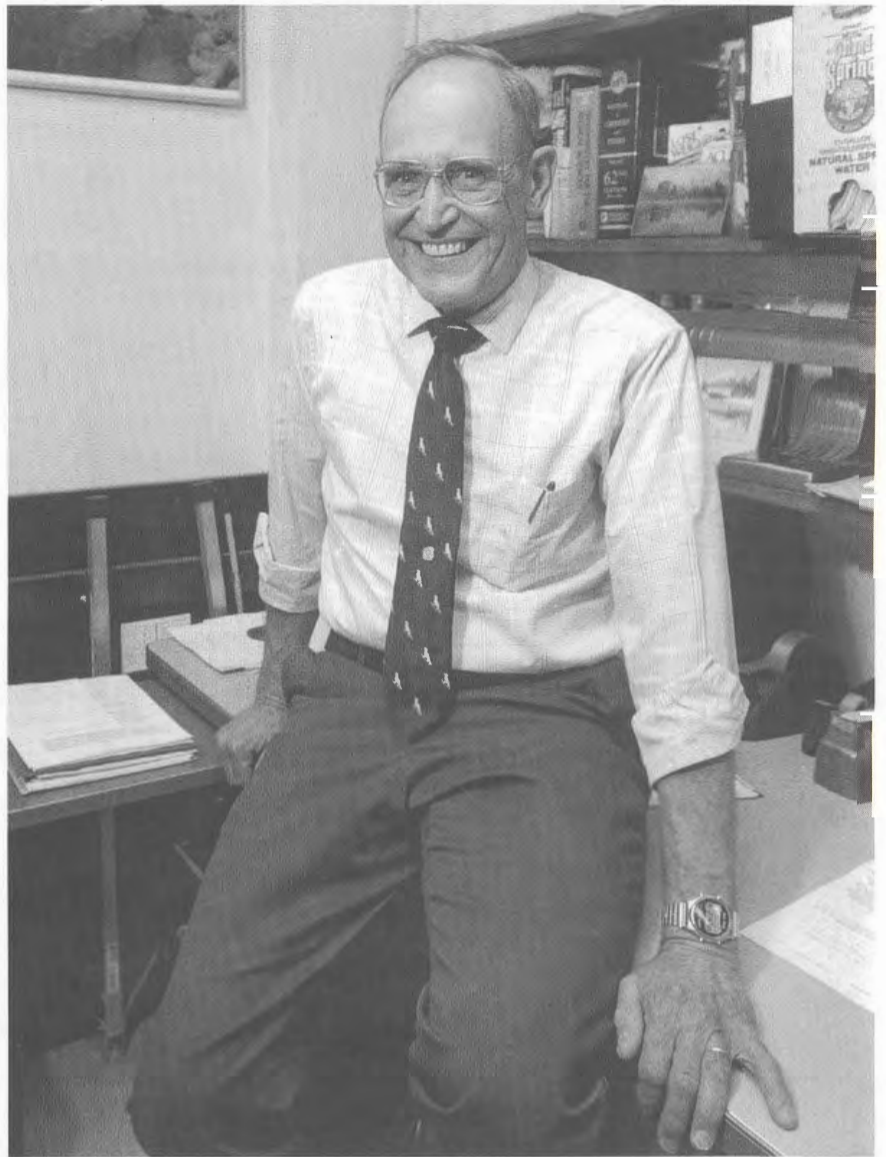
another example of Smith giving his all?

His students might well remember that pratfall, but there

are many more who remember Smith's simple tenets that have served him well over the years.

"You must treat students as the kind of people you expect them to become in ten to twenty years," he says. "Most of them will respond and rise to the challenge."

"You must treat students as the kind of people you expect them to become in ten to twenty years," he says. "Most of them will respond and rise to the challenge."



Samuel Smith

Distinguished Professor

"And you can't be afraid to admit something you don't know—but do your best to find out in a day or so."

Smith points out students' priorities are much different than they were twenty years ago. Their maturity level has "definitely changed," he notes, and their expectations are greatly different. "It's nothing to miss an exam because a student has to work," he says. "You never would have seen that ten, fifteen years ago."

The population has changed, he says, and with it, students'

expectations. "Students now see college as a purchasable commodity," he explains.

Still, it's rewarding when Smith is able to "bring them along," hone their interests in learning more, and send them to graduate school or the professional world. As he looks to the future, he remains optimistic. "It couldn't be better. I'm having too much fun."

Just ask the thousands of students who pass through his door each year.

— Holly Young

AT 9° NORTH, 500 MILES OFF THE west coast of Mexico, the earth is erupting. It is 1991. A mile and a half down on the ocean floor, tectonic plates shift and separate. Lava gushes into crevasses. Boiling water spews forth. Blizzards of bacteria billow in milky clouds 160 feet high. Black smokers—gnarled chimneys of minerals precipitated from the hot springs—rise in 30-foot spires.

In the pitch black of the ocean deep, where the pressure is nearly two tons per square inch, water doesn't boil until it reaches 730° F. But here, around the seething open vents, giant colonies of tubeworms thrive. Creatures fit for a science fiction film, their bright red bodies grow up to six-feet long, feeding on minerals and wafting from their white casings in a mass of creepy, surreal fingers.

There is no place on Earth Karen Von Damm would rather be than here, among the tubeworms and black smokers of the East Pacific Rise, part of the mid-ocean ridge that twists for 40,000 miles along the Earth's surface. The associate professor of earth sciences is a geochemist—and world expert on black smokers. She is in search of answers to what she calls "the big question": What controls the chemistry of sea water?

Von Damm has returned to 9° north five times since the 1991 eruption. Each time, she works with a national team of scientists, dropping to the ocean floor to gather samples in a titanium submersible named *Alvin*, built to withstand the pressure and the heat. These deep-sea explorations, which have attracted much attention, have been featured recently in *National Geographic* and on the PBS series "The New Explorers."

Widely respected in her field, Von Damm served as chief scientist on a 1995 ridge expedition, and she currently serves as chair of the national steering committee for the Ridge Inter-Disciplinary Global Experiments (RIDGE) program, founded in the early 1990s. The National Science Foundation initiative supports interdisciplinary research—collaboration among biologists, chemists, geophysicists, and geologists exploring how the Earth works and how new crust is created. Located at UNH for the next three years, the RIDGE program will bring \$1.5 million to the university.

No matter what Von Damm is doing—collaborating with colleagues at sea, orchestrating the RIDGE program, working in her lab—she is thinking about the ocean, gathering material and experiences to share with her students. "I want them to realize that science is not all dead and done," says Von Damm, who points out that until 1977, no one had any idea that hot water was gushing from the ocean floor.

The real-life experience Von Damm brings to her teaching changes forever the way some students feel about science. "This is the first time I have been excited about a science class," reads one student's evaluation of introductory oceanography, "and I owe it all to the instructor." Another student, in Von Damm's analytical geochemistry class, said it in a single word: "WOW! Karen knows about every analysis instrument ever created!"

Each time she returns from an expedition, Von Damm brings with her a new supply of water

samples for analysis. "This is my water library," she says, standing before a wall of samples, meticulously labeled and dated. "It's irreplaceable." Students learn to use the same methods and instruments Von Damm herself uses, and they learn to think like geochemists, asking questions about how water composition might affect biological communities or water circulation.

Along with water samples, Von Damm has brought back other specimens from her expeditions, including a chunk of a black smoker. Embedded in the stone are indentations, where tubeworms were once attached—before being roasted to death in a boiling eruption.

Von Damm also returns from each expedition with a Styrofoam cup. She has quite a collection

now of miniature cups, decorated and dated for each cruise she's been on—and shrunk to a fraction of their original size by incredible pressure as they rode outside *Alvin* to the ocean floor.

Von Damm's students see

these fragments of scientific research and adventure at sea; they hear true tales of science-in-action from

one of the best in the field. And in the lab, they experience some of the adventure themselves, as they work with water samples from thousands of miles away—from an address known only as 9° north, a mile and a half down in the world of black smokers and waving red tubeworms.

—Suki Casanave

No matter what Von Damm is doing, she is thinking about the ocean, gathering material and experiences to share with her students. "I want them to realize that science is not all dead and done."

Down under

Karen Von Damm surfaces from the depths to give her students a taste of undersea adventure.



Karen Von Damm
Outstanding Associate Professor

Making magic

It may be amazing, but Chuck Zercher's magic is just the science of chemistry.



Charles Zercher

Outstanding Assistant Professor

LAST FALL, CHUCK ZERCHER MADE his debut as an orange crayon. Fashioned from construction paper, complete with carefully lettered Crayola crayon logo and pointed orange hat, Zercher's creation was the perfect outfit for presiding over the Halloween Chemistry Magic Show, which drew more than 500 people from the local community.

"Return of the Bubble Man," "Vanishing Styrofoam," "Mysterious Magic Writing"—the audience was treated to a whole slew of tricks. And they learned a little science, too. The assistant professor himself wowed the audience with "Cryogenic Fire." A block of dry ice sliced in half, then reassembled with a bit of magnesium lodged in the center was all it took. Turn down the lights, strike a match to the magnesium, and—*voilà!* Fueled by oxygen from the CO₂, the magnesium glowed eerie and white, sending smoky billows curling through the room.

Long before he became known for working magic as "the orange crayon guy," Zercher had a repu-

tation with students. Just ask Vasillii Petrenko. The junior biophysics major was prepared for the worst. Organic chemistry, he'd been warned, would be the dullest, most aggravating science course he'd taken.

"What I got instead," says Petrenko, "was one of the most inspiring courses I've ever taken with the best professor I've ever had. We didn't just memorize. We learned processes and principles."

It may seem like magic to his students, but to Zercher this approach to the dreaded course is entirely logical. "Many think organic chemistry is just an accumulation of details, but it makes sense," he insists. Zercher himself didn't make this discovery until graduate school. Now, he shares it with undergraduates the first day of class. His syllabus begins with these words: "Organic chemistry is relentlessly cumulative."

This idea helps sustain students during their weeks as chemical detectives in Zercher's qualitative organic analysis lab.

Their mission: to identify a half dozen unknown compounds by running a series of tests, both old and new. "I tell them we're going to live in two worlds," says Zercher, "the world of empirical chemistry as performed in the 1920s and the world of newer spectroscopic techniques developed in recent years."

Their progress is remarkable. At the start of the semester, the identification process might take three or four weeks. "By the end of the semester, if I gave them an unknown at one o'clock in the afternoon, most students could figure it out by five. It's really exciting to see their development."

Zercher says his teaching has been inspired by his mother, a home economics teacher. He also inherited from her a recipe for coconut-pumpkin pie that won him first place in the chemistry

department's pie-baking contest. And, like Mom, he dishes out good advice, right along with his knowledge of scientific methods. One of his well-known maxims: "You can learn as much from something that didn't work, as from something that did work."

Having worked patiently for years in his own lab, Zercher speaks from experience. "I'm interested in discovering how to get from point A to point B," he says, describing the idea behind synthetic organic chemistry, which involves the study of methods for preparing, as well as for actually generating, organic (carbon-based) compounds."

His own research focuses on two compounds with names that sound like lock combinations, but which he reels off as if he were talking about two of his students. FR-900848 and U-106305 are polycyclopropanes—rings of three carbon molecules, linked end-to-end in a string of four or five. Remarkable for their structural motif, the compounds astounded Zercher when he first read about their isolation from bacteria in 1990. "No naturally occurring compound with this structure had ever been reported before," he says.

"Our challenge," says Zercher, whose work has drawn national attention, "is to develop strategies to prepare and control these structures, so that eventually the relationship between structure and biological activity can be elucidated." This effort to explain and understand

Zercher's teaching has been inspired by his mother, a home economics teacher. And, like Mom, he dishes out good advice, right along with his knowledge of scientific methods.

polycyclopropanes provides a basis for biological applications—including use by the agricultural industry as an antifungal

agent for the treatment of molds.

In the midst of pursuing his research, Zercher remains passionate about teaching. Indeed, the chance to devote himself to both activities is precisely what attracted him to UNH in the first place.

"I wanted to be part of that balance, that commitment to teaching and research," says Zercher. Plus, he gets to perform magic.

—Suki Casanave

ABOUT A HUNDRED PEOPLE LIVED in the small farming community of Minnieska, Minnesota, where Roger Arnoldy grew up. At night, without the lights of a town, it was very dark.

"You could easily see the Northern Lights," says Arnoldy. "I used to look at them and wonder. But I had no great plans to study them."

Now when Arnoldy looks up, he sees "a sandbox, our laboratory. Right within reach." This laboratory, according to Arnoldy, holds some of the answers to fundamental questions about how the universe works.

Arnoldy, director of UNH's Space Science Center for the past twenty years, has been described

as the original rocket scientist. But initially, his career path was haphazard. His father, a carpenter, encouraged him to pursue his education, so Arnoldy went to a nearby college. Since he was "good in math," he majored in physics. After graduating, he shuttled along to the University of Minnesota and entered the field of space science.

In the late 50s, the leaders in space science were the universities of Minnesota, Iowa, and Chicago. This was the "gee whiz" era, when the first rockets and satellites were launched, transmitting new, incredible data. When James A. Van Allen and his graduate student tried to determine if their Geiger counters,

recording satellite data, were saturated from cosmic radiation, they asked colleagues at a conference to consider the baffling data. Arnoldy was there. That discovery became known as the Van Allen radiation belts.

"Most great discoveries," notes Arnoldy, "are sort of accidental. They are not planned."

After a stint at an industrial research lab, where the CEO came out every month to ask, "What have you invented this month?", finding an understanding place to continue his research became Arnoldy's paramount concern.

With offers from larger universities, it was Jack Lockwood's and Bob Houston's offer from UNH that made sense to Arnoldy.

"I wanted to go to a small university with a rural setting. I liked what you could do at a big university and I saw that I could do that here."

His decision proved right. In 1967 the Arnoldy family moved to Durham, and since then, UNH has developed one of the strongest space research teams in the country, competing regularly with MIT and Berkeley. Arnoldy has participated in about thirty-five rocket and ten satellite launches, often traveling to remote corners of the Earth, in the far north and south, to study the aurora—the Northern and Southern Lights.

"Ninety-eight percent of the universe is space plasma," says Arnoldy. "All of the mass in the universe is in a plasma state. We are on a little cold speck of dirt here called Earth. For the most part, plasma physics is not a part of our lives—there's the aurora, lightning, and fluorescent light tubes. But if we are going to study the rest of the universe, we need to know plasma physics."

That means answering plasma physics equations, which Arnoldy describes simply as "awful." Progress on the equations can only be made with data and measurements. Obtaining that information is, according to Arnoldy, a job that rockets do very well.

A rocket launch is all a matter of timing. First, the rocket must be ready to launch for a specific two-week window of time, say, when it's really dark in northern Alaska. Ready means funded, built, and there.

Once the actual launch countdown is underway, timing becomes critical down to the second. Sounding rockets can reach the aurora, 70 miles up, in several minutes. The aurora itself is about 10 miles wide. A rocket traveling at .5 miles per second takes less than a minute to span an auroral display, which lasts about half an hour. In that short time period, data can be transmitted back at remarkably high rates.

But the weather can fail—clouds, lack of visibility, record-breaking cold. The rocket can blow up due to some mechanical failure, ruining the scientific payload. Arnoldy once called off a launch with just a few seconds to go, because the auroral display quit. It takes nerves of steel to be a rocket scientist.

One of the applied questions Arnoldy believes this kind of research might further is how to get energy from electrified gas.

"The physics of the aurora," says Arnoldy, "may find some of the answers to achieving that goal." And that discovery would ensure some warmth on this cold speck of dirt.

—Carrie Sherman

The original rocket scientist

Roger Arnoldy keeps track of his work one countdown at a time.



Roger Arnoldy

Excellence in Research

Building hope

Cynthia 'Mil' Duncan gives the poor what they need most—a voice.

MIL DUNCAN HAS INTERVIEWED people in fast-food restaurants and welfare agencies, in their cars, on their front porches. She has talked to single mothers on dark nights and to cotton sharecroppers midday in the South.

Duncan talks to people who are trapped by poverty—the generation before them was poor and they suspect that the generation that follows also will be poor. They've known nothing else.

Friends who work with her in the South say people talk to Duncan because they can see she is neither a "bleeding-heart liberal" nor someone who wants to believe that the poor are exactly where they belong.

"I give voices to people," Duncan explains, "who haven't even been asked the questions."

She may be the first person who has asked them to reflect on their lives, their poverty, the way they live. They respond, she says, "because they know I'm not there the next day. It's easier for them to talk about being poor, about alcohol abuse and physical abuse, about messing up, and having dreams of a house and a better life, pride in their kids, if they know that the next day I'm long gone."

But, Duncan adds, they believe that by telling their stories, maybe people will understand better, maybe more jobs will open up, maybe things will change for the better for once, maybe. . . .

Well, maybe they're right. Duncan, a sociologist, has focused her research on the rural poor, and people who work with them every day say her work has made a difference.

The difference in New Hampshire's North Country, for instance, was the creation in April of the Whole Village Family Resource Center in Plymouth. Duncan won't take credit for the center, but everyone there hands much of the credit to her.

Twelve social service agencies have been brought under one collaborative roof to better serve that area's poor, according to Director Barbara Newsom.

"Mil has held our hand through the whole process,"

Newsom says, "and it's a process that's ongoing as we evaluate what our people need. We couldn't do it without her."

Duncan's students also have an important role. For example, undergraduate Brigid Murray spent last summer with Duncan interviewing fifty people in the Plymouth area and compiled several reports on area demographics.

"I give voices to people," Duncan explains, "who haven't even been asked the questions."

"We had a ribbon-cutting yesterday," says Newsom, "and Brigid and Mil sent a bouquet of flowers." These people care on different levels. They care about the research and what the results mean, and they care about what we're trying to do about it.

"Mil's contribution is enormously valuable to us because she helps us learn how to support, and maintain the support for, the social structure of the area. She's not one of your typical do-gooders."

The last five years of Duncan's research—supported by

the Ford Foundation—tracks poverty in three remote communities: an Appalachian coal county, a Mississippi Delta plantation county, and a New England mill county. A book on her findings, tentatively titled *Trying to Make It: Social Mobility and Class Context in Rural Communities*,

is in the making, and she hopes it offers insight into how trusting and inclusive social relations

help build resilient, sustainable communities.

Persistent poverty in America's rural communities, Duncan explains, is often the result of the way social class, not strictly economics, can deny certain people equal access to well-paying jobs, quality education, and the community supports they need to succeed.

She talks to the middle class and the elite, as well as the poor. "This is really the edge that has enabled me to see how whole communities work and why poverty's persistence is related to

how you are treated and where you are in the community," Duncan explains. "Of course, it also is important in helping me see what the obstacles and opportunities are for change."

"Poverty challenges the premises that underlie our social arrangements—the American dream of opportunity and our faith in progress and economic development," says Duncan.

"Facing this challenge means exploring the social context of poverty where both individual and social responsibility intersect."

As dispassionate as she must be, Duncan says of course she is impacted by the lives of those she interviews. "Oh, there are times when I leave their homes and just ache. The people I talk with are not telling happy stories. They cry more than not."

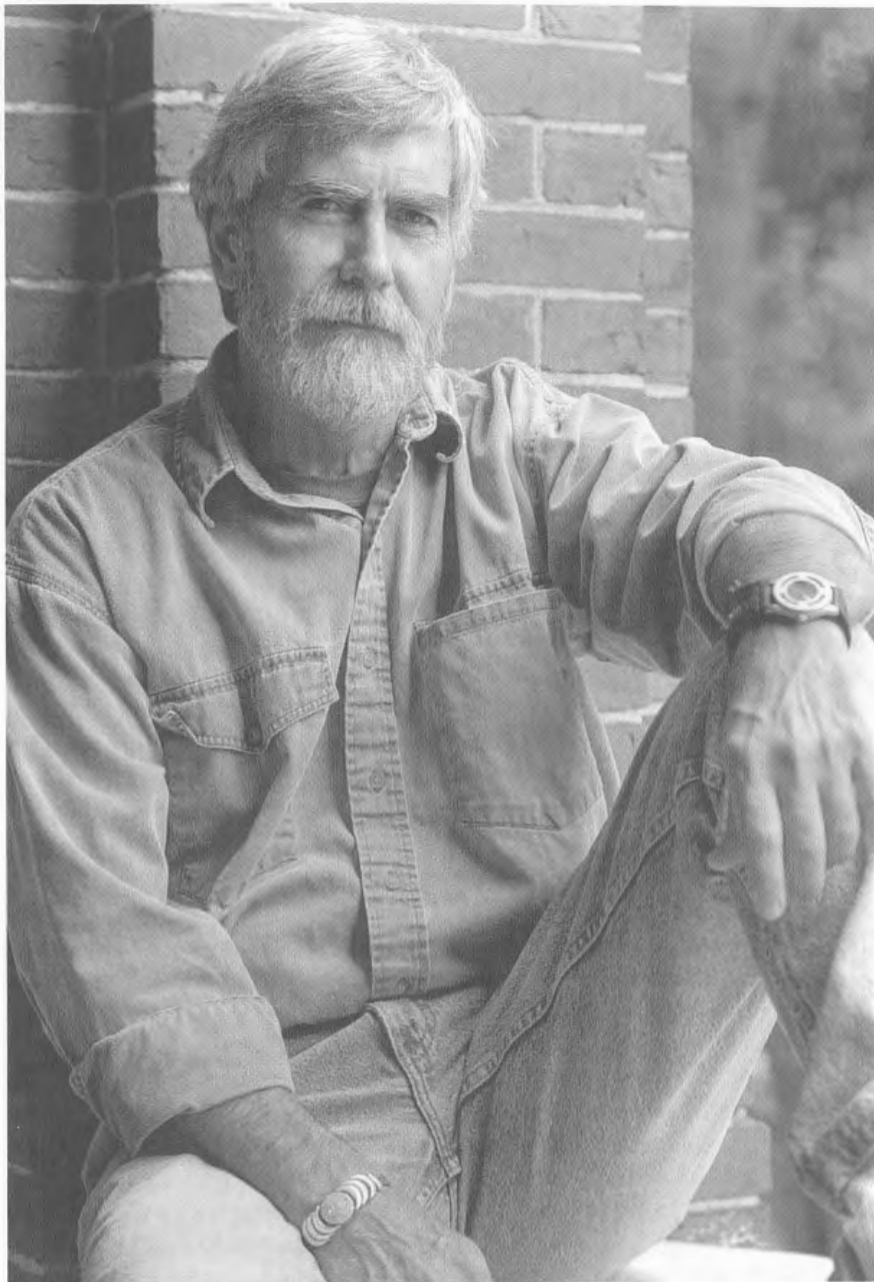
And, she says, she has given countless gift subscriptions to *National Geographic* magazine.

"I chose *National Geographic* because it opens up the whole world and helps break down the isolation trapping these kids in poverty," Duncan explains. "The photos make it approachable, maybe draw them in—and it might expand their images of what is possible."

—Kim Billings



Cynthia Duncan
Excellence in Public Service



David Hebert

Jean Brierly Award for Teaching Excellence

The quiet man

Despite his solitary ways, David Hebert doesn't hesitate to share himself with his students.

BEING A COUNSELING PSYCHOLOGIST is a double-edged sword when it comes to raising four daughters. Just ask David Hebert.

"It's always, 'Dad, I'm not your client,'" he says, with a gentle laugh. "It's one thing to teach it, it's another to live it."

Despite this amiable response on the perils of parenting, you get the feeling that Hebert works hard at practicing what he

preaches. He has been honing his craft for thirty years as a professor of education in the university's graduate program in counseling, where he teaches courses examining theories of personality, psychological disorders and adaptation, and advanced internship seminars.

His students and colleagues describe a quiet and private man whose impact in the classroom is unparalleled on campus.

"Dave often speaks of his hope to provide both 'peace and challenge' to those he teaches," says graduate student Christopher LaRose. "If the epitome of teaching excellence is a professor's ability to place rigorous demands on a student, while increasing that student's appreciation for his or her course of study, than Dr. Hebert has truly excelled in his profession.

"I would like to assure him that he has been able to balance this challenge with the peace that he hopes to offer," LaRose continues. "Every so often, you encounter an individual who seems to possess a wisdom, a certain understanding of the life process, that is infectious. Dave Hebert is such an individual. If you're not careful, you just might emerge from one of his courses with a desire to live and practice more purposefully."

Hebert remembers the day he arrived in Durham, thinking to himself that this would be a good place to establish roots and raise a family. UNH, he adds, provided an academic environment where he found the freedom to develop as a teacher.

Hebert says he's put a lot of work into his craft since that day he arrived in Durham, a new copy of *Teaching Tips* at the top of his book pile.

Pondering the subtle influences that moved him toward academe, he recalls his first teaching experience as a graduate assistant, when he caught a new glimpse of himself and thought, "I might just be good at this."

"Maybe teachers are born, but it helps to pay attention to the task," he says. "The good teachers you remember aren't necessarily the ones who made things easy. They made you work hard, they were fair, and they brought you to a point where you never thought you'd go."

Janet Falvey, associate professor of education, has known Hebert for eighteen years, first as his student and then as his colleague. Her own teaching, she says, was enhanced by his early influence on her career.

"One of the most cherished memories that many of us share is of that special teacher who made a profound difference in our lives—who focused our interests, expressed confidence in our dreams, acknowledged our excellence, and pushed us beyond our personally construed limits of wisdom," wrote Falvey, in nominating Hebert for the Brierly Award. "These people are mentors who draw out the very best that we have to offer and unlock the potential of those with whom they come in contact. We cannot hope to repay them personally, but can strive to pass on their special gifts."

Perhaps Hebert is successful in helping his students discover their abilities because it's something he relishes doing in his own life.

Outside the classroom, he is an avid hiker and sea kayaker, and has run the Boston Marathon five times. He says he enjoys being outdoors and the challenge of pushing himself to a new level.

With that need to challenge, however, comes that search for peace.

He's become increasingly interested in the Eastern philosophies, and stills his mind each year with ten days of silent meditation at a retreat center in Shelburne Falls, Mass. He says the solitude part is relatively easy, but extended periods of meditation can be physically demanding for a usually active man.

It's an energizing experience, nonetheless, he says.

"You get to take the time to peek at different parts of yourself. Like the physical side of athletics, it's the solitary nature of it that I enjoy. It's all part of getting

comfortable with who you are. Nobody can do that for you."

He's one of those fathers, you can bet, who encourages his daughters to reach their potential but makes them look for the answers within themselves.

—Sharon Keeler

Curtain call

On the verge of retirement, Gil Davenport finds his students have been an appreciative audience.

AS A KID IN A SMALL MIDWESTERN town, Gil Davenport liked to blow his 25-cent weekly allowance on the Saturday afternoon matinee. He and his friends would later spend hours in vacant lots role-playing the colorful characters from the show of the week.

He moved from vacant lots to the stage in his first year of high school, when a new teacher, Wallace Smith, introduced a drama program that began with old-fashioned melodramas and evolved into performances of Broadway cast-offs and Greek tragedies. Davenport went on to

advanced study in theatre and five years of summer stock, performing both on stage and behind the scenes as a crew member and set designer.

"It was a natural progression from playing in the yard to doing something on stage," he explains. "When I found out you could make a living at it, that kind of clinched the deal."

But while he had the talent to succeed in Hollywood or New York, this quiet, patient man from the Midwest possessed a temperament better suited to teaching. He wanted to work behind the scenes—like his mentor,

Wallace Smith—setting the stage for theatre students. And so Davenport, known to students and colleagues as "Dav," gravitated to the University of New Hampshire, where for the last thirty-four years he has thrived in a theatre department devoted to turning out "generalists," students who, like himself, can act, direct a production, sew costumes, or paint scenery.

Dav's classroom is the workshop and the theatre; he has worked alongside his students building sets and creating characters for hundreds of student-run productions, from huge musicals like *Brigadoon* to the intimate and avant garde *Gertrude Stein*. In the process, says theatre student Adam Michaud, students come to believe in their own abilities.

"He doesn't lead from the front—he leads from the side. He lets you do it yourself and then he helps you to see how you can do it better."

After rehearsals, Dav pastes tiny cartoons around the theatre depicting students engaged in every imaginable blunder. "If the tech students left the lights on, there'd be a drawing of people cringing under what looked like the flood lights at LaGuardia," recalls former student Fred Testor. "They were hysterical, but you always recognized yourself and got the point."

"I don't try to force-feed them as much material as I once did," says Dav in describing his teaching style. "I don't badger them; I let them find their own way. They need to know they can fail occasionally, that it's all right."

"I try to instill a sense of joy in the work, and want them to feel proud of accomplishing something they're in charge of."

Dav's greatest gift, colleagues and former students say, is his vision, his ability to transform a

script into striking visual images. He once designed massive, elaborate scenes for the production of *Dames at Sea* on a budget of less than \$500. "They looked fabulous, as rich as you'd find anywhere," says theatre department chair Carol Lucha-Burns. "No one could ever tell it was all cardboard."

Beneath the beauty of Dav's designs, Lucha-Burns contends, lies a strong commitment to the truth of the work.

It's an important principle—telling the truth through art—and one that assumes a vast

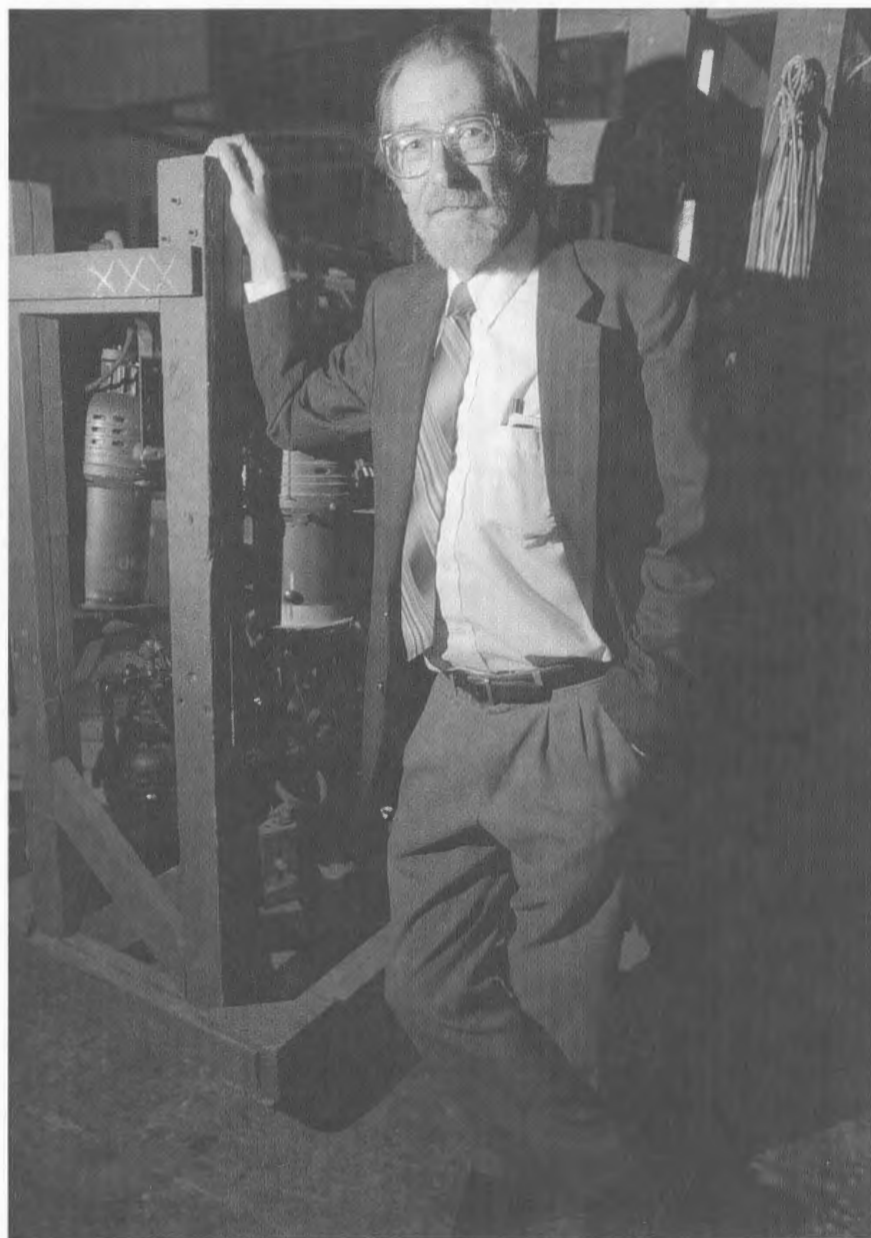
body of knowledge and relentless attention to detail. Dav believes the theatrical interpretation of a literary work should never violate the author's intent. He once spent a week and a half repainting all the stage platforms for *The Merchant of Venice* because he felt the colors were "just not right" for the period.

At Dav's retirement brunch in Hennessey Theatre in June, theatre alumni reflected on a teacher whose lessons somehow still seem to filter through their lives. Laurie Rankin, now an author and illustrator of children's books, recalled one of Dav's design classes in which she saw her artistic talents emerging for the first time. High school drama teacher Robin Albert remembered Dav appointing her assistant director of a production before she realized she could handle the job. And educator Stephen Gianotti expressed his belief that his ability to communicate with CEOs and congressmen can be traced back to his days in the theatre department.

Dav, who says he gave up acting years ago, downplayed his part in anyone's life story. Instead he toasted the students and colleagues who've inspired him and allowed him to do exactly what he has wanted to do since he was twelve years old.

"I used to be shy," he admitted to his friends with a smirk. "But now I'm shy and retiring."

—Kimberly Swick Slover



Gilbert Davenport
Teaching Excellence, College of Liberal Arts

IN PEG SPEARS'S LAST CLASS BEFORE she retires, 606, Seminar on Professional Nursing, Melinda Carey presents her paper, "Caring for the Dying Patient and Their Families." She recounts research, stories from her own family and from her working experience. On her ward, Carey is often the one who works with dying patients, because, "no one else wants to deal with it." Yet, she says, she's found this kind of nursing very rewarding. In her paper, she cites a letter she wrote to a family member and one she received. She reads the letters and when she chokes up, a classmate matter-of-factly takes over and finishes for her. Carey plans to make her paper available to the nurses on her ward.

Peg Spears became fascinated by nursing at the age of eight after having appendicitis. Her father wanted her to be a teacher, which, unlike nursing at that time, was considered good, clean, reputable work.

Everyone is silent. To varying degrees, this class of registered nurses knows about long polished hospital corridors, the doors slightly ajar, the anxious family member sitting by a bedside, the medication that needs to be increased, and what it feels like to answer difficult questions that only have difficult answers. The work is not just about medicine, it's about caring.

"Yes," says Spears quietly, "that's what nursing is all about."

Several students congratulate Carey on her work and offer a few suggestions to fine-tune her presentation of ward materials.

The next paper is "The Historical and Social Significance in Determining the Political Activity of Nurses."

It prompts recollection of early learning experiences and struggles with hospital hierarchies. A nurse in her twenties recalls, "I thought I had a GI going acute on me and had to find someone to give medication approval at 2 A.M., fast, even though it was really a straightforward prescription."

Spears listens closely, then simply says, "Let's focus. What can we learn from that?" In response to another story, she reminds them, "Remember how in leadership and nursing we talked about influencing from a

subordinate role? How might that work here?"

Passing back papers, she exclaims, "I'm going to blow the registrar's mind. These were all good papers, so don't be distressed by all the comments."

Spears's classes are a kind of covenant. Each student is on the phone list and when Spears advises students, she often says, "Why don't you call this student? She just took that test." Or, "Call her. She just did her preceptorship in Taiwan and had a great time."

Collegiality is part of their education.

Peg Spears became fascinated by nursing at the age of eight after having appendicitis. Her father wanted her to be a teacher, which, unlike nursing at that

time, was considered good, clean, reputable work. After some negotiating, Spears went to college and got her baccalaureate degree in nursing. She married, had two children, and moved around the country, following her husband's career while continuing to work and teach on a part-time basis.

When her son came to look at UNH, Spears applied for a teaching position. Pragmatic as always, and in anticipation of the "empty nest," Spears was ready to work full time. Soon she was on a tenure track and had earned her Ed.D.

"My dad was so proud. You would've thought it was his idea," says Spears.

In 1988 she became director of the RN Baccalaureate Program and immediately began to standardize testing procedures, making it easier for RN students with two- and three-year degrees to further their educations. People began to graduate from the program in ever-increasing numbers.

As a teacher, Spears's career was enriched by her family life. In an essay tackling the subject of teaching and mothering, Spears wrote: "Just as I hope I have taught my children, as well as mother them; I believe I mother my students, as well as teach them. But by mothering I don't mean the ridiculous cartoon stereotype of trying to run another person's life . . . I mean the harder parts of parenting—the caring without controlling; taking the time to understand their perspective; and, most important, encouraging them to be independent, critical thinkers."

Part of Spears's retirement plan is to work as a nurse on a per diem basis.

"I will miss teaching, and I will miss the students, but you know," says Spears emphatically, "I've missed the patients."

—Carrie Sherman

Nursing a career

Her father thought nursing was a less-than-reputable career. Peg Spears proved him wrong.



Peg Spears, left, with Regina Higgins.

Margaret Spears

Teaching Excellence, School of Health and Human Services

Seeing is believing

John Sparrow gives his students an eyeful.



John Sparrow

Teaching Excellence, University of New Hampshire at Manchester

JOHNSPARROW OFTEN DEMONSTRATES the theory of classical conditioning by enlisting a student to play Pavlov's dog.

There's no drooling at the sound of a bell required in this case—the student is subjected to puffs of air in his eyes, causing him to blink. Accompanying the puffs is the tapping of a pencil on a tabletop. One puff and tap . . . puff, tap . . . puff, tap. After a few moments, the puffs of air stop, but the student continues to blink merely at the sound of the tapping pencil.

The demonstration is just another way Sparrow connects his teaching and research. And all that eye-blinking is especially appropriate, since his research examines what we see and why we see what we do.

"It's hard for me to separate my teaching from my research," he admits. "My students are active participants in my research program, and with a little guidance from me, the whole group

benefits. It's a give-and-take process, and it seems to work pretty well."

Sparrow, winner of teaching honors, certainly looks the part of the researcher, with his unabashed interest in gadgetry and his professed enthusiasm for statistics. He's clearly a person who has devoted his professional life to asking questions.

His lab is a small basement room in UNH-Manchester's converted mill building. The mix of computer screens, hard drives, and keyboards is the result of nonstop grant writing. Dominating the room is a decades-old dentist chair—from the days when "open wide" was usually followed by "this is going to hurt." Sparrow bought it for \$500 from a dental supply warehouse.

His research field is sensation and perception. Specifically, he examines how humans see, and currently, along with Durham faculty member Bill Stine, is de-

termining how we derive structural information from moving stimuli. For example, a static, three-dimensional outline of an apparent cube drawn on a computer screen might not be a cube at all, once the outline rotates.

The object is to learn how the human visual system works. Why do we see what we do? Or, under what circumstances do we misinterpret the incoming information? "This is pure research," explains Sparrow. "We're looking for answers to the puzzle."

Looking for those answers with Sparrow are his students. Sitting back to back in the lab, they work in teams of two. One student serves as the experimenter, the other as the subject. The latter sits comfortably (de-

pending on those childhood memories) in the dentist chair, which can be raised or lowered according to the height of its occupant. The subject views a series of objects and patterns on a computer screen, then reacts via the keyboard to what he or she sees.

It's not fun and games, despite the strobing computer screen and rather odd seating arrangements. Sparrow's research has been the subject of papers, addresses, and conference presentations, and his computer skills would be the envy of any technowizard. This is psychology far removed from the analyst's couch—it is experimental psych, the field that may tell us more about ourselves and how we function than dream analysis or regression therapy ever could.

In the classroom, rubbing and tugging on his beard, Sparrow's approach is as methodical as in the lab. During a recent class focusing on the topic of problem solving, Sparrow has no problem getting his points across. Each idea is outlined on the board and underlined for further emphasis. When he reaches a particularly important point, he repeats his statement twice, sometimes three times, s-l-o-w-l-y, so students can be assured they accurately record the information.

"I remember what it was like," he says with a smile, "when you'd stop and say, 'Now, what did he say? . . .'"

Sparrow describes his teaching style this way: "My class atmosphere is relaxed, but intense." His style is in fact based on a composite of favorite professors. There are video clips, slides, and

the use of an overhead projector "ad nauseam," he says.

And, of course, there are demonstrations like the one showing

students what classical conditioning can do.

Blinking and tapping, students quickly learn that with John Sparrow, what they see is what they get—puff, tap, puff, tap.

—Carmelle Druchniak

ED TILLINGHAST'S HAPPIEST MOMENTS have been spent in the Georgia swamps collecting spiders with his wife, Margaret. Each summer they collect dozens of the inch-long, black and orange Argiope, a type of garden spider, which Tillinghast rears in small glass boxes in his lab.

There, they produce delicate "orb" webs, silken threads radiating from the center like spokes from a wheel hub. Other sticky threads weave in a spiral around the spokes to create a geometric, circular net.

Tillinghast has spent his career trying to understand the complexity of spider silk, what makes it adhesive and what makes it strong. Unlike the silkworm, which makes only one type, a spider can make half a dozen silks with different properties. Some may be for building webs and others for wrapping prey. Such natural products are superior to anything humans have created—weight for weight, the silk is stronger than steel wire, and completely recyclable.

"We're just beginning to scratch the surface, and for every answer we come up with, there's another question," Tillinghast says. "But each little step helps us understand something about the nature of life—how everything is so 'made-to-be-where-it-is,' and how the chemistry of living organisms works in the environment."

Beyond the practical applications of such research, he says, it's simply part of the major human drive to understand what's going on and to develop a coherent view of the universe.

"The great thing about being a biologist is that you have an organism you will never, in your lifetime, fully understand," he continues. "It's like a diamond. You keep seeing different facets. When you first looked, you only saw one facet, one thing. Then, as you work with it over the years, other facets appear and it gains a glitter it didn't have in the beginning."

Tillinghast tells the story of a New England farmer who, around the turn of the century, wrote a paper on raindrops. He would observe them after they hit a pan of kitchen flour, which preserved their form and shape.

"I admire that sort of thing, because interest is one of the sincerest forms of human expression," he says. "A person may study to get an 'A,' but that is

not necessarily out of interest. That person may be afraid of failing or interested in getting 'A's.' But when a person spends hours trying to answer a scientific question just out of interest, that is a noble quality."

Tillinghast has been facilitating this interest in his students for nearly thirty years as a professor of zoology. It's a challenge, considering how rapidly the field is advancing.

"Has it changed?" he repeats the question, with a laugh. "To teach today, you have to be constantly reading and revising curricula. My teachers had similar books and had that knowledge in common. Today, there is more specialization."

Although he admits it can be a bother finding time to keep up with all the new information, Tillinghast says discovering new ideas and ways of looking at things keeps life exciting.

"You know, I've lived long enough to see answers coming to

questions I never thought would be answered," he says. "One wishes one could live forever to see where it is all going."

While it's hard to imagine Tillinghast as anything but a scientist because of his enthusiasm for discovery, he doesn't believe it was his "destiny" to become a zoologist. He

talks just as passionately about the arts, their ability to touch us emotionally, and his hobby as an

oil painter and sculptor. He talks about the humanities, and the need for today's students to have a greater base of common knowledge in history, literature, and music.

It was the impact of one teacher, however, that influenced who he refers to as "a boy with no direction."

"I was fortunate to have the most superb teachers," Tillinghast says. "I've never used a note in my teaching because I had a teacher, Dr. Hartung, who never did. He focused on telling the story. He was the most marvelous professor, and it was through his example that I became a teacher and scientist."

"I don't think I've ever had that kind of impact on a student," he says, thoughtfully. "Thirty, forty years

from now, if someone said that about me, that would be the honor of my life. That's when I would know I had left an enduring mark."

—Sharon Keeler

"I've lived long enough to see answers coming to questions I never thought would be answered," he says. "One wishes one could live forever to see where it is all going."

Spinning webs

An interest in spiders shows Ed Tillinghast that every answer leads to another question.



Ed Tillinghast and wife Margaret.

Edward Tillinghast

Teaching Excellence, College of Life Sciences and Agriculture

Manager, teacher, guru, guide

Learning from managers around the world, Rita Weathersby imparts global know-how.



Rita Weathersby

*Teaching Excellence,
Whittemore School of Business and Economics*

THE EXECUTIVE M.B.A. LEADERSHIP class is underway. Brooks McQuade leads a discussion of case studies in *The Female Advantage*, today's assigned reading.

The class considers the example of an extroverted, politically active entrepreneur. "I'd say this woman is a leader," says McQuade. "She's getting things done. Productivity is high. Morale is high. They're creating collaborative teams, and their clients are happy."

"But her style is too personal," one woman interjects. "She likes to hug employees, clients, business contacts, everyone."

"What's wrong with that?" asks McQuade.

"I'm not going to do it," the woman responds.

McQuade shakes his head. "I work in a family business and we have a group hug at the end of our meetings. At first we thought it was bizarre, but now we all just hug away—even my father, who is not usually a physical person. And people do feel better about working there. I'm not saying hugging is a cure-all; but if it works, why knock it?"

Can a woman who hugs her customers be a role model as a leader? The men say yes. The women are appalled. Rita Weathersby simply smiles at the scene. Her class is enacting what Weathersby finds most rewarding: turning personal and cultural assumptions on their heads. As an associate professor of organizational behavior, she routinely asks students to identify and challenge assumptions about

themselves, others, and effectiveness in organizational settings.

To hug or not to hug may not sound like the typical business school discussion, but it's one example of the internal conflict Weathersby uses to help students break the boundaries of their own self-limiting assumptions. Only then can they replace limited everyday thinking with the kind of transformative thinking needed in today's organizations. "Almost everything I teach," she says, "requires an unlearning process. After that, greater complexity can emerge."

She herself has undergone frequent "unlearning" experiences. In 1985 Weathersby took advantage of a Marion and Jasper Whiting Foundation Fellowship to research cross-cultural management strategies in six Asia Pacific countries. For four months she interviewed American and national managers in these countries. "I gained a whole world of knowledge. It ranged from recognizing what is 'American' in my behavior to understanding issues of cultural importance, such as leadership and rewards, from multiple perspectives."

Her tour of Asia was followed three years later by an eight-month teaching stint at a postgraduate institution in Sri Lanka—an

assignment that challenged even Weathersby's by-then broad view. She found that Sri Lankan managers responded

positively to an American model of manager as developer (of people and the organization), but for different reasons than American middle managers. "Part of that difference," she says, "can be attributed to the Sri Lankan culture, which easily views the manager as a teacher, as a mentor, as a guru."

To hug or not to hug may not sound like the typical business school discussion, but it's one example of the internal conflict Weathersby uses to help students break the boundaries of their own self-limiting assumptions.

When she returned from her fellowship, Weathersby created the Whittemore School of Business and Economics' first undergraduate course in her field. For graduate students she has initiated courses with study trips to Quebec and Maastricht, the Netherlands. These international management classes, along with Weathersby's other classes in leadership and organizational behavior, are immensely popular.

If you sit in on one of Weathersby's classes, you'll immediately see why. "Rita's teaching style is very participatory," says McQuade. "She inspires people to be prepared for class, and the work requires a lot of introspection, which promotes personal growth."

Weathersby organizes all her classes into complementary groups. In her undergraduate organizational behavior class, students must study an organization and prepare both written and oral reports. The students manage the group's tasks while studying group effectiveness. Weathersby coaches and consults.

As the Executive M.B.A. students continue to debate the merits of one woman's managerial style versus the others and their own, Weathersby deftly highlights the culturally relevant nature of authority.

"A black woman running a community radio station in Baltimore, a Sri Lankan running a manufacturing firm," she says. "You might judge their styles as autocratic, but you must recognize

the way their employees and colleagues view their actions. Context influences your behavior as a leader."

The class ponders her

point. When her students turn to her for answers, Weathersby finds them by sharing her experience and affirming theirs. She glides easily from the role of teacher to that of guide and, sometimes, guru.

—Susan Warner Smith

SURE WE WOULD. A LOT OF HEADS nod vigorously when John Wilson asks his class whether they'd like to get rid of the Seabrook nuclear plant and replace it with wind power.

"Okay, then," he says. "How many windmills will you need to turn on the same number of lights?"

Give the windmills blades fifty feet in diameter, he tells them. Windmills have a theoretical ideal efficiency of fifty-nine percent, he adds, "so assume the real ones to be seventy-five percent of that." Set them seventy-five feet apart, one beside the other. Guarantee a wind that blows a constant fifteen miles an hour.

"Ten windmills?" he asks. "A hundred? A thousand?"

When he tells them it would take forty thousand—a Great Wall of windmills stretching from Durham to near Washington, D.C.—their reaction shows the power of reasoned science applied to nice, abstract ideas.

"I tend to be a pretty practical sort of person," Wilson says. "I'm interested in engineering because of its ability to solve realistic problems. And students tend to relate to that more than theory for its own sake. Engineering is not an abstract science."

So he gives them real problems.

Say your job is to design the lunar module. What kind of propellant pressurization system would you need to blast off from the moon's surface?

How large an ice-making system would you need to keep an olympic-sized hockey rink frozen?

Would it be cost-efficient to use stifling air from your attic in summer to heat your bath water?

"I frequently start a class with a problem," Wilson says, "and the initial apparent difficulty of it sometimes blows their minds. But they come up with reasonable solutions and, in the end, it gives them confidence. To some extent, education is accomplished through interesting problems. Students eventually realize they have the ability to do things

they didn't believe they could."

Wilson himself has always liked taking things apart to see how they work. "Fishing reels, toasters, alarm clocks. As a kid, I was always intrigued with machines. And now, I tell my students when they go home for the summer to find something to

take apart—a lawn mower, maybe, that doesn't work. You can learn a lot by getting your hands dirty."

His own favorite machine to work on has always been a boat. Since the summers of his youth on Cape Cod, Wilson has been around water—fishing, swimming, sailing. "I'd always had friends who had boats, but the only way I could get one was to build it. So I did."

The first was a sixteen-foot flat-bottomed skiff. Next came a twenty footer. With the last one,

he started with a thirty-one foot bare fiberglass hull and, working alone, installed the plumbing, electrical system, engine, and rigging, ending up with a yawl rigged cruising sailboat.

Wilson has been at UNH since 1960. What's kept him here? His colleagues, for one thing. The location, for another. There's also the intellectual freedom of the academy.

"I'm the kind of person who doesn't like a lot of regimentation," he says. "I like to pursue my own ideas and look at problems of my own choosing rather than some company's choosing."

And there's the satisfaction of working with young engineers.

"You try to get them thinking about a problem," he says, "and they begin to see there are really only a small number of basic concepts. There's a form and structure to engineering. It's not just unrelated theories. They also learn I don't bite, that I'll explore ideas with them, expand their thinking.

"But it's important to let each student know you consider them as individuals first. Then the subject matter is accepted more readily. The key is having them realize you're personally interested in their development."

He points to a snapshot tacked up on a wall in his office. Four smiling students are arranged around the kind of squat, gleaming device you might see in a Star Wars movie.

"It's a solar collector tracking device," Wilson explains. "You can set it down anywhere in the world, facing in any direction, and it will quickly find the sun and track it as it moves across the sky."

"That was a great group of students," he adds, in a tone that says more about the people themselves than about the work they did. "It was a really great team."

—Louis Mazzari

The power of real problems

John Wilson takes his classes beyond abstract theory to the real world of real problems.



John Wilson

Teaching Excellence, College of Engineering and Physical Sciences

Lighting fires

A self-professed pyromaniac, William Scott fires his students' love of learning.



William Scott

Teaching Excellence, Thompson School of Applied Science

SITTING IN HIS OFFICE, AMONG HIS collection of antiques, William Scott declares he is "obsolete."

He has no computer, he readily admits, swinging around quickly to look at his desk, as if to double-check that it hasn't sprouted a Mac while he wasn't looking.

"I don't like computers. I don't have to use them," he explains. But I tell my students, "That's okay for me—I'm obsolete. It's not okay for you. Don't do as I do in this case."

His Thompson School students heed his advice, honing their computer skills elsewhere, but in every other area, they couldn't have a better role model. As professor of applied business management, Scott's classroom approach has earned him this year's teaching award from Thompson School students, but that may be because, computer skills aside, he identifies so closely with them.

Interested in practice more than theory, Scott "was very

much a student like my students," Scott says with a smile. "I was last in my class in high school and third in my class at Drexel University. I tell my students, 'I don't care what you did in high school. I'm going to help you succeed.'"

The Thompson School of Applied Science offers the hands-on or "applied" approach in areas ranging from food service to animal science to business management. "Our students hook up with people who are doing what they're learning about," Scott explains. "We tell them, 'Here's what the book says you should do, there's what the salesman does—what should you do?'"

Since coming to UNH in 1970 after a sales career, his goal has been motivation, or, as he puts it, lighting fires.

"When people ask me what I do for work, I tell them I'm a pyromaniac. My job is to light fires. If you're excited about learning, you'll learn."

He uses a rather offbeat acronym—G.R.A.P.E.S.—to get his

message across. It stands for "Growth, Recognition, Achievement, Participation, Execute, Several." He believes in drumming the concepts into students' heads as often as possible.

When he first began teaching, he was at a loss as how to capture students' imaginations.

"For the first two years, I lectured. The students were bored, and I was bored."

He took a course called, appropriately enough, "Anatomy of Teaching" and began to experiment, motivating students with a hands-on approach that lets them participate fully. "I thought, 'This is fun, and this is a better way to teach.'"

He might, for example, ask students on the first day of a class in human resource management: who's against unions? Two people might hesitantly raise their hands. His next question,

who thinks unions are wonderful, might elicit responses from two more students.

"Then I take those four students to the front of the classroom, and I tell the rest to leave. They have no opinion, they can't contribute or grow themselves unless they have some opinion."

As the semester progresses, the students become more confident of their own opinions and of Scott's approach. "Eventually, the class will be half and half, half for unions, half against. Then, I make both sides argue the other side's case." Scott grins. "And I give them fifteen minutes to prepare their arguments."

This year's Business Policy class "is the best class I've had in twenty-six years," he says. "I actually gave them permission to ask me to leave class."

On some days, Scott would arrive only to be told the students had formulated the agenda for the day. In some cases, he would merely sit in, and in others, he would lecture briefly to underscore a few pertinent points before handing the podium back to students. "A real question is, at what point do you talk, and at what point do you shut up? At what point do you step in?"

Scott busies himself outside the classroom with business consulting as well as an antismoking educational program he developed eight years ago and which is being introduced into area schools. The consulting fills the gap created when he left the business world for academia in 1970, and the antismoking program plays into his theories

about motivation and education.

But would he ever leave teaching to pursue either full-time?

He seems horrified by the suggestion. "If I won the sweepstakes tomorrow, I'd pay you to let me teach," he says without hesitation.

Scott seems more than content in the classroom, and in his office, surrounded by his antiques, being obsolete.

—Carmelle Druchniak

"When people ask me what I do for work, I tell them I'm a pyromaniac. My job is to light fires. If you're excited about learning, you'll learn."

MARI BOOR TONN LIKES TO USE the convenience store example to illustrate her approach to education. "If you go into a 7-11 to buy a coffee and a doughnut and all they give you is a receipt, you wouldn't be satisfied, right?" she asks rhetorically. "A degree is a piece of paper, and lots of people are getting degrees these days. Education happens here," she says, pointing to her head and pausing. "Otherwise, you're getting your receipt, but you're not getting your coffee and doughnut."

Making sure her students get their money's worth is Tonn's job, teaching courses such as Rhetoric of the 1960s, Political Rhetoric, and Propaganda and Persuasion.

"I tell my students, you should never complain about the classes that are challenging. Complain about the classes that are not."

There are poignant reasons why this Midwestern native and recently promoted associate professor of communication speaks so passionately about education. Hers began in a small town called McCune, Kansas, and continued after college in nearby Girard. Both are vast areas of farmland, plains, and backdrops of never-ending sky. "I love the New England landscape," she says, "but sometimes I miss those big expanses of sky."

In America's Heartland, her parents didn't have the same opportunities she did. "I'm not only

a first-generation college student, I'm also a first-generation high school student," she says, reflecting on her upbringing. "I come from a large farming family, and both my parents have eighth-grade educations.

Each lost a parent at a young age and had to take on responsibilities in the family."

"I tell my students, you should never complain about the classes that are challenging. Complain about the classes that are not."

With her parents' support, Tonn flourished academically. Higher education took her to Pittsburg State University, where she earned a B.S. in English and an M.A. in speech and theatre, and then to the University of Kansas, where she graduated with a Ph.D. in communication studies.

She also learned a great deal as a young adult living in Girard, Kansas—the so-called Socialist Hub of the U.S. and home to the renowned Socialist newspaper, *Appeal to Reason*. Absorbing the roots of the politically volatile publication sparked Tonn's curiosity in a variety of civil rights and women's issues, including suffrage and the labor movement.

The labor movement's "messiah," Mary Harris "Mother" Jones, continues to be an inspiration to Tonn, who has published many articles about the controversial figure. A Jones motto, "Pray for the dead, and fight like hell for the living," is framed on Tonn's office wall.

"I'm a social movements scholar," Tonn says, explaining that besides history, she also enjoys exploring the contemporary feminist movement. Without hesitation, the professor labels herself a feminist, but says the term, unfortunately, is still considered the "F word," even among the so-called liberal college crowd.

"I'll hear students say they're not feminists, yet they want equal education, equal opportunity, and equal pay for equal work," she says. "Women fear that asking for things is unattractive. And in college, the notion of being unattractive is threatening."

Tonn is also a firm believer that "education is power," and, in her teaching, strives to empower students to realize their potential.

"The class my students are most engaged in is Rhetoric of the 1960s," she says, adding that the decade is rich with history—from the Kennedy years to the civil rights movement.

"They get a better understanding of their parents or their aunts and uncles. By understanding that period, they have a better understanding of those people who shape their lives."

Gaining a better understanding of those politicians battling to shape the nation's future is Tonn's latest undertaking as a discussion group facilitator for "Debate Watch '96." The Commission on Presidential Debates and the Ford Foundation will put her on par with top reporters and pols like President Clinton and Bob Dole.

She won't be fielding questions or spouting solutions to balance the budget, but she will be a major player in debate analysis, thanks to Diana Carlin, a University of Kansas professor who wrote the Ford Foundation grant.

The assignment stems from presidential election coverage in 1992, when Tonn quizzed focus groups on the usefulness of debates and reported her findings to the Freedom Forum, Washington, D.C., press corps, and campaign representatives. The seasoned scholar wants to know if the voters are getting a good deal—something more than a souvenir ticket to a political chatterbox.

"Are the formats conducive to learning? What educational function do debates serve? Could they serve it better?" she asks—this time hoping to challenge a nation.

— Tracy Manforte

Education in action

Mari Tonn believes the challenge of an education is to make a better world.



Mari Boor Tonn

Teaching Excellence, College of Liberal Arts

The life of the mind

Michael Ferber heeds a poet's call and rearranges the furniture of the soul.



Michael Ferber

Teaching Excellence, College of Liberal Arts

ENCYCLOPEDIA. THAT'S HOW ONE student describes Michael Ferber's knowledge of the world.

He can tell you the derivation of the phrase Jesus H. Christ or the word "romantic;" can expound as knowledgeably on symbol and myth in the work of poet and artist William Blake as on Wittgenstein's philosophy or Einstein's theories.

"He knows everything," exclaims one student in a course evaluation. Over and over again, his students comment on how much they learn in his classes, sounding surprised that one man could pack so much into a course on Homer or the Bible or Shakespeare.

Perhaps that's because Ferber stepped out of the usual path to his current position as professor of English. As an undergraduate in the early '60s, he studied mathematics and physics at Swarthmore, before learning ancient Greek and switching his major to classics. An anti-Vietnam War activist while a graduate student at Harvard in the late '60s, Ferber was tried for conspiracy to violate the draft law; his codefendants included Dr. Benjamin Spock and Yale chaplain William Sloane Coffin. He taught romantic poetry at Yale during the '70s, where he completed a book on Blake. In the '80s, Ferber exchanged New Haven for Washington as a lobbyist against the arms race.

Since he joined the UNH faculty in 1987, Ferber has taught more subjects than anyone else in the English department—some 20 courses—according to Michael DePorte, department chair. "Michael is a teacher of uncommon range and intelligence," DePorte says. "He has a powerful effect on students' intellectual lives."

Ferber conducts his classes with patience, enthusiasm, and humor, and makes himself available to anyone experiencing difficulties, but he holds his students to high standards. If a paper is terrible, he'll grade it accordingly, stamping it with the rarely seen F. "He was very fair grade-wise, but tough," writes a senior in a course evaluation. "It made me work harder, and I learned a lot more than I expected."

Ferber describes his style as "genial" and says he talks more than many of his colleagues. "I prepare material, but don't lecture. The main thing is to get a good conversation going," he explains. "I've never had a course where I wasn't able to do that."

Engaging students in Wordsworth's *Prelude* or Homer's *Odyssey* comes easily to this self-professed ham. Ferber began doing card tricks as a boy growing up in Buffalo and still performs magic, pulling toy animals from behind his four-year-old daughter's ears, coins from his sleeves.

Mostly, though, he confines his magic to the classroom, urging students to reach for

connections, dispelling their fears of poetry—opening up new worlds.

"In the sixties," he recalls, "universities were places where lives were being changed." And universities are "still where you reach young people," although for today's students, according to Ferber, "the world seems less expansive and there's less generational solidarity."

While students at the turn of the twenty-first century may lack his generation's confidence that they can change America, young people still work for social change. "Today's students underestimate how much they are doing," Ferber says. "There's as much or more grassroots political organizing now than in the sixties—this time on both the left and the right. Then there really were only two causes—civil rights and Vietnam. Now, there are a hundred."

Ferber remains a social activist, working for disarmament (for six years he was chair of New Hampshire Peace Action). Given his idealism, it's not surprising that he is drawn to the English romantic poets, particularly Blake, the subject of two of his four books. When Ferber discovered Blake as an undergraduate, the visionary poet's work "moved in and rearranged the furniture" of his soul. When he went on strike with the Harvard graduate student union in 1972, Ferber carried a sign with an inscription from Blake, "The tygers of wrath are wiser than the horses of instruction."

Blake's work was informed by the American and French revolutions, by England's wars with France and the colonies, by "the sights all around him of hunger and disease, vagabonds and harlots, boys sold into servi-

tude . . . or drafted into the army to fight other boys from France," Ferber writes in the critical study of Blake's

works that he did for Penguin Books. Ferber's own life and work are informed by another war, other social injustices, but he responds to the world with the same passion. For him, as for Blake, there is no line between life and literature, between the life of the mind and the call of the world.

—Maggie Paine

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