edge

EAST CAROLINA UNIVERSITY

research and creative activity

SPRING 2002

WALTER PORIES: HONORED BUT HUMBLE

Also in this issue:
A Slave's Story Brought to Life,
Deciphering Coastal History,
Ethics in Medical Research

EAST CAROLINA UNIVERSITY
Spring 2002

www.news.ecu.edu

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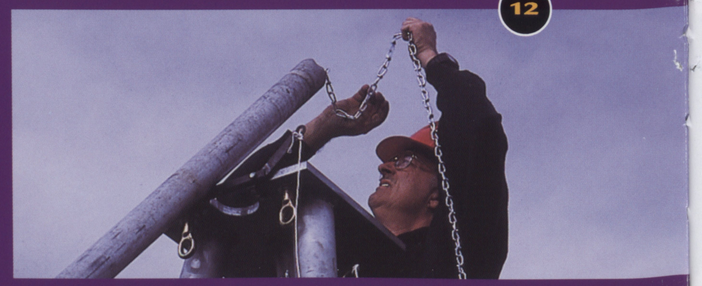
Printed by Theo Davis Sons, Zebulon, NC
Printed on recycled paper.

4,000 copies of this public document were printed at a cost of $8,920.00, or $2.23 per copy.

university research magazine association



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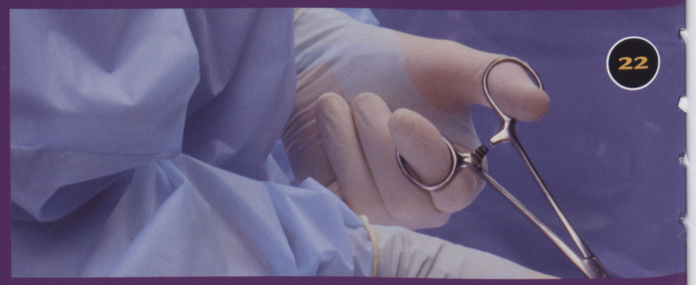


22

26

edge

table of contents

profile

6 Suitable for Framing
Dr. Walter Pories — artist, surgeon, scientist, chef, musician and more — is embarrassed by the attention he has received since winning the O. Max Gardner Award.

features

12 The Sands of Time
The ECU geology department teams with the U.S. Geological Survey and the N.C. Geological Survey to decipher 10,000 years in the evolution of North Carolina's northern coast.

- **Geology at its Core**
Sometimes along with the science you need a little elbow grease.

18 Making the Grade
Faculty seek to enlighten the debate about public education through research into teacher preparation, teacher mentor programs, the influence of charter schools and school naming issues.

22 Safety First
edge talks with Dr. Paul Cunningham about the policies and practices that protect human research volunteers.

26 Free at Last
Students become historians when the autobiography of an ex-slave named Allen Parker captures their imagination and their hearts.

on the cover

Never one to take half steps, Dr. Walter Pories has revived memories of a farm his aunt and uncle owned in Germany with a 520-acre organic farm he now calls home. Though he might be called a gentleman farmer, he knows every inch of his land and delights in nature's subtle variety. "Every time of year, there's something blooming," he says. "It changes all the time." Photo by Cliff Hollis.

2 abstracts

- In search of vaccine against potential biological weapon
- Refining techniques to detect DNA damage
- Casting new light on treating cancer
- Blueprints you can walk through
- Science center for eastern N.C. proposed

5 inside ECU

- Anti-stuttering device goes on sale
- More faculty obtain outside funding
- Off-campus programs grow
- Restructuring

31 explorations

- **Urban Legends**
Historian turns his focus from machine politicians to the towns tobacco built.
- **The Love Doctor**
Sociologist takes a close look at what makes relationships click.
- **Maps and More**
New center makes GIS technology usable, affordable.
- **Farming, Forestry and Fishing**
Federal grant establishes center to improve occupational health, safety in southeast U.S.

35 in print

- *A look at recent publications by ECU faculty, plus news on recordings.*

In search of vaccine against potential biological weapon

As anthrax scares riveted the nation's attention last fall, one ECU lab focused instead on another possible biological weapon, the bacterium Brucella. Dr. R. Martin Roop II, associate professor of microbiology and immunology, is trying to understand how the bacterium works and to develop a vaccine to prevent its debilitating effects in humans.

Brucella causes brucellosis, a disease with flu-like symptoms that can weaken its victims for months and is difficult to treat. Although it seldom kills, Brucella is a potentially powerful warfare agent because it spreads easily in air particles. "The logistics of taking care of thousands of sick people can be more complex than dealing with thousands of deaths," Roop said. "In warfare, it can be better to bring your enemy to its knees and cripple them." Armed forces also must be concerned about incidental exposure by troops stationed overseas. Brucella occurs naturally in food animals around the world.

A vaccine to prevent brucellosis in animals exists, but that vaccine makes humans sick. In his search to find a vaccine for human use, Roop focuses on trying to define the genes that allow the bacterium to produce disease in the host. "If we know how (Brucella) produces disease, then we can use genetic engineering to produce strains without the ability to produce disease," he said. Those genetically engineered strains could then be used to create a vaccine.

Roop, who came to ECU a year ago from Louisiana State University Medical Center-Shreveport, has received about $1 million in research funding from the Department of Defense and the National Institutes of Health.

Despite its potential in mass warfare, Brucella is an unlikely choice for terrorists because it is seldom lethal, Roop said. "These terrorists seem to want a more insidious shock effect," he said. "It seems they want to kill a lot of people." •

Refining techniques to detect DNA damage

A pioneer in technology to detect damage to DNA, Dr. John C. Sutherland is refining his techniques to allow him to count and measure the lengths of single molecules. When perfected, the new technology will enable scientists to detect low levels of DNA damage and to study the effects of lower doses of radiation than was previously possible.

Sutherland joined the ECU faculty last fall as chair of the physics department, coming from the Brookhaven National Laboratory, where he maintains research facilities. As a senior biophysicist at Brookhaven, Sutherland led a research group whose innovations twice were recognized by *R&D* magazine as being among the top 100 technological achievements of the year.

In 1997, Sutherland's group and Quantar Technology Inc. jointly received an *R&D* 100 Award for developing a device that detects visible, ultraviolet and near-infrared light. The device speeds the ability of scientists to obtain a number of different readings during fluorescence emission studies commonly used in biology, chemistry and physics. Ten years earlier, Sutherland's group received the same award for a device that records the fluorescence of DNA and other molecules that have been separated by gel electrophoresis, a standard research method.

Although his technologies have wider application, much of Sutherland's research has focused on detecting damage to living tissue from exposure to the sun's ultraviolet rays and from ionizing radiation. Sources of ionizing radiation include X-rays and radon gas. In collaboration with his wife, molecular biologist Dr. Betsy Sutherland, he has developed ways to quantify the amount of DNA damage that occurs from varying amounts of exposure. Chronic or high levels of exposure can lead to permanent cell damage and cancer.

UVA and ionizing radiation produce different kinds of damage and thus require different methods of detection. To detect UVA damage, Sutherland developed a technique for calculating the frequency at which a particular type of damage occurs along a strand of DNA. Ionizing radiation, however, causes several types of damage that may be less frequent but that tend to occur in particularly troublesome clusters. For it, Sutherland determined how to calculate the number of damaged clusters.

Those clusters also are at the heart of his newer project, working out a way to count and measure the lengths of single molecules. One of its advantages, he said, will be its ability to obtain the same information as his previous technology while using much smaller samples of DNA. •

Dr. Ron Allison, clinical director of radiation oncology at the Brody School of Medicine, holds the laser used for most photodynamic therapy.

Casting new light on treating cancer

The Leo W. Jenkins Cancer Center has been selected as the first site for a clinical trial of a new form of cancer treatment. Light Sciences Corp. of Seattle selected the cancer center to test its innovations in the new field of photodynamic therapy. Physicians at the center also are conducting other in-house trials involving photodynamic therapy.

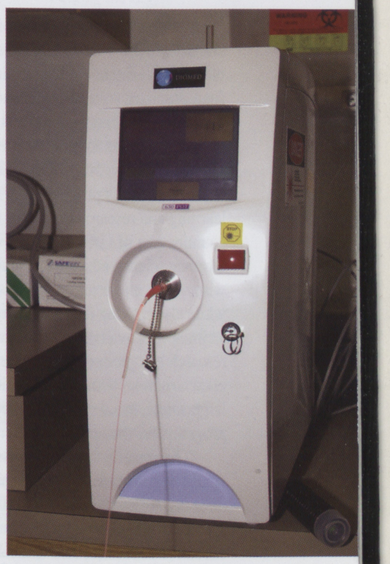
The cancer center, jointly supported by the Brody School of Medicine and Pitt County Memorial Hospital, became one of only a handful of sites in the country offering the therapy when it established the Photodynamic Therapy Center in April 2001. Dr. Gordon H. Downie, a pulmonologist and medical director of the Photodynamic Therapy Center, said more than two dozen patients were treated in the first year. They included patients with lung, esophageal, colorectal, breast and skin cancers.

Most photodynamic therapy combines a drug with delayed activation and a laser that produces a special frequency of red light. The drug is administered intravenously in most cases and settles selectively in tumors, where it can be activated by the laser. When activated, the drug releases toxic oxygen radicals that attack the tumor. The light used does not produce heat, minimizing damage to surrounding healthy tissue, which is one of the side effects of traditional radiation therapy.

Light Sciences Corp. has developed a new photosensitive drug, called LS11, and an implanted device to activate it. Standard photodynamic therapy is limited to areas on which the light can be shined directly, such as those adjacent to airways, the gastrointestinal tract and other hollow organs or tubes, Downie said. Light Science's approach, which it calls the Oncolux™ System, could expand the therapy's uses because the device can be implanted directly in a tumor and be activated for long periods using a light-emitting diode, or LED. LEDs are semiconductors of the type used for indicator lights and remote-control devices. The phase I trial tests the safety of the treatment. Downie said he expects the trial to last several years.

Downie and his ECU colleagues have launched their own trial using photodynamic therapy to treat a form of advanced lung cancer, malignant pleural effusion. When cancer spreads to the lining of the lung, the irritation causes the lining to fill with fluid. The fluid presses on the lung and makes breathing difficult. Draining off the fluid – the traditional treatment – eases breathing temporarily but does not eliminate the source of the problem. The ECU doctors will use photodynamic therapy to try to kill the mushroom-like tumors. They will deliver the light by inserting a thoracoscope between the lung and its lining.

In addition, the ECU physicians are conducting an on-going comparison of photodynamic therapy and traditional radiation therapy and are considering a trial using photodynamic therapy to treat recurrent and early breast cancer. "There's also a whole area of research looking at the possibility of this as a diagnostic tool," Downie said. •



In photodynamic therapy, light generated by the machine at right activates a drug that has been administered intravenously. The drug releases oxygen radicals that attack the tumor.

Concrete pours at the Science and Technology Building are smoother, thanks to virtual reality.

Blueprints you can walk through

A campus construction project has become a research laboratory for two professors in the School of Industry and Technology.

Dr. Ihab Saad and Dr. David Batie, both assistant professors of construction management, have been testing a visualization system they think will enable them to forecast – and thus avoid – problems in the construction process. Their system continuously monitors construction of the new science and technology building and creates a four-dimensional image through ECU's virtual reality tool RAVE. The fourth dimension is the ability to seemingly walk through or manipulate 3D images. This ability, Saad said, allows them to see more accurately how the various layers of the construction project – from framing to plumbing and cables – will interact.

During the first phase, for example, the professors predicted that the forms used to pour concrete slabs were too large to be removed with air pressure as planned. Their prediction proved accurate, and the contractor shifted to pouring smaller sections at a time.

The images also could provide useful documentation long after the building has been completed. "If repairs need to be made, you'll be able to see more precisely what will be involved," he said. Previous research has shown that 3D drawings improve the accuracy of cost estimates and scheduling on construction projects. •

Science center for eastern N.C. proposed

A new generation of scientists and scientifically literate citizens will be nurtured in eastern North Carolina if plans for a proposed science center succeed. ECU has joined other educational institutions and business interests to promote the center.

The Eastern North Carolina Regional Science Center is proposed as a teaching, learning and research center for the 29 counties east of Interstate 95. It would advance science education in public schools with resources for teachers and students while also making its visual computing technologies available for industrial research and product development. A planetarium-style theater, exhibit space and large-screen theater could host educational programs for the broader public.

The center's advanced classrooms would help schools in poor, rural counties offer higher-level courses, said Dr. John T. Meredith, chair of the science center's executive committee and clinical assistant professor of emergency medicine at the Brody School of Medicine. "We need this if we're going to continue economic development in eastern North Carolina," he said. "A lot of studies have shown that the key to development is science and math literacy."

A two-day workshop in the fall will solicit opinions on the eventual components and design of the center. Preliminary plans include:

- Headquarters of the planned Health Careers Academy, a collaborative program to attract high school students into careers in health care. The academy's partners are ECU, the Brody School of Medicine, Pitt County Schools, Pitt Community College and University Health Systems of Eastern Carolina.
- An entrepreneurial development center.
- A teaching resource center.
- Hands-on learning centers, after-school academies and summer programs.
- An advanced biotechnology classroom incorporating telemedicine technologies, advanced microscopy and advanced computer-imaging technologies.
- An advanced chemistry and physics classroom.
- A visual-computing science theater with seating for 200. This domed theater would be capable of creating interactive, virtual environments ranging in size from subatomic particles to galaxies.
- Exhibit space suitable for traveling programs from the Smithsonian Institution and other museums.

No site has been selected, but Meredith said the location should be accessible to residents throughout eastern North Carolina.

Plans are being spearheaded by ECU, the Pitt County Industrial Development Commission, the Pitt County Educational Foundation and Pitt Community College. •

Anti-stuttering device goes on sale

An anti-stuttering device developed by ECU scientists reached the commercial marketplace during the past year. Called SpeechEasy, the device looks like a hearing aid and is available in designs that can be worn in the ear or behind the ear.

The technology was developed by Drs. Michael Rastatter, Joseph Kalinowski and Andrew Stuart and licensed to the start-up company Janus Development Group. The device works by altering the speed or pitch at which the wearer hears his own voice. In doing so, it slows the overactive electrical signals in the right side of a stutterer's brain to near normal, allowing him to speak distinctly.

Three other products and processes originating at ECU moved into the marketplace during the 2000-2001 academic year. The Office of Technology Transfer reports that:

- Aquatic sounds recordings by Drs. Joseph J. Luczkovich and Mark Sprague and former graduate students Stephen Johnson and Chris Pullinger have been licensed to a software developer for use in an electronic encyclopedia. The scientists collected the mating sounds of fish to chart spawning timetables as an aid to fisheries regulation.
- The Pediatric Heart Sounds CD-ROM has been licensed to a publishing firm targeting the institutional nursing market. The CD-ROM is an interactive computer application designed to help practitioners and medical students distinguish between normal and abnormal heart sounds in children. It was developed by Dr. Michael McConnell and Alan Branigan.
- Technology for measuring products in chemical batch processes has been licensed for development to a local company. Dr. Paul Gemperline's technology provides a detailed picture of what happens to chemicals during processing, which could lead to less waste.

In other technology transfer news, the university received three patents, applied for 10 more and received notices from faculty about 18 other technologies that may hold patent potential. Total income from licenses reached nearly $150,000. University patents brought in an additional $1.6 million in research support between 1999 and 2001. •

Off-campus programs grow

Fueled by web-based courses, enrollment in ECU's off-campus graduate programs continues to show strong growth. Off-campus enrollment for the 2000-2001 academic year totaled 1,028, more than double the number two years earlier.

Enrollment is about evenly divided between master's degree programs and non-degree, continuing-education programs. Eight master's programs and eight certificate programs are offered on-line or at satellite locations. Eight more master's level programs are being developed for delivery through distance education.

Off-campus students now account for 28 percent of all graduate enrollment.

In other news from the Graduate School:

- The School of Nursing will begin admitting students to its PhD program in fall 2002. The program emphasizes both family health care and clinical nursing science.
- The PhD program in communication sciences and disorders has created a new concentration in clinical audiology. •

More faculty obtain outside funding

Faculty and staff participation in projects funded by outside sponsors rose nearly 10 percent during the 2000-2001 fiscal year. Approximately 280 individuals were involved in projects funded by $40.9 million in grants and contracts, according to the Office of Sponsored Programs.

A similar increase occurred in the number submitting applications for outside funding. Some 355 faculty and staff members submitted requests for $112.6 million.

Public service projects account for 45 percent of ECU's sponsored programs. Research garners 33 percent. Instruction and academic support account for most of the remaining funds.

Among the largest sponsors during the 2000-2001 year were the National Institutes of Health, the N.C. Department of Health and Human Services, the National Library of Medicine, the U.S. Health Resources and Services Administration, the National Science Foundation and the Office of Naval Research. •

Restructuring

Chancellor William V. Muse has announced several changes in the university's senior administrative structure. The position of vice chancellor for research and graduate studies will be restructured as the vice chancellor for research, economic development and community engagement, still under Vice Chancellor Thomas L. Feldbush. Graduate studies will be shifted to the office of the provost and vice chancellor for academic affairs. The changes will be effective July 1, 2002. •

SUITABLE FOR FRAMING

"It isn't just that you want to be able to paint something, but you want to communicate in a different, special way," says Pories, shown here with one of his own paintings.

Winner of the O. Max Gardner Award, surgeon Walter Pories shares the complexity of a painting by Picasso

Dr. Walter Pories warned his daughter Mary Jane about gangs when she was going through high school in Cleveland, Ohio. He told her never to go to certain areas in town. Then he went one step further. "He doesn't just talk about things," she says. "He mapped out where the different gangs operated and *drove* us there — to places I didn't think we should go. He has this insatiable desire to know things and explore."

He instilled that sense of exploration in his six children. "He gave all of us an open door to find out what we wanted to be, but the core was, you serve others," she says. "Find a way to use your gifts for the greater good."

Those dual traits — an insatiable curiosity and a desire to serve others — have guided Walter Pories' own career. They have led to groundbreaking discoveries in animal nutrition, the development of an operation called the Greenville Gastric Bypass to treat morbid obesity and the discovery that his operation often leads to an instantaneous reversal of adult-onset diabetes, giving rise to an entirely new line of inquiry into the causes and treatment of diabetes. Founding chairman of the School of Medicine's department of surgery, Pories has been recognized repeatedly for his role in training future surgeons and for his service to community and medical organizations.

For these accomplishments and others, the UNC Board of Governors last year gave Pories its highest honor, the O. Max Gardner Award. The award recognizes one faculty member each year from the 16-campus university system for "contributions to the welfare of the human race." Pories shies from the spotlight. "It's embarrassing to get all of this attention for work that so many other people had a part in," he says.

In his medical school office, he sits in front of a large, unframed oil painting. With a marine blue background, a streak of red and just a hint of a white sail, the painting whisks the viewer onto the open water. The signature in the lower right corner reads "Pories." Although he has had one-man shows, Pories is dissatisfied with his skill as an artist. "I'm better at cartooning than I am at painting," he says. He talks of the distinguishing styles of Winslow Homer and Georgia O'Keeffe. "It isn't just that you want to be able to paint something," he says, "but you want to communicate in a different, special way."

Pories himself more closely resembles a Picasso than an O'Keeffe, one from the cubist period, full of angles and parts that at first appear unrelated yet somehow create a fascinating whole. He is artist, surgeon, scientist, chef, musician, family man, retired Air Force officer and farmer. He describes himself as a military nut. Others say compassionate, determined, modest, intelligent, skilled, complex, humorous, versatile, loving.

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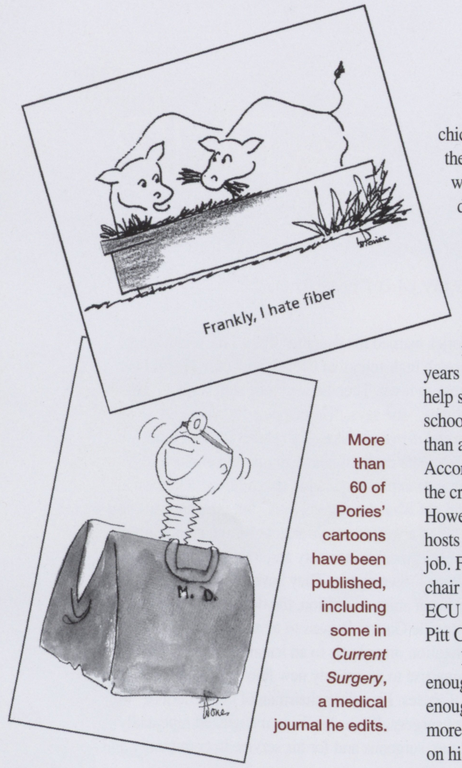


More than 60 of Pories' cartoons have been published, including some in *Current Surgery*, a medical journal he edits.

Open-minded, too, especially when it comes to food, as it often does. He prepares lavish gourmet meals, sometimes for dinner parties of 40 people. Any visit by his children, now ages 32 to 48, begins with a trip to the grocery store. On the way, he describes the menus for the whole weekend. He's no food snob, however. He'll eat pickled eggs from a jar in a country store. And oh, yes, a laughing colleague says, be sure to ask him about the duck that got run over in his yard.

No, don't ask.

"A part of the European influence, and the influence of people who didn't have much, is that you never waste anything," says daughter Dr. Susan Pories, a surgical oncologist at Harvard Medical School. "One time he made chicken soup. I was out babysitting. I came in late and didn't turn the light up. I just opened up the pot and dished some out. He'd made the soup from chicken feet, and the feet were still in there. There was one in my bowl. He would make things from most disgusting things — organs and octopus. He'd tell me you can save chicken fat and use it instead of butter on bread."

Pories seldom regrets any tasting experience, least of all his first soybean. It happened about 26 years ago, when he was being recruited to help start a brand new medical school. The school's future site was then nothing more than a field of red clay and soybeans. According to family lore, Pories asked what the crop was and, being told, gave it a try. However bitter the first taste, Pories and his hosts decided he was the right chef for the job. For the next 19 years, he served as chair of the department of surgery for the ECU medical school and chief surgeon of Pitt County Memorial Hospital.

Now, at 71, he has accomplished enough to fill several careers and has enough projects under way for several more. He stepped down as chair of surgery on his 65th birthday and stopped operating on his 70th, just as he had long planned. "You always have to have an exit strategy whenever you start something," he says. "No one is ever going to tell you you're not as good as you should be."

He continues to do research, teach and see patients, following up on surgeries performed years before. He's working with Dr. Mohammed Tabrizi in the department of computer science to develop a wireless, Internet-based system for maintaining and analyzing medical records. He also is trying to persuade the National Institutes of Health to establish a national registry of surgery. A pharmaceutical company must document extensive testing under careful supervision before it can bring a new drug to market. By contrast, "any surgeon can devise any kind of operation and often there's no follow-up," he says. "Eventually some kinds of surgery drop out as problems become obvious, but that's not the way to do it. That's a lack of discipline. We need to standardize procedures."

No one can accuse Pories of lacking discipline. He has insisted on detailed, long-term follow-up of all 1,600 gastric bypass surgeries by ECU doctors. This enabled him, early on, to recognize the most surprising result of the surgery. Adult onset or Type II diabetes, which often accompanies obesity, and its precursor, insulin resistance, lessen or disappear in patients who have undergone the Greenville Gastric Bypass even before weight loss sets in. His curiosity piqued, Pories assembled a team of molecular and chemical scientists, exercise physiologists and other surgeons in what is now a long-running research program seeking to understand the phenomenon.

"This means diabetes is not an inexorably progressive disease and that by maybe changing a molecular marker or a signaling system, you could free people up from that disease," he says. The research team's papers have received widespread acclaim, and Pories, professor of surgery, now holds additional appointments as professor of biochemistry and adjunct professor of exercise and sports science.

Pories first ventured into research when, as a young medical student at the University of Rochester, he had landed a part-time job with Dr. William Strain. An organic chemist, Strain wanted to understand how wounds heal and had focused his attention on the role of amino acids. He studied their function by feeding rats a diet deprived of one amino acid at a time. The idea was that if healing slowed when the rats were on a particular diet, the absent amino acid would be shown to be important in healing.

Strain was both meticulous and frugal. For each amino acid he studied, he insisted on 10 sets of experiments involving 60 rats in each set. In the midst of one study in which healing improved instead of slowed, he ran out of feed after only nine sets of rats and the supplier had raised his price. Rather than paying the added cost or being satisfied with results from 540 rats, he ordered Pories to synthesize the formula. Pories did, but the results changed. Strain tried making a batch himself. It still didn't work.

"So clearly it was a contaminant (in the feed)," Pories said. The supplier's formula, it turned out, had been made with a process involving zinc. This time Strain ordered Pories to learn all he could about zinc, setting the stage for groundbreaking discoveries. By Pories' last year in medical school, he and Strain had published the first paper establishing zinc as an essential mineral for animal health. Pories continued the research for the next 20 years, establishing new Food and Drug Administration standards for trace minerals and helping boost feed efficiency in farm animals by 20 percent.

"These were exciting times for a guy just out of medical school," Pories says. "I became a visiting professor in Edinburgh when I was just a resident, and I was featured in *Time* magazine. And it was from an accident."

Strain was known as a good mentor, albeit an eccentric one. Pories' experience showed why. At different times, Strain had him diagramming sentences from a third-grade textbook, selling bicycles and buying melons. At ECU, Pories followed Strain's lead in broadening the education of his students. He required residents to attend weekly luncheons with guest lecturers on topics ranging from anthropology and chemistry to investment banking and home buying. He also is credited with having developed the first national curriculum for residency in surgery. Among his honors have been a national teaching award from the Association for Surgical Education and the Frederic Douglass Stubbs Award for outstanding contributions to the training of black surgeons from the National Medical Society.

"I probably never would have gone into surgery if it hadn't been for him," says Dr. Beth Foil, now a surgeon with Eastern Surgical and Wellness Associates in Greenville. "I was going to be a psychiatrist. I thought surgery wasn't medicine. He said a surgeon is a primary care doctor who operates. That's what he was."

Fifty cows and 80 goats help keep the pastures and woodlands cleared on Pories' farm.

As a teacher, he was fair but infuriating. Foil recalls a mistake she made inserting a central line that caused a patient's lung to collapse. "I had to call Walter and tell him what I'd done," she says. "By the time he got in, we'd drained the fluid, reinflated the lung, and she was doing all right. He said, 'So you found a new way to administer antibiotics. Are you going to write this up as a protocol?' He didn't blast you, which was the pretty standard way to deal with medical students. He knew you were already kicking yourself to the max."

On the other hand, he seldom if ever handed out praise. Says Foil: "I understand he told other faculty, 'Don't tell residents they're doing well. They won't try as hard to get better.' He can still infuriate me. He knows which buttons to push, like a master art teacher who'll never let you think your painting is good enough."

Pories has a short, stocky build, with a fringe of closely cropped, salt-and-pepper hair and dark eyebrows over darting brown eyes. Only the eyes, sitting behind dark-framed glasses, belie a patient demeanor. His is quick to laugh and even quicker to begin a long, rambling story filled with sumptuous detail and punctuated by the accents of his parent's Germany, the French village of his first overseas military assignment or the Southern drawl of a colleague. Often he stops mid-tale. "Can you believe that?" he'll ask while his listener, aching from laughter, begs him to go on.

He was born in 1930 in Munich, Germany, "to be near my mother," as he tells it. "Until 1936, I thought I was a Catholic kid in a well-to-do, upper-middle-class German family." But that year, "we were informed we were Jewish." Three years later, while his father was out of town on business, the Nazis came in the middle of the night and took 9-year-old Walter, his mother, sister and an uncle to the Dachau concentration camp, just outside Munich. They were loaded with others into cattle cars headed for the Polish-German border. The trip, often delayed as the train waited on sidetracks, took three or four days.

Finally, they reached the border. "We got out, and they lined us up," he says. "It was our understanding that we were to be executed. Now, I don't remember this

Continued

Shaft the llama never passes up an opportunity for a snack.

portion — I remember the train ride — but my mother and sister told me about this part later. Apparently, the Polish border guards intervened. They said, 'We don't like the Jews either, but you're not going to kill them here.' So we got back into the train to go back to Munich."

By the time they reached Munich, Pories' father, a decorated veteran of World War I, was waiting with documents for their release. Aided by an old Army buddy who had risen in the Nazi hierarchy and by the papal nuncio, he had obtained long-sought visas and passage to Lisbon. "Now is that wild?" Pories asks. "Is that a wild story?"

It is wild in part because Pories refuses to focus on the tragedy overshadowing it. His storytelling holds a light touch, filled with comic digressions and affection. "What I remember most was the great kindness of the German people and the German guards in the train," he says. "They brought us sausages and water."

Pories' glass is never half empty and seldom merely half full. The surprise scholarship that sent him to Wesleyan University in Waterbury, Conn., was "the most fortunate thing that's ever happened to me." Working for Strain, the demanding and eccentric researcher, gave him "the best education I ever had."

"I'm always awed by his enduring and unending optimism," says Mary Jane Pories, who owns a corporate relations firm in Grand Rapids, Mich. "He'll buy cars one after another, and they may all be lemons, but they're always the best car he's ever had."

From Lisbon, the family sailed for Rio de Janeiro. In Brazil, they reconnected with the Catholic Church, but a year and a half later, it was the Hebrew Immigration Aid Society that came to their rescue at Ellis Island. Quarantined for weeks because of the daughter's scarlet fever, the Pories family ran out of money. The Hebrew aid society gave them bus tickets for Milwaukee, where relatives lived, and $5 each.

"With that my dad said, 'Yah, until Hitler is defeated, we will be Jews.' We arrived in Milwaukee. I got enrolled in Hebrew school and was bar mitzvahed. So you're looking at a guy who has been baptized, confirmed and gone through bar mitzvah. As you might imagine, in college I took a fair amount of religion courses trying to understand it."

He had dreams of becoming a musician when he arrived at conservative Wesleyan sporting a duck-tail haircut and peg-leg pants. An encounter his junior year with a Dixieland band ended that idea. "I realized then and there that if they were so much better than I was and the best they could do was ride around in a beaten-up Dodge, then I was on the wrong career path."

Instead, he followed a path he had first crossed in Germany. To get him away from the growing problems in Munich, Pories' parents had sent him to live for extended periods with "the Catholic side of the family" — an uncle and aunt, both rural physicians, and their four children. "Without doubt, they were the two most revered physicians in their area," he says. His uncle often took the children on rounds to visit patients and had them help in cleaning the office. Later, Pories would adopt the same practice with his own children, always stopping after rounds for treats at a German bakery.

By the time he graduated from medical school, he had a wife and two children. An intern's monthly paycheck of $15 didn't promise much support. The Air Force made a better offer, including further medical training (cardiac, thoracic and pediatric surgery, plus obstetrics), worldwide travel and nifty clothes. He used to preen in his uniforms for his children, and he took every opportunity to try new forms of transportation — tanks, ships, airplanes. "I flew in everything with more than one seat," he says. "It was a glorious time. I'm just a military nut."

The military itself seemed just a little nutty at times, as when it placed Pories in charge of a nuclear reactor. "It took about two months to get out of that job," he says. At least it gave him a chance to test his philosophy. "In life, the main thing is to go with the flow and maintain a sense of humor."

He left active duty after 12 years to work at hospitals in Rochester and then Cleveland. He would join the Reserves after coming to ECU, rising to the rank of commander. During Desert Storm, when Reserves took over stateside duties for troops shipped to the Middle East, he commanded Womack Army Hospital. He retired after that with 24 years of service.

The military's diverse training had prepared him well to lead the new surgery department at ECU. Early on, he did some of everything, including emergency heart surgery and pediatrics. "When I first came to Greenville, he was the only one doing surgery on neonatal preemies," says Dr. Charles F. Willson, a pediatrician and assistant dean for medical affairs. "Then he developed the Greenville Gastric Bypass. His surgical skills are incredible that he can range from the smallest patient to the largest."

Willson's admiration grew as he watched Pories help the hospital and physicians shape their response to the rise of managed care. It grew more as they served together on a committee to improve health care for children and pregnant women on Medicaid. "He has just been a great mentor for me," Willson says. "I always think back on how Walter runs his meetings. For example, at end of an intense meeting, he'll go around and let everyone speak. It's the most democratic and revealing way to end meeting and brings everyone back together as a group."

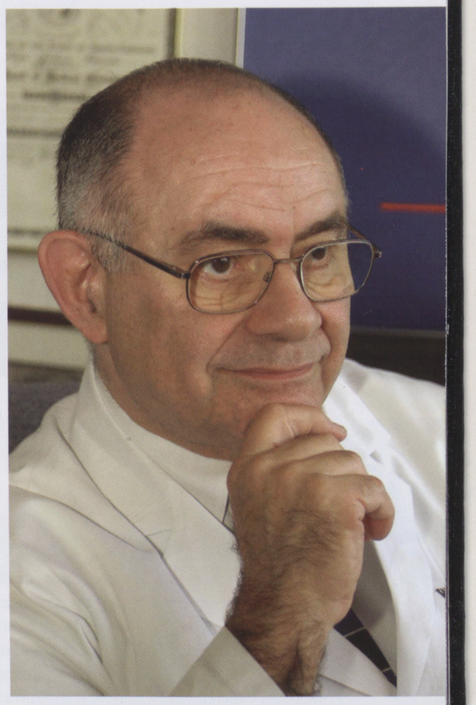
Among the meetings Pories chairs today are those of the North Carolina Medical Board, which is charged with licensing and regulating physicians and physician assistants. Colleagues call it a thankless job, but Diane Meelheim, the board's assistant executive director, says Pories carries off the role of chairman with grace and compassion. "Sometimes people come in and don't want to retire," she says. "He gives them a retirement speech and helps them see what should be obvious."

It's the type of compassion she witnessed — and received — many times from 1978 to 1989 when she worked as Pories' nurse practitioner. Once after breaking up with a boyfriend, she started crying during hospital rounds — the ultimate breach of conduct. Pories dismissed the medical students and headed back to his office with Meelheim. "We stopped in a stairwell," she recalls. "He put his arms around me and said, 'There is a lid for every pot. You will find your lid. Tears are OK now, but not out there.'" Years later, after she had moved on to law school and then to the medical board, Pories would fly to Dallas to see her installed as president of an organization for medical administrators.

However far he has traveled since 1939, Pories has stayed close to his native land. When some question arises about his tastes or interests, he's likely to shrug and with a smile answer, "I'm European." He returns to Germany frequently to visit family, especially the cousins — children of the physician aunt and uncle — with whom he spent so much time as a child. The memories remain vivid. "They lived on maybe three acres with great gardens, vegetable gardens and an orchard," he says. "It was a great place to play. It was absolutely heaven."

For the past six years, Pories has been re-creating that heaven on a slightly larger scale. He leaves off pruning the grape vines on a fall Saturday for a tour of the 520-acre organic farm he now calls home. With unrestrained delight, he offers figs, grapes and persimmons for the tasting. Then he introduces the chickens (housed in a coup he built), 80 goats, several geese, a llama named Shaft and 50 cows, including his "debutantes," heifers too young to be bred. Half a dozen guinea hens roam free, keeping the farm clear of ticks. "We haven't had a tick in a year," he says.

With Rommel the dachshund riding shotgun, Pories guides his Toyota Prius over paths and through pastures. He points out the way plant life varies with the ridges and swales of the Tar River floodplain, laments the disappearance of the beavers whose pond had made a home for water birds, snapping turtles and otters — "I love otters" — and stops to pick wild chamomile. "Every time of year, there's something blooming," he says. "It changes all the time."



Always have an exit strategy, says Pories, who stopped operating at age 70.

Pories credits his wife, Dr. Mary Ann Rose, assistant to the ECU chancellor, with the idea of buying the farm. It started with a hundred acres, then grew as property on either side went up for sale. They rent out the row crops, leave the woodland to a forester and tend the animals themselves. The animals in turn tend the pastureland. At first, Pories hired someone to mow the pastures.

"The guy charged me $600 to mow, and it had to be done a number of times a year," he says. "It wasn't that his price was extravagant. I just hadn't figured on it. So I called the extension agent to see what I could do. The extension agent said, 'Well, doc, are you sitting down?' I said yeah. He said, 'This is going to be hard to believe, but most folks put animals on pasture.' So pretty soon we ended up having livestock."

Initially, he says, he'd had doubts about moving to a farm. No more. "It's so peaceful out here," he says. "You can just sit and look at the stars." •

THE SANDS OF TIME

'Horrifyingly huge project' seeks key to N.C.'s coastal history and its future

Call it a race against time.

In conjunction with federal and state investigators, the ECU geology department has launched a project to decipher 10,000 years in the evolution of North Carolina's northern coast — where the ancient rivers ran, when the Outer Banks formed and how their shape has changed time and again, how often hurricanes have battered the shores, how and when the salty ocean waters have invaded the sounds, how often and by how much sea level has changed. With their data, these scientists hope not only to map the underlying geology of the present-day coast, but to improve their understanding of both the short- and long-term forces that drive coastal change.

They plan to do it in only five years. Data analysis could reasonably be expected to take five times as long because of the voluminous amount of data being collected and the level of detail the researchers hope to achieve in their analysis. "This is a horrifyingly huge project," said Dr. Stephen Culver, professor and chairman of the geology department. "I've already started working weekends — but that's mostly because the stuff is so interesting."

A sense of urgency drives the timetable. The evidence of severe and increasing rates of erosion on the Outer Banks is clear. At South Nags Head, condemned beach homes hang in suspended animation as lap by lap, the waves bring them closer to collapse. Farther south near Buxton, Hatteras Island has worn so thin that the N.C. Department of Transportation has run out of room to move the highway when the next storm washes out N.C. 12. Adding to that is meteorological

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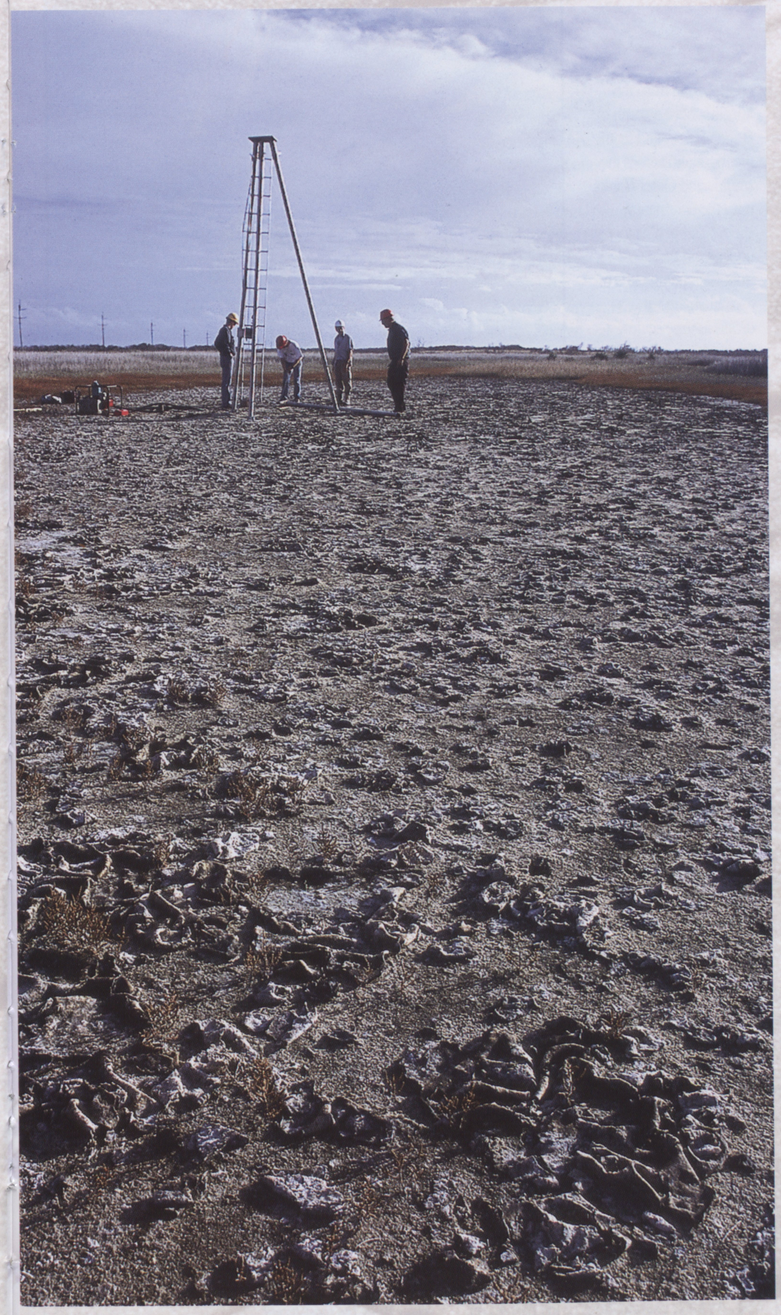


RIGHT: On a field trip to the Outer Banks, ECU geologists assemble their vibracore and extract sediment from a dry lake bed in the Pea Island National Wildlife Refuge. In center left photo, department chair Steve Culver checks his notes from an earlier trip. Technician Jim Watson, top far right, designed and fabricated the vibracore. Also with them are professor Dave Mallinson and graduate student David Vance.

Photographs by Scott D. Taylor

evidence that the North Atlantic has entered a 30- to 40-year period of increased hurricane activity. Rising sea level further complicates the picture. At the current rate, North Carolina's sea level will be 12 to 18 inches higher than now by the end of the century. Altogether, it means that a significant portion of the Outer Banks will disappear while huge areas of the mainland flood permanently. The only question is when.

"If you're a politician, you don't want to (consider) this," Culver said. "You're dealing with a certainty, but it might not happen for a hundred years. Or it might happen overnight if a hurricane comes ashore at an already threatened location."

The cost could be tremendous, in lives and property. Development in North Carolina's coastal counties has soared since the mid 1950s, when the last period of high hurricane activity ended. The year-round population of Dare County, for example, has more than doubled since 1980 and continues to have one of the highest rates of growth in the state. In addition, Dare's seasonal housing more than doubled in the 1990s, growing by 7,000 buildings, according to the North Carolina Coastal Federation.

"It's a disaster waiting to happen," said Dr. Stanley Riggs, professor of geology. "In the last six years, we've had seven hurricanes. These were teeny storms, but they just cleaned our coast. Just think what would happen with a Category 4 hurricane."

In addition to Culver and Riggs, lead investigators from ECU are Dr. David Mallinson and Dr. Reide Corbett, both assistant professors of geology. Working with them are James Watson, the geology department's technician; Dorothea Ames, an assistant scientist working with Riggs; and graduate students David Vance, Nichole Foster, Erin Letrick, Bob White and Megan Murphy. The U.S. Geological Survey and the N.C. Geological Survey are full partners in the research. Other agencies lending assistance include the N.C. Division of Parks and Recreation, U.S. National Park Service, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers and N.C. Division of Coastal Management.

The project is designed to provide unprecedented detail about the North Carolina coastal zone from the Virginia border south to Bogue Banks and from the mainland across the sounds and Outer Banks onto the continental shelf. "Our goal is to understand the important parameters of coastal change at different time scales, from what happens as a result of individual storms to thousands of years," said Dr. Rob Thieler, USGS research geologist. "To do that, we see the need to conduct research at a regional scale, not just a single barrier island." Eventually, he said, USGS would like to repeat the process to cover the entire North Carolina coast.

Thieler and a USGS crew spent three weeks in July mapping the continental shelf off the Outer Banks from a 110-foot boat. In August they returned with a smaller boat to assist ECU investigators working in Albemarle Sound. Coring and data analysis will follow the same division of duties, with USGS taking the lead on the offshore studies and ECU personnel leading studies of the Outer Banks and sounds.

The project draws from several disciplines to cross-check and elaborate on findings. Geophysical surveys will provide graphic detail about the layers of buried sediment throughout the coastal zone. Sediment cores will extract the chemical and biological evidence that allow the researchers to date the various layers and describe the environment through time. Recent historical evidence — oral histories, records from the Corps of Engineers and aerial photos dating back to 1932 — also will be brought to bear. As these examinations of the past go on, so will observations of the present. Contemporary rates of erosion and sedimentation, measured at designated points on the ocean and sound sides of the barrier islands, detail the shoreline changes taking place today.

By studying all this evidence, the team hopes to answer a number of questions about:

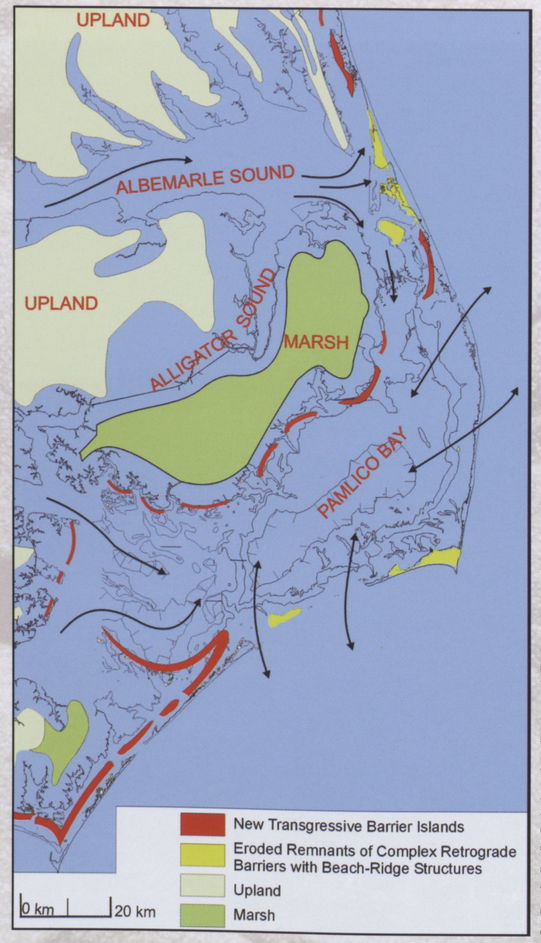
- ***Shoreline erosion.*** How fast does it occur? What drives erosion? When sediment is removed from one area, where does it go and how is it transported?
- ***Sand resources.*** Where are the deposits of offshore sand and how deep are they? What type of sand is out there? What is the role of these offshore deposits in the formation and maintenance of the barrier islands?
- ***The effects of storms.*** How do storms of various intensities affect the migration of the barrier islands and inlets? How do they affect the estuaries? How often do major storms strike the coast?
- ***Sea level and climate change.*** What is the precise history of sea level and climate change, and what does it indicate about the future?
- ***Water resources.*** How often and for how long have ocean waters invaded the sounds and estuaries? What does the record show about the quantity and quality of groundwater?
- ***Habitat.*** How have the physical and chemical changes to land and water affected plant and animal life? What can be expected in the future?
- ***Human influence.*** How much difference has human activity made in the rate of erosion and other changes?

"Knowledge of the geology can play an important role in planning the future growth of the coast," said Charles W. "Bill" Hoffman, senior geologist for the coastal plain with the N.C. Geological Survey. Because mud erodes faster than sand, pinpointing the locations of ancient, mud-filled river channels and inlets will show precisely where the greatest erosion threats are, he said, allowing development decisions on a parcel-by-parcel basis. Policy makers and regulators for fisheries, water and other natural resources also will benefit. "Geology is often the fundamental layer on which other things can be built," he said.

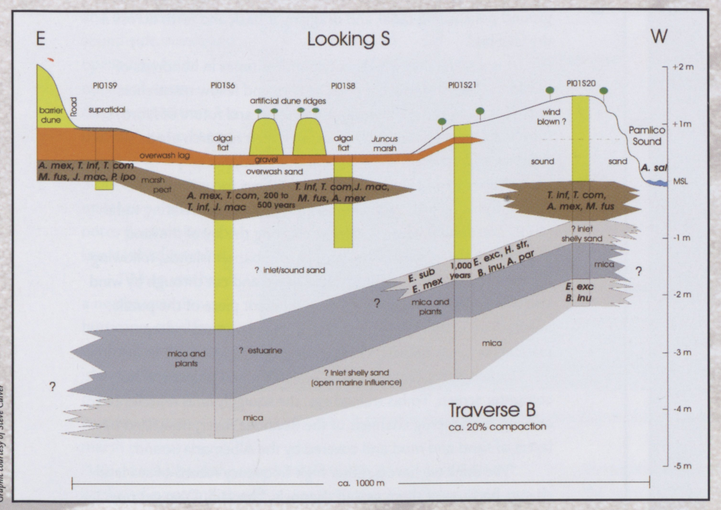
Although the current project began in earnest in the summer of 2001, it builds on Riggs' three decades of coastal research. During that time, he has found evidence of what he believes is a record of frequent, sudden changes in sea level and equally sudden changes in the configuration of the Outer Banks, with inlets opening or closing, in turn altering the mix of fresh and salt water in the sounds. Sometimes, he said, the barrier islands disappeared altogether. All of this, he proposes, has taken place since the end of the last major ice age with dramatic shifts in sea level and habitat occurring in as little as two or three decades.

"If we had a category 4 storm today that opened the sounds to the ocean, turning them back into salt-water systems, people would freak out," he said. "But that has happened in the past. These are things that happen in short time frames. Five counties of eastern North Carolina that are at sea level are seeing a change now from swamp forest to salt marsh. There's hardly a spot out there more than two feet above sea level."

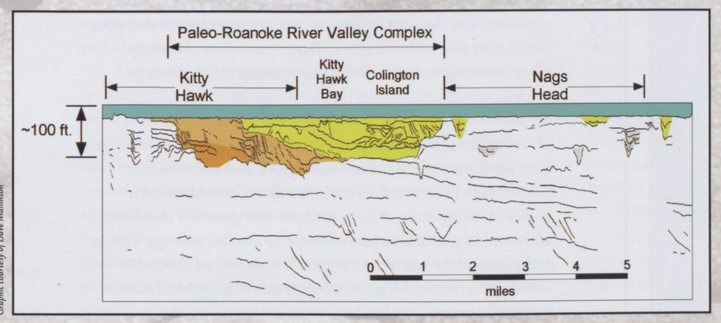
This new research project will put meat on the bones of his earlier work, he said, thanks to an alignment of resources, personnel and technology. "We have the potential to develop a detailed sea level curve," he said. "The evidence that we have in the sounds may be the best in the world if we can just learn how to read it." •



From Estuarine Shoreline Erosion in North Carolina: Cause and Effect by S.R. Riggs (in press)



Graphic courtesy of Steve Culver



Graphic courtesy of Dave Mallinson

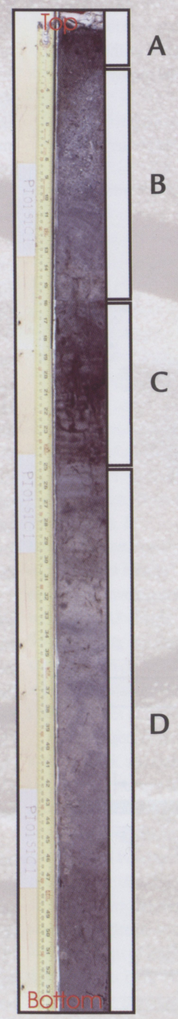
ABOVE: This map could depict North Carolina's Outer Banks and estuaries within one to two centuries, based on current rates of sea level rise and storm erosion. It could become reality sooner, however, if sea level rises faster or the pattern and intensity of coastal storms increases significantly. The thin black lines show the current outline of land.

RIGHT, TOP: Five vibracores helped construct this cross-section of Pea Island's sediment layers.

RIGHT, BOTTOM: This seismic profile of the Albemarle Sound approaching the Outer Banks indicates the locations of ancient channels, with yellow being the most recent.

GEOLOGY AT ITS CORE

Sometimes along with the science you need a little elbow grease



On a clear November day David Vance discovered a graduate student's most appreciated contribution to geology: young muscles. Jim Watson's homemade vibracore had all the grace of a jackhammer, and Vance had refused relief after taking his turn guiding the core's sleeve into the marshy sand of the Pea Island National Wildlife Refuge. He and the vibracore ceased their work only when they hit a hard-packed layer of sediment about 4 1/2 meters below the surface. If his professors' supposition proved correct, he had drilled down to Pleistocene-age sediment, 10,000 or more years back in time. Vance could be excused sore muscles, whatever their age.

As Vance wiggled his shoulders, the rest of the crew mulled the best way to extract the sleeve with its contents intact. They included Watson, the vibracore's creator and a technician with the geology department, and professors Steve Culver and Dave Mallinson. A short time later, Mallinson put his own muscles to work, hitching himself to a sled mounted with the antenna of a ground-penetrating radar and dragging it back and forth across a dry lake bed.

It is a scene they will repeat countless times in hundreds of variations over the next five years as they and fellow researchers seek to unravel the geological past, present and future of North Carolina's northern coast. The layers of their research are as complex and varied as the sediment they study.

Mallinson and coinvestigator Stan Riggs focus on the strategraphic record. With chirp sonar, ground-penetrating radar (GPR) and seismic records, they're charting the lay of the land underneath the surface of the sounds and barrier islands, following the dips and curves of sediment laid down and cut through by wind and water. Each technology fills in a different piece of the puzzle, able to read on land or over water, offering large-scale deep readings or finely detailed shallow readings.

Earlier, in his campus office, Mallinson had pointed to his computer screen. To his trained eye, the squiggly lines represented ancient, overlapping channels of the Roanoke River, now filled by layers of sand and mud and covered by the Albemarle Sound.

"We think we have a rather high-frequency record of sea level change because of these nested channels," he said. "You get one big channel, and that seems to fill in (with sediment) as sea level comes up, and then it looks like we have another channel that goes back across that and cuts into it. That's two events essentially. What I'm trying to do now is figure out where the channels go because as these get filled in with sediment, we can put a core through it and recover the sediments for age dating. This tells us where sea level was at a particular time."

LEFT: The first core recovered from Pea Island tells much about the history of the island over the past several hundred years. Each lettered section indicates material deposited in a distinctly different environment. A is modern marsh vegetation. B shows sand, pea-sized gravel and shell debris left by a storm-generated washover between 70 and 150 years ago. Carbon dating indicates the mud and marsh-plant remains in C are 200 to 500 years old. D is composed of medium-grained sand that originated either in the sound or an inlet.

Ground-truthing, the geologists call it. Throughout this project, there will be an abundance of ground-truthing as biology and chemistry answer questions about what all those squiggly lines mean and as one chemical signature is used to cross-check the findings of another.

Some of the studies focus on Pea Island. Riggs' assistant, Dorothea Ames, has acquired numerous sets of aerial photographs of the area, dating back to 1932. Comparisons of these photographs helped establish a detailed timeline of barrier island processes. Culver picked the Pea Island site based on the history she developed.

Back on the island, Culver sat down amidst the grass and oats near a sound-side marsh and opened his field notebook to an August expedition. On that day, he had hand-augured an exploratory core of just under two meters. His notes documented the layers it had revealed.

Scott D. Taylor

David Vance, left, takes over the vibracore from Dave Mallinson

"When you have a northeaster or a hurricane, sand from the front of the barrier island gets washed over to the back barrier where the marsh is," he said. "We take a core in the marsh and hope to get a record of the washover event and therefore a record of storm history. If we can date these events, we'll get some evidence of hurricane periodicity and some idea of how many of these storms have occurred over a period of time."

Culver will pay particular attention to certain microscopic creatures found in those layers. Called Foraminifera, these single-celled organisms grow up to a millimeter in size and form a wart-like shell either by clumping sand together or by secreting a shell-like covering. When they die, they leave behind the protective shell. Foraminifera are found in all marine environments, but different species live in different environments.

In the present study, Culver will decipher changes in the coastal environment — the salinity of the water and temperature trends, for example — by the type of Foraminifera living there at the time. He's starting with modern-day organisms and will use their distribution and habitat to interpret the conditions in which older specimens lived.

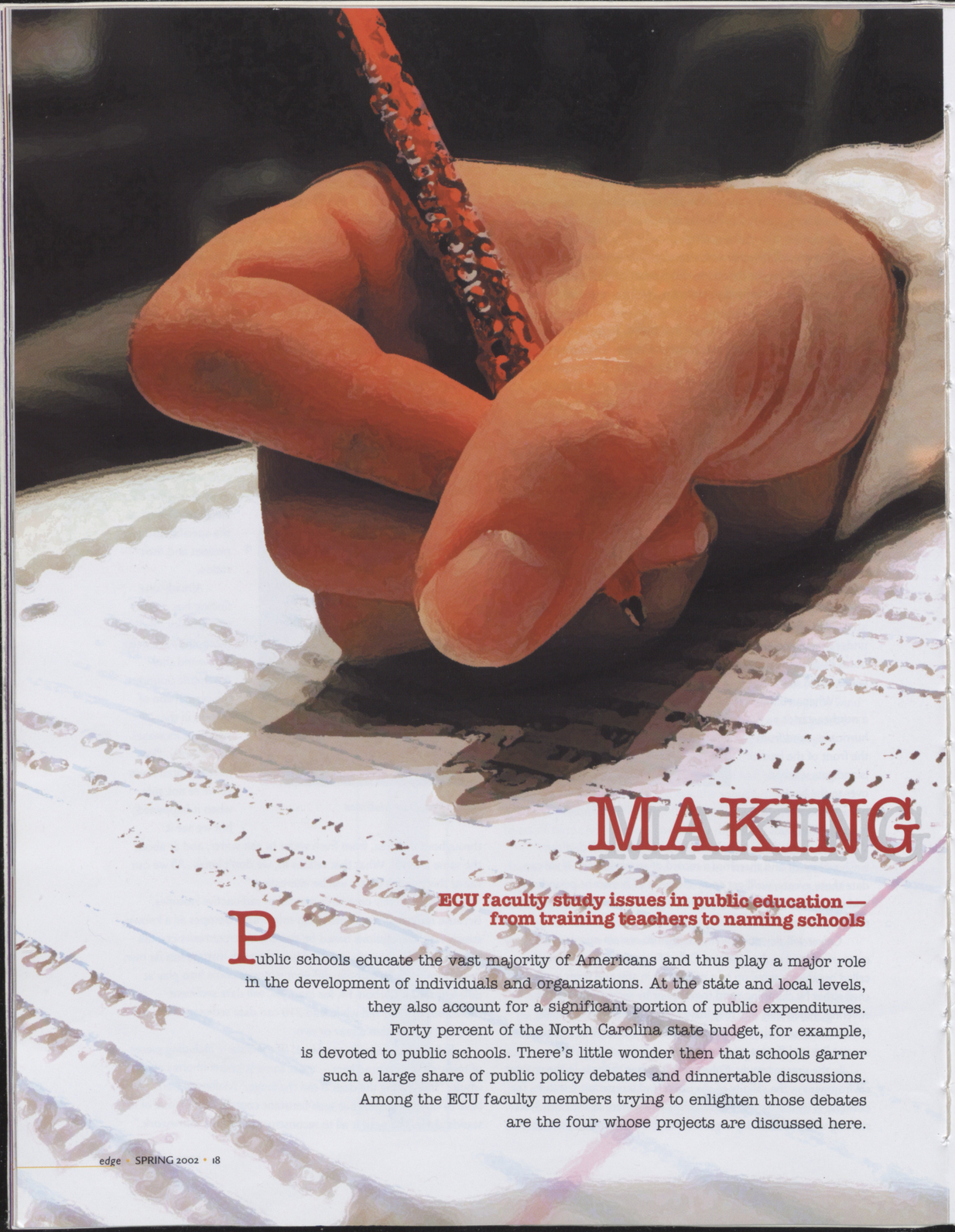
Reide Corbett, another faculty member scheduled to arrive at Pea Island the next day, will use the same cores to decipher other clues to environmental change and to begin assigning age dates to the various layers of sediment. He will focus on the geochemical signatures. Like Culver, he works backwards. "The present is the key to the past," he said. "The idea is to take the data set of the present estuarine system and then take longer cores and see what was going on in the past."

Stable, or nondecaying, carbon and nitrogen isotopes will provide information on the sources of sediment and where it's being stored. Soils of the past 100 years, for example, are likely to show a high nitrogen content because of fertilizer and wastewater runoff. In addition, terrestrial, brackish and marine sources carry different carbon and nitrogen signatures. Corbett will look at the specific isotopes present and their ratios.

Already one finding has piqued his curiosity. About 30 centimeters deep all around the Albemarle Sound, the proportion of carbon in the sediment increases significantly. "We haven't dated it yet so we're not sure when it happened, but we see it throughout the area, from fresh water to salt water, and at about the same interval. What that relates to, we don't know. All we can say at this point is that it will be interesting."

Dating will rely on a large arsenal of radioactive isotopes. Because radioactive isotopes decay into stable isotopes at a known, steady rate, calculations based on current measurements can tell how old certain deposits are. And because each isotope has its own decay rate, called a half-life, different isotopes come into play at different times. Carbon-14, for example, will date sediment thousands of years old while lead 210 can date sediment from the past 140 years within a year or two.

Before the project is complete, all the data — including pieces of research not covered here — must come together in one coherent whole. "Integrating the data is the challenge," Mallinson said. "We have to do it piecemeal but with constant coordination. None of it stands alone. We need it all to reconstruct the whole framework." •



MAKING THE GRADE

ECU faculty study issues in public education — from training teachers to naming schools

Public schools educate the vast majority of Americans and thus play a major role in the development of individuals and organizations. At the state and local levels, they also account for a significant portion of public expenditures. Forty percent of the North Carolina state budget, for example, is devoted to public schools. There's little wonder then that schools garner such a large share of public policy debates and dinnertable discussions. Among the ECU faculty members trying to enlighten those debates are the four whose projects are discussed here.

TWO PATHS, ONE RESULT

Stunned. Dumbfounded. Disappointed. Dr. Parmalee Hawk found plenty of ways to describe her reaction to the results of her latest research project. She had just completed an intensive analysis of beginning teachers that found no significant differences in the performance of teachers who had graduated from college with a degree in education and "lateral-entry" teachers who came to the field straight from other careers without formal teacher training.

For school superintendents and principals, the findings suggested that an increasing reliance on lateral-entry teachers need not harm students' education. For a professor of education, however, the results were shocking. "I've spent most of my life doing this (preparing teachers for the classroom)," Hawk said.

The state Board of Education paved the way for lateral-entry teachers in 1985 when it created a new route to licensure as a teacher. It allowed college graduates with degrees in fields other than education to begin teaching immediately in areas of their expertise so long as they simultaneously took teacher-education courses through an accredited program.

The initial goal was to attract trained professionals from industry, government and the military, particularly for math and science classrooms. Since then, the growing shortage of classroom teachers has led to more widespread application. Today, at least one new teacher in four comes through a lateral-entry program.

The question for Hawk was whether the quality of teaching was affected by the entrance of these non-traditional teachers. Existing literature focused on perceptions of teachers with little hard data about performance, she said. Her study, funded by the N.C. Department of Public Instruction and University of North Carolina General Administration, sought objective assessments on two measures:

- Classroom performance.

Carefully trained observers rated teachers using standards established for evaluating North Carolina's teachers. Hawk said the standards have been well validated and examine traits known to be effective in teaching. The observers did not know how the teachers had been trained.

- Student achievement.

Students were tested, using the Stanford Achievement Test, at the beginning and end of their course with the teacher.

To reduce the variables affecting performance, Hawk limited the research to matched pairs of teachers, that is, a first-year teacher with traditional training and a first-year lateral-entry teacher in the same subject area and in the same school. The study found no significant differences in classroom performance or in student achievement.

While interesting, Hawk said, the results are far from conclusive. She was able to enroll only 10 pairs of teachers in the study. All taught in either middle school or high school, and all taught in-field, that is, they taught the subject in which they held their undergraduate degrees. "This really ought to be repeated with larger numbers and with elementary teachers since there really is no degree other than education for that," she said.

For now, Hawk has drawn a few significant lessons. "It tells us there is more than one way you can be a teacher," she said. "It says that for traditionally prepared middle and secondary teachers, those precious hours spent on content (as opposed to teaching techniques) are well spent. And the best thing is that school systems can feel some confidence in the abilities of lateral-entry teachers if they hire in-field. "

GRADING MENTOR PROGRAMS

Several state and national reports suggest that as many as 70 percent of public school teachers leave the profession within their first three years. "It's a terrible waste of talent and a critical issue directly related to the quality of public schools," said Dr. Vivian Mott, associate professor of adult education.

Many states and local districts have initiated programs to stem the tide, from paid sabbaticals to a requirement that all beginning teachers be matched with experienced mentors. Mott is leading a longitudinal study evaluating the role such programs play in teacher success and retention. "We throw out a lot of potential remedies," she said. "This study will put empirical research behind the practices." Funding comes from a grant program run by the School of Education.

In the study's first two years, Mott and her fellow investigators conducted focus groups and one-on-one interviews with about 60 teachers in the Pitt, Nash-Rocky Mount, Greene and Wilson school systems. They are following the teachers over time, through the ups and downs of their teaching experiences, to find sources of encouragement and discouragement. They hope to add more teachers each year.

With the cooperation of the school systems, the investigators recruited teachers for the study to ensure a range of experience. Among the more specific conclusions from the first two years of the project were:

- The mentoring systems need to be refined.

The most successful mentoring partnerships were those that teachers established on their own, rather than through assignments. Whether assigned or voluntary, the mentoring relationships needed a regular commitment of time. They also worked best when the mentor and new teacher taught the same grade or subject area and when they taught in the same school, so help could be just down the hall. "When a new teacher needs help, needs an idea or needs to bounce an idea off of someone, it doesn't do any good to call and make an appointment three days down road with someone at another school," Mott said.

- Teachers need time to reflect and talk.

Time proved to be a recurring theme in the interviews. Mott said the teachers cited the importance of scheduled but unstructured free time. "The sort of thing that we heard is that

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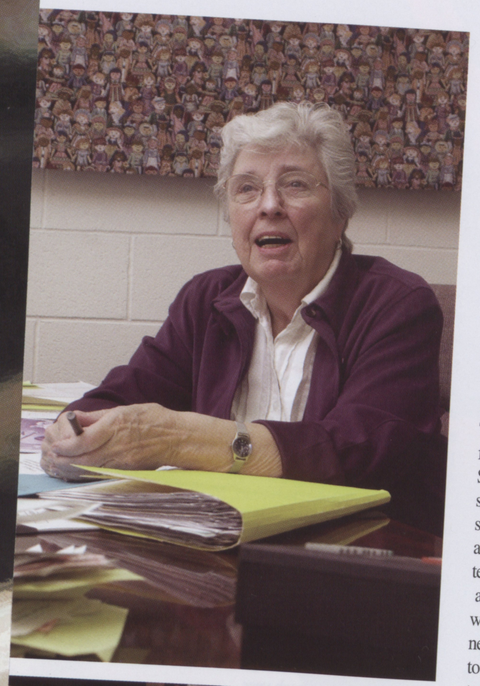


TOP: Parmelee Hawk's study shows lateral-entry teachers doing well in the classroom.
BOTTOM: The best mentors are the ones new teachers find themselves, says Vivian Mott.

they're given a planning period but seldom get to use it for planning or dialogue," she said. "New teachers particularly need to be supported with time and space to talk with other teachers about what they're doing and why."

• **Professional development should focus more directly on teaching.**

The teachers drew a sharp distinction between professional and staff development. They defined professional development as focused on improving teaching effectiveness. Staff development was more oriented to school and administrative issues. "Professional development was seen as more advantageous and at the choice of the teacher," Mott said. "The only ones without a negative perception of staff development were the new teachers. They used it as a networking opportunity, and they needed to know everything. The more years that teachers had in the classroom, the more resentful they were of staff development as not relevant and taking time away from what was important."

• **The desire for the recognition as professionals is strong.**

Although higher salaries and improved resources came up in interviews, they didn't top the list of ways to improve administrative support. Instead, the teachers asked to be recognized and treated as professionals. For example, Mott said, they know when they need to be at the school, without having before- and after-school hours set for them — hours that may ignore how much time they spend working at home.

Mott has presented the project's findings at state and international conferences, through workshops with the participating school systems and through an article accepted by *The Journal of Teacher Education*. Although the results cannot be generalized to represent all teachers, she said, the data provide valuable insights. "People who go into teaching want to do a good job and make a difference," she said. "We can learn a lot from them about what they need to do jobs better."

DO SCHOOLS IMPROVE WITH COMPETITION?

Charter schools emerged as one proposed solution to the dissatisfaction with public school education that spread nationwide throughout the 1980s and early '90s. The idea behind them is to give publicly funded schools greater flexibility in how they operate so long as their students perform at acceptable levels. The schools also respond to calls for greater choice in education. Enrollment in a charter is elective, and the schools may tailor their programs for specific groups of students.

Minnesota passed the first legislation authorizing charter schools in 1991. Since then, 35 states have followed suit, and today more than 1,700 charter schools nationwide enroll 350,000 students. The North Carolina General Assembly authorized charter schools in 1996. Last year, 90 charter schools enrolled 15,500 students statewide. That was out of 2,112 public schools and 1.3 million students in North Carolina.

Dr. Mark Holmes, assistant professor of economics, wants to know how well those schools are fulfilling their promise. "There are two main arguments for charter schools," he said. "One is that they're good for the students they enroll. The other is that the competition for students will give traditional schools a kick in the pants." He is focusing on the second argument. Because charters enroll relatively few students, he said, their effect on traditional schools holds potentially greater importance.

Holmes theorizes that traditional schools nearest to charters will feel the most pressure to improve student performance and thus to build demand for their product, that is, enrollment in the school. Limiting his study to North Carolina, he compares school-performance data based on standardized end-of-year testing over several years. His comparison of 1,300 traditional elementary schools found a small but statistically significant difference in performance between schools within five miles of a charter school and those 10 miles away.

Even so, he has more questions than answers at this point. Does a traditional school compete only with the nearest charter, or is the number of charters schools within a given distance more important? Do some groups of student benefit from the competition more than others? In theory, he said, students closer to the performance level of the charter school's target audience should benefit most. Furthermore, if the charters do lure away a certain group of students, those remaining at the traditional school will be more homogenous. Does that have an effect on performance measures?

"It's much more difficult to get at than I expected," he said.

Holmes also is looking at several other questions related to school performance. He has found evidence, for example, that current standards drive schools to concentrate on helping borderline students pass their end-of-year tests while providing little or no incentive to help students at the top or bottom of their classes.

"We have to think as a society about what we want out of schools," he said. "If we're going to use test scores to measure whether schools are good or bad, we need to understand what drives them."

WHAT'S IN A NAME? CONTROVERSY

Dr. Derek H. Alderman, assistant professor of geography, has a keen interest in the role of place names in public commemoration. He cut his academic teeth with a dissertation on the politics of naming streets after the Rev. Dr. Martin Luther King Jr. When a dispute over naming a California high school for King made national headlines in 1998, Alderman found a new avenue to explore.

"Place names, whether a school name or a street name, are a way for us to identify ourselves," he said. "They are important and powerful symbols."

In Riverside, Calif., the school board announced plans to name a new, predominantly white high school for King. Some parents protested. They respected King's accomplishments, they said, but feared that attaching his name to the school would hurt their children's chances of being admitted to a quality college. Admissions officers might assume the school was predominantly African-American and, making a further assumption, low-achieving. After intense debate, the school board stood by its decision.

Alderman used the incident to frame a larger study. The resulting paper, "School Names as Cultural Arenas: The Naming of U.S. Public Schools after Martin Luther King Jr.," has been accepted for publication in an upcoming issue of *Urban Geography*.

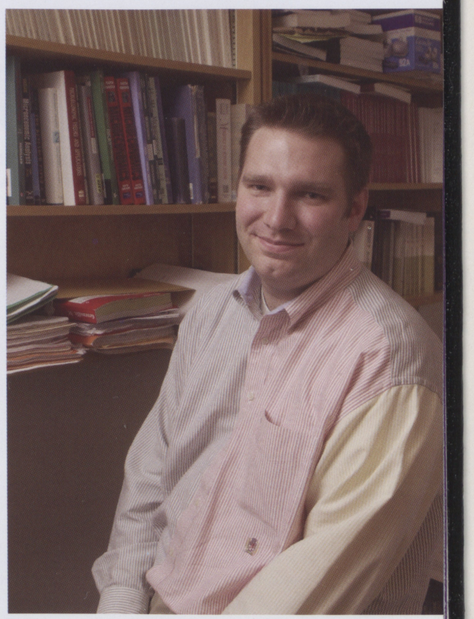
The school naming issue can become so intense that many school boards have developed complex rules for names. Others refuse to name schools after people, instead referring to inanimate objects or geographic features and locations.

"If you name a school Northwest High School, it doesn't tell who you are culturally," he said. "On the other hand, people fight over these issues. They will have very different ideas about what part of culture or history should be commemorated."

Naming and renaming schools for King is part of a larger effort of minority groups to reclaim a part of their heritage, Alderman said. When schools were integrated and consolidated in the 1960s and '70s, the names of many formerly minority schools were changed to appease whites. Just as the names of Booker T. Washington and George Washington Carver seldom adorned all-white schools, King's name today has largely been given to schools heavily populated by minorities. Of the 110 public schools Alderman found, most were in central cities.

"Some activists have expressed concern about naming streets and schools for King in African-American areas only," Alderman said. "Their argument is that he was for all races and that his name should be seen and recognized by all. That's why Riverside was so important. It was about crossing boundaries, and King was about knocking down boundaries to race and class."

Alderman said he's interested in following up to see how the schools integrate King's memory into the schools — whether it becomes just a name or is incorporated in the mission. "A lot of people suggest now that we should be teaching character education in the schools," he said. "What better way to teach character than to name school after someone who exemplifies good character and building on that?" •



TOP: Mark Holmes finds more questions than answers about charter schools' impact.
BOTTOM: Place names are powerful symbols of culture, says Derek Alderman.

Safety First

A STRING OF PROBLEMS NATIONALLY FOCUSES NEW ATTENTION ON PROTECTIONS FOR HUMAN SUBJECTS IN RESEARCH

Medical research involving human subjects has made headlines in unwanted ways over the last few years. Several research volunteers — including at least two healthy young adults — have died, and federal regulators temporarily halted clinical trials at some of the nation's leading biomedical research centers. The developments caused some lay people, researchers and ethicists to question whether established safeguards are fundamentally flawed.

In the United States, biomedical and behavioral research involving human subjects is regulated by the federal Office of Human Research Protection. Among other measures, the office requires all such research to be cleared in advance and monitored in progress by local committees called institutional review boards, or IRBs. Both IRBs and researchers are expected to adhere to the standards set forth in a 1976 document known as The Belmont Report. The report outlines three basic ethical principles:

- *Respect for persons, which in turn has led to the requirement for the informed consent of research subjects.*
- *Beneficence, meaning that the possible benefits of the research should be maximized and possible harms minimized.*
- *Justice. The principle of justice seeks to ensure that the burden of medical research does not fall unduly on vulnerable populations such as prisoners and welfare recipients and that medical advances resulting from publicly funded research be made broadly available and not limited to those who can afford them.*

To learn more about issues involving human research subjects and their protection, edge *turned to Dr. Paul Cunningham, chair of the ECU University and Medical Center Institutional Review Board from 1997 until spring 2002. Excerpts from that conversation follow. Cunningham, who also was chair of general surgery, left ECU in March after 18 years with the Brody School of Medicine to become chair of the surgery department at Upstate Medical University in Syracuse, N.Y.*

edge: Problems involving research with human subjects have received a great deal of publicity, but how widespread are they?

Cunningham: Have human research subjects been dying like flies on the streets or behind closed doors for years? The answer is obviously no. Is it a perfect system, a system that is beyond critique or without blemish as it is regulated by local interpretation by all the IRBs across the nation? The answer is no.

edge: Do you see a pattern to the problems that are occurring?

Cunningham: The regulation of human subjects research was for years overseen by an office within the National Institutes of Health. NIH had a collegial relationship with researchers across the United States and had a more or less benevolent approach to encouraging ethical research. Over time, the public ethicists across the nation recognized there were still issues related to research that needed to be settled and began a campaign that became rather public. With that, Congress removed governance of human research from NIH and put it under the Department of Health and Human Services with a new director and a new name and a new goal in life, and that is to regulate. HHS has a long tradition of regulation and is comfortable with this new role.

With the new emphasis on regulation, more questions are being asked about the performance of IRBs across the nation, and many IRBs that had gone on for years and years without any external review are surprised, to say the least, when they are visited by federal agents asking about the way human research is conducted and trying to match the record keeping or the process that has been approved with what is actually happening in the institution. In some situations when the questions were

Continued

Paul Cunningham, IRB chairman

asked, the answers were unsatisfactory to the regulators, and on return visits, in spite of consultative letters of reprimand, the problems had not been corrected. This has usually been interpreted as intransigence or even arrogance, rightly or wrongly, and as a result, several programs have been shut down. Many of the programs subject to this shut down have gone through tremendous evolutions. They have increased their staff and other resources that are now dedicated to the appropriate adjudication of human research.

edge: Has ECU made any changes as a result of these developments?

Cunningham: We watched with great interest from a distance and wondered if we would share that same fate. I had recently been appointed to be chairman of the IRB and recognized the opportunity to look at ourselves much more critically and to develop a new structure to help with maintaining the principles set forth in our federal regulations. We have hired an office administrator and additional office staff for the institutional review board. The IRB staff previously consisted of the chair and one assistant. We created a website to help researchers understand the requirements and guide their applications for review. We have gone from one to two meetings of the board per month and have a robust and intense process of review. We have established three vice chairs. All of this took place over the course of two and a half years. We also expect to expand our physical presence to the main campus in the foreseeable future.

edge: Describe the review process.

Cunningham: We have different levels of review — full review, expedited review and a thing called exempt, something that is determined to be not under the jurisdiction of the IRB because it is not research or is so trivial that it does not need to be reviewed on a continuous basis. That which is expedited is done by the chair or the designee of the chair, an experienced IRB member. That which requires full review is under the purview of the whole IRB sitting together.

For a full review of a single proposal, an experienced reviewer will need between four and six hours of study to do a first-class job with that particular work. That's in advance of a board meeting. Everyone looks at the research proposal, but we also have people designated as a primary and secondary reviewer (who make recommendations). They can recommend we approve the project. They can recommend we approve it once modifications are made, sometimes expeditable by the chair and sometimes they have to return to the IRB. They can recommend we disapprove it, or we can table something. Also, we sometimes invite investigators in to answer questions. Because each research project is unique, the discussion is entirely unique.

edge: What do you see as the most crucial or difficult elements in terms of protecting human subjects?

Cunningham: The IRB's job is to tilt the risk-benefit ratio to the clear advantage of the human subject. The most challenging component is the assessment of risk. Sometimes clinicians or those in academia take some risks for granted. It is important to look through the eyes of the research subject to understand all of the potential ramifications of risk and then take steps to alter the risk-benefit ratio to the advantage of the volunteer participant.

edge: How do the faculty researchers view the process?

Cunningham: The IRB walks a fine line between being considered an agent of obstruction and one who is providing a service and support. Perhaps the criticism we have gotten in the past is that we are not perfect at adjudicating the same issue in the same way every time. The IRB has some institutional memory, but it does have a dynamic that is based on the feelings of the individuals who are convened on that particular day. The chair has tried to work through a system where the reviews have a more defined system so we cannot be as frequently criticized for being capricious in our judgment.

edge: In one report, the U.S. Department of Health and Human Services said IRBs in general "review too much, too quickly and with too little expertise."

Cunningham: I'd love for that message to go to all the investigators. To reach a higher level of perfection, it requires a more in-depth review, and that takes time. Time in review, however, adds to the level of frustration in the researchers. So the IRB leadership has to be sensitive to that dynamic and respond appropriately. There is an element of pragmatism associated with IRB. One needs to get the work done.

edge: Do you run the risk of becoming, like the NIH, too collegial with the people you're overseeing?

Cunningham: Again, we have to walk a fine line. The IRB is a department of the university, but there is such a thing as conflict of interest so it holds itself at arm's length from the institution itself. I have to be careful to recuse myself, for example, if I feel uncomfortable about my ability to judge an issue that is related to some lucrative grant that may be coming to my department or to the medical school or some section that I clearly would like to champion. And that goes for all members of the IRB. We all have pet projects. We all want the university to be successful. On the other hand, we have to be careful not to be too permissive.

edge: Have there been any projects here that on reflection you think maybe shouldn't have gone forward or should have been carried out in a different way?

Cunningham: Not yet, that I'm aware of.

edge: Some people who follow medical research have suggested that adverse events are underreported nationally. Do you think that's true?

Cunningham: I absolutely am certain that all are not reported *and* in a timely manner *and* in a way that an IRB can make sense of it. For example, there are studies that are being done across the world, and literally we will get hundreds of reports of so-called adverse events. It's impossible for an IRB, isolated as we may be and insulated within the United States as we clearly are, to really do justice to a review and adjudicate as to whether four or five or six or seven or 50 of these events should make a difference as to the way a study is conducted. Some sponsoring bodies (some pharmaceutical companies, for example) make sure that they have what is called a data safety monitoring board independently constituted that can collect all of this information, review it intensely, apply statistical powers to it and make recommendations, and we trust them. That is the most useful collaborative relationship that an IRB can have with a study sponsor. However, in non-sponsored programs where an individual investigator is engaging in a study, that person is unlikely to have the capability to hire his or her own data safety monitoring board, and therefore it is left to the IRB to create some mechanism that can substitute for the more rigorous approach. We have not been able to put that into consistent practice here to date, and I don't think anybody else in the nation has been able to do that.

edge: Informed consent is one of ethical cornerstones of medical research using human subjects. How do you make sure the consent is as informed as possible given the complexities involved?

Cunningham: We provide a standard consent format with the basic elements included. But because every piece of research is unique, the content has to be tailored to those basic elements that should be indicated. The principle that I think should be emphasized is *informed* and *voluntary*.

Issues arise when there are cultural concerns. For example, in the region we are seeing increasing numbers of Hispanic-Americans settling and making eastern North Carolina their home. It makes little or no ethical sense to offer Hispanic-Americans with limited English a consent form written in English for them to read and sign. Furthermore, the grammar and syntax that we are accustomed to using in English may not be satisfactory for certain subcultures in the Hispanic-American community. Some come from Nicaragua. Some come from Mexico. There are all sorts of countries that all speak Spanish but have different values. It can become very complicated when one has to deal with cross-cultural issues that seem at first blush to be very simple: just translate the form into Spanish and then it's over. But no, we have to translate from English into Spanish, then have an independent person who understands the culture read it and translate from Spanish back into English, make sure it means the same thing and has the same implications on the individual who is reading it — that it's not too authoritative, that it doesn't say strange things that have no real context in the language. These are some of the subtleties that are sometimes frustrating and expensive for the investigators and the IRB.

edge: Right now there is a push nationally to do more testing of drugs on children, and there are discussions about gene therapy and about privacy rights for research volunteers. How do the new issues that keep coming up affect the IRB's work?

Cunningham: Tissue banking is another major item of discussion. With each demand, complexity, evolution, it's going to make it very interesting for IRBs. We will have to spend more time thinking about these issues and providing customized solutions for each of these areas. Brand new inventions will tax us in the same way.

edge: Could you explain the tissue banking issue for us?

Cunningham: Modern science has allowed us potentially to create a whole human being from a single cell. It has now become apparent that if someone donates a piece of tissue, it may have some connotations for the most remote distant future. Therefore, it is important when individuals provide tissue, even anonymously, that there is a mechanism to take this into account.

Let's say if I take a small portion of you and preserve it somewhere in this institution. Twenty years from now I could create another you. Not only would I know who you were — so this thought of being confidential would disappear — but it would clearly affect you in some very meaningful way, that I created another you, especially if I sold some pieces of the other you for money. Or I may discover that your progeny could benefit in some way as a result of the work I am now doing. Now your grandchildren are alive, and because I have a piece of your tissue, I'm recognizing that there is something that needs to be told to these people whom I don't know. These possibilities are causing IRBs to reflect on the ways that information is being shared with the prospective research subjects. I may need to tell you some of this for you to feel comfortable sharing a piece of your tissue.

In addition, there are now guidelines currently that if your tissues would be discarded anyway, there should be free and easy access that facilitates research using that tissue. Even that is coming under discussion.

edge: Dr. Albert Jonsen, one of the authors of The Belmont Report, has suggested that we need to revisit the Belmont principles to strike a better balance between the greater good for society and individual rights. Do you agree?

Cunningham: The Belmont Report, I think, says it all. It may not say it as precisely as some would wish who are more thoughtful and who might like to codify, amplify, add a couple of additional elements of clarification. But I think it has withstood the test of time and in my judgment continues to serve us as a strong principled foundation for any sort of work that is intended today or that I can anticipate in the future. If you really truly believe in those principles — respect for individuals, beneficence and justice — then you're going to do the right thing. •

Free at Last

'Wherever Allen Parker went, we wanted to be there,' say students who made an ex-slave's story their own

To My Mother:
Whose eyes were not permitted to see the emacipation of her race, but who died a slave and now lies buried in an unmarked and neglected grave on the old plantation in the sunny south, near where she spent her life in unpaid toil for others, this little book is affectionately dedicated.
(*Recollections of Slavery Times by Allen Parker*, Dedication)

A year ago Joyce Joines Newman sat at a graveside in Worcester, Mass., and talked to a man she'd never met. A man who died nearly 100 years ago, who was no relation of hers and whom she'd never heard of until a few months earlier.

The story she told him strained belief. How a 21st century college professor had stumbled across a copy of the autobiography of his years in slavery. How the professor had introduced this slim volume to a dozen students, herself included, attending a university near his Chowan County, N.C., birthplace. How it had inspired those students to spend months tracking down the details of his life. How that search had brought her from Greenville, N.C., to Worcester. How all of them wanted the world to know his story, to understand what he and others like him had endured, to hear his voice. Surely, for a former slave who lived and died in obscurity, this was all too much to take in.

For Newman, the wonder lay not in the story she told Allen Parker, but in the story of Allen Parker's life. "It really hit me in the graveyard," she said. "This book was dedicated to his mother, who lies in an unmarked grave in the South. His own grave was decorated with a flag for Memorial Day and had a granite marker on a hill. Just the difference between the South and North, an unmarked grave vs. a marked grave — what a tremendous accomplishment for him."

Remarkable as both stories already are, a new chapter is unfolding. The students are negotiating with a publisher to re-release Parker's book, *Recollections of Slavery Times,* complete with their annotations documenting his story and fleshing out its subtleties. Already, a website they developed is attracting the attention of serious scholars. In addition to the text, annotations and notes on the class project, the website includes lesson plans for elementary and secondary school classes. The plans were developed by graduate students of Dr. Joy Stapleton, assistant professor of education, who became interested in the project after meeting Newman. Stapleton and Newman presented a paper on the collaboration at the March 2002 international conference of the Society for Information Technology and Teacher Education in Nashville, Tenn.

I do not know exactly when I was born, for slaves keep no family records. (Chapter 1)

Perhaps the only person more amazed than Parker would have been by these developments is Dr. David Cecelski, who was the Whichard distinguished visiting professor of the humanities in the history department in the 2000-2001 academic year. "There was something magical about what happened that semester," he said. "They had enthusiasm and drive and for the right reasons, not for a grade. They got attached to Allen Parker and wanted to tell the world his story. They did world-class research. It was the most extraordinary teaching experience I'd ever had."

Cecelski had discovered Parker's book, published in 1895, a few years back in a Midwestern library. At the time, it was the only known copy in existence. One other has since been located.

The book chronicles about 25 years of life on the Martinique plantation in northeastern North Carolina. He details his own life, such as being rented out to poor white neighbors and watching his mother

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BACKGROUND: "Cotton Hoarding in the Swamp" depicts life as Allen Parker would have know it. The illustration comes from Report of the Services Rendered by the Freed People to the United States Army, in North Carolina, in the Spring of 1862, After the Battle of Newbern *by Vincent Colyer, superintendent of the poor under Gen. Burnside, published in 1864.*

ABOVE: Also from Colyer's book are the illustrations "Arrival of Freed People" and "Chopping Wood and Cooking for Hospitals." BOTTOM: Edward Mosely's map, circa 1733, shows the region of North Carolina that Allen Parker knew well.

being beaten by one of them, but also describes pastimes such as raccoon hunting, common superstitions, and techniques used in logging. Humor weaves through drama and factual recitation. Finally, Parker depicts how he and slaves from a neighboring plantation stole a dugout canoe to escape to freedom by way of a Union gunboat plying the Chowan River in 1862.

For his first semester at ECU, Cecelski mapped out a weekly seminar called "The Slave Narrative in American History." To supplement course readings, he would introduce his students — a mix of undergraduates and graduates — to historical research with a few assignments based on Parker's story. Once the students started digging, however, Allen Parker became their mission. Cecelski tossed aside his syllabus. Instead of reading what historians had to say, the students *became* historians, conducting original research under Cecelski's guidance. Several continued the work through an independent study course the next semester and then on their own into the 2001-2002 year.

The challenge throughout was to find the records to substantiate Parker's story, both about his life under slavery and the one he went on to live after his escape. "The question was, what can we learn about history from this narrative," Cecelski said. "The way to go is to get the details right first, to find out who all these people (mentioned in the narrative) were, what life was like then. Once you have that, you can step back and make conclusions about the nature of slavery here vs. in Alabama or whatever you want to ask."

The following year I was let out alone for my board and clothes, that is two shirts and two blankets. (Chapter 3)

Each scrap of information revealed itself only after tenacious digging. No slave Bibles charted the family tree, and while Census records listed every white by name, slaves were merely numbered property. The first time the students found Parker mentioned by name, it was on a record detailing how his owner had rented out the child Allen and his mother over a 10-year period.

To cover as much territory as possible, the students divided responsibilities, with some taking manuscripts or local history while others tackled genealogy, military history or life in Worcester. They set up an e-mail group to discuss developments between weekly class meetings, and Newman created a website that brought all their material together.

Theresa Nelson, a graduate student in history, drew the task of tracing Parker's genealogy or, more accurately, that of his white owners. "The genealogy led us to where Allen Parker was from," she said. "I spent countless hours going through Census records trying to understand the size of Martinique and what it produced. We were looking for anything we could find, not just about Allen Parker, but about being a slave in northeastern North Carolina because you have to understand the context in which he lived."

She eventually found Martinique itself, still owned by descendants of the family that held the original land grant. She visited family members, who gave her access to family records, and led the class on a field trip to the plantation, including the original plantation house, a slave cabin and a slave cemetery. Like every other aspect of the project, one step led to another. "I spent time with the archives in courthouses in Hertford and Edenton running down clues," she said. "I went to New Bern. Wherever Allen Parker went, we wanted to be there."

The very fact that he offered anything for sale was considered evidence that it was stolen. (Chapter 5)

The students also followed the trail to places Allen Parker never visited. As celebrants gathered on the anniversary of the Million Man March, graduate student Robert Scott Thompson zigged and zagged his way across the crowded Washington Mall to the National Archives. A record of a military pension could confirm another detail of Parker's story: that he had spent a year as a free man serving in the Union Navy.

The first documents Thompson checked turned up nothing. "The people there weren't really sure where to look," Thompson said. "They said we have this other stuff but we don't think it will be in there." Nonetheless, he sat at the microfiche reader and went back to work. Four hours later, bleary of eye and empty of pocket, Thompson had his prize.

The trip to the Archives was his last stop on the way back to Greenville after visiting a friend in Baltimore. He'd had $19 in cash. Some 177 pages of affidavits and correspondence about Parker's pension application filled three sheets of microfiche. "Here was more than 100 pages written on this one guy who had seemed obscure," he said. "Most pension records had only 10 to 15 pages, but he was denied his pension at first so he had to prove his case." With his $19, Thompson printed copies of as many pages as he could and headed home. He could now verify Parker's military service, though on the captured gunboat *Norcum*, rather than the "Knockum" of Parker's narrative, and he had a physician's affidavit describing a small man in poor health with bad feet, a sad state for one who then made his livelihood as a street vendor of candy and popcorn.

As the students fitted the evidence together, the string of annotations grew. Where Parker tells of runaway slaves, notes cite the laws and punishments for running away along with contemporaneous reports of the frequency of runaways while Union forces occupied eastern North Carolina. A photograph of Smalls Crossroads shows the present-day site where owners once auctioned off the services of their slaves. Each person Parker mentions gets a word of explanation. A cousin Allen may have lived with for a short time in New Haven, Conn., is identified. Another note clarifies the way Allen Parker's owner, Peter Parker, disposed of property in his will. Before they were done, the students' annotations and addenda would exceed the length of Parker's manuscript.

Besides these he had a large number of oxen that were used for hawling the great logs out of the woods. (Chapter 7)

Parker devotes only two short paragraphs to life after his escape, giving the students little to go on, but with Susan Butler working the phones, little proved adequate. Butler was one of a handful of nontraditional students in the class. She works full time as systems liaison in Joyner Library's North Carolina Collection and is completing her undergraduate degree a course or two at a time.

Butler proved to be not only tenacious, but persuasive. Her job was to uncover Parker's life in Worcester, and she had to do most of the work long distance. One by one she charmed, cajoled and wheedled people into helping out. "People love talking about their hometowns," she said, "and because I was so excited, I guess it was contagious."

A librarian looked through back issues of newspapers to find Parker's obituary and faxed her a copy. Someone at the cemetery sent her burial records and drew a diagram of the family graves. The town clerk typed up a copy of Parker's death certificate, e-mailed it to her and followed up with a photocopy of the original.

She regrets that all accounts of Parker have been filtered through someone else's eyes. Because Parker was illiterate, he left nothing in writing. Even his autobiography had to pass through someone else. Still, she sees him clearly.

"I see a small man, not broken, but not in the best of health," she said. "Even though he was freed, life didn't get any easier. I thought of him as one step ahead of the bill collector. His children died young. The obituary describes him as always smiling and says children loved him, but I'm not sure whether he kept a smile pinned to his face because it was the safe thing to do in the white culture. I see him as a very careful man."

In a few days I embarked in the United States Navy and was placed on board a vessel that had been captured from the rebels. (Chapter 8)

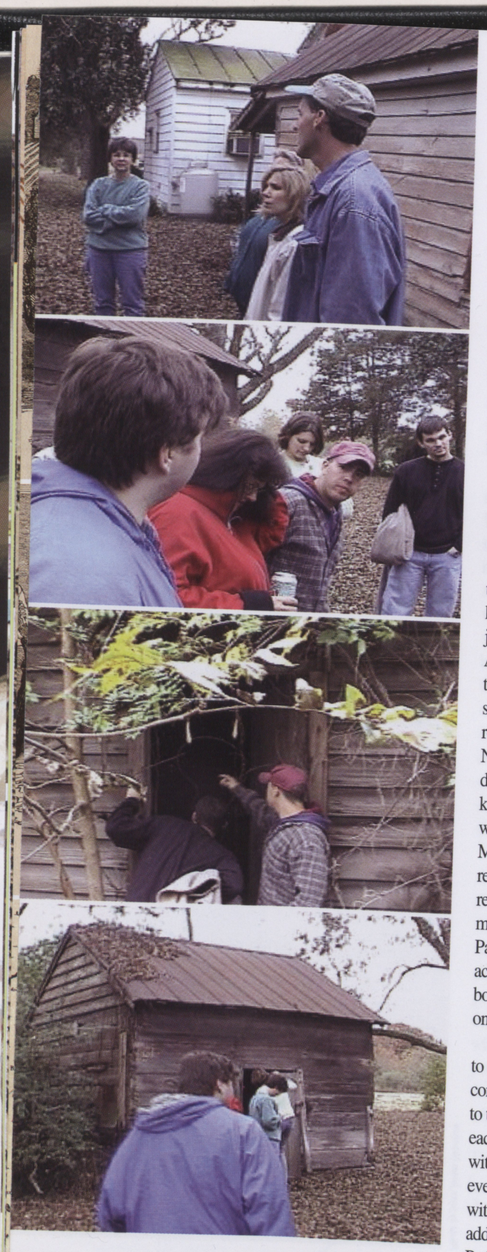
Some details of Parker's life may never be known. Why did he travel to England in 1904, and who paid for the trip? But as long as a trail existed, the students followed it. Eventually, that meant a trip to Worcester.

Because others couldn't get away, the trip fell to Newman, an instructional technology consultant to the College of Arts and Sciences who took the course as a post-

Continued

Photo by Joyce Joines Newman

TOP: Joyce Joines Newman created the website that pulled the class materials together. MIDDLE: Susan Butler found allies willing to help piece together Allen Parker's history in Massachusetts. BOTTOM: Allan Parker's grave in Worcester, Mass., is decorated for Memorial Day.



The class takes a field trip to Martinique plantation in Chowan County, where Allen Parker lived as a slave for 25 years before his escape in 1862. The plantation is still owned by the family that held the original land grant. Wearing the hat in the top photo is professor David Cecelski. These scenes were taken from a video made on the trip.

baccalaureate student. In Worcester, Newman met with two scholars who provided valuable guidance: Dr. Janette Greenwood of Clark University and Dr. Thomas Doughton at the College of the Holy Cross. Greenwood's name had turned up on the website of the Antiquarian Society, the result of a lecture she'd given. Newman learned of Doughton through a more circuitous route. She had written to the present-day pastors of two churches mentioned in Parker's obituary. One passed her letter along to Doughton, who contacted her.

Newman followed Greenwood's lead to the Massachusetts National Guard Museum in hopes of finding a record of when Parker joined the Grand Army of the Republic, the American Legion of its day, and any details that might be included about his military service. "One of their staff took me to huge room with books stacked in a corner," Newman said. "He's saying all the while, we don't have those records, but while he talked I kept looking through books." The gentleman wasn't being an obstructionist, just a realist. Many years before, most of the Grand Army records had been destroyed. Only a few remained. The gods smiled. In a book of minutes, Newman found an entry noting that Parker had applied for membership and been accepted. "It was amazing that one of the books that survived just happened to be the one I needed," she said.

Doughton, whose family stretched back to the pre-Civil War African-American community in Worcester, introduced Newman to two sets of city directories. One came out each year and listed individuals alphabetically with their addresses. The second, published every other year, was organized by addresses with the names of everyone who lived at each address. With Doughton's help, she traced Parker's decline into deeper and deeper poverty by the neighborhoods where he lived. Once he began to receive his military pension, he moved yet again – but this time to a more affluent African-American community.

On the trip, Newman realized Parker's story was not ancient history. "Before I went up there, everything was in the past," she said. "Even though we'd been to Chowan County and seen where he lived and worked, it seemed distant. But when I went to Worchester and saw these huge industrial buildings, it came alive. I realized that when he was there, he saw the beginnings of the automobile and telephone. I was shocked because I suddenly realized how close he was."

From New Haven I went to various places, staying but a short time in each. I finally drifted to Worcester, where I have lived most of the time for the last thirty years. (Chapter 8)

Whenever the students encountered a potential stumbling block, they usually found someone willing to go the extra mile to help. Maury York, head of Joyner Library's North Carolina Collection, had begun the process by guiding them through Census records on Chowan County and kept his door open for brainstorming on how to track down new sources of information. The Parker family descendants, contacts in county courthouses and Worcester, and most of all Joy Stapleton and her class of teachers adopted the students' quest as their own.

As often as not, however, it was the students' themselves who pushed through obstacles. A graduate student coached an undergraduate in how to interpret historical evidence. Others pitched in to help their classmates with research when the going got tough, offered suggestions and lent moral support. What had begun as a class assignment continued as a personal mission and concluded with a profound sense of connection, and not only to Parker.

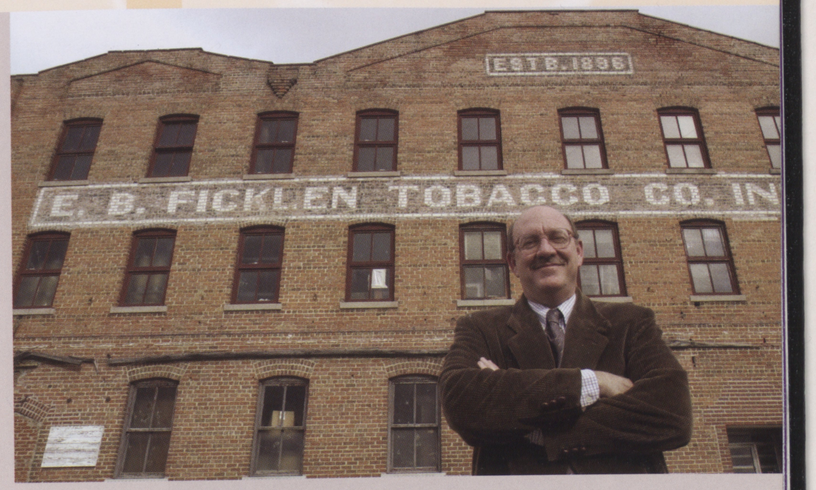
"He was Everyman, every black man before the Civil War and after," Nelson said. "Through him, I was able to get an understanding of how former slaves tried to make it. There was nothing unique, nothing special about Allen Parker, and that's what makes him so wonderful." •

For more on the Allan Parker slave narrative project, visit the class website at http://core.ecu.edu/hist/cecelskid/.

Members of the class were Susan Butler, Dayna S. Dunn, Julie Gorman, Joan Joyner, Theresa Nelson, Joyce Joines Newman, Stephanie Noles, Darlene Perry, Rob Thompson and Kevin Treadway.

URBAN LEGENDS

Historian turns his focus from machine politicians to the towns tobacco built



The history of tobacco towns has received little attention, says Roger Biles.

Dr. Roger Biles is a big-city man. From his parents' home, he could smell the tear gas and see the orange glow of downtown Chicago burning during the race riots of 1968. He has written biographies of two of Chicago's biggest machine politicians – Mayors Edward J. Kelly and Richard J. Daley – and one on the antithesis of machine politics, Illinois' three-term U.S. Sen. Paul Douglas. He also has examined the Depression, the New Deal and federal housing policy, primarily as they affected major urban areas.

But a history professor driven by curiosity needn't be confined to a big-city box. Now in his eighth year at ECU, Biles has caught scent of a rich history in the small cities that tobacco built. His next book, he said, will tell the story of how five eastern North Carolina towns were built by the tobacco warehousing industry and the culture it spawned.

"This is an urban phenomenon not many people have written about," he said. "There was a time in the fall when the whole world for them revolved around the tobacco warehouses. There'd be balls and parades. The buyers would bring their wives with them, and towns would entertain them for as long as they were there."

Biles plans to trace the development of Greenville, Goldsboro, Kinston, Rocky Mount and Wilson from the 19th century to the present. "The tobacco culture is dying," he said, "but in its day, it was the intersection of urban, rural and Southern culture. These communities became what they became because of tobacco."

He turned his attention to eastern North Carolina as he awaited publication of *Paul H. Douglas, Crusader for Cold War Liberalism*. Northern Illinois University Press has scheduled release of the book for fall 2002.

Douglas, who served in the Senate from 1949 to 1967, was a squeaky-clean reformer and a fascinating character, Biles said. Entering politics after World War II, Douglas became "one of the great voices of liberalism and the most important person in Congress with regard to civil rights issue," Biles said. "He believed in civil rights down to his bones."

Not so Richard Daley, whom Biles portrayed in the 1995 book *Richard J. Daley: Politics, Race, and the Governing of Chicago*. "Daley did a wonderful job remaking the face of Chicago," Biles said. "He balanced the books and kept the city solvent. But if you weren't white in Chicago, it was a different story."

Biles undertook the biography to put Daley's 22 years as mayor into the context of the development of the city of Chicago. He deals not only with Daley's rise through the ranks of the Democratic machine and his Irish-Catholic roots, but the enormous challenges created by sudden growth, a changing ethnic mix and the departure of the industrial base to the suburbs.

"Daley was a pretty bright guy, but there was a tendency to underestimate him," Biles said. "He had a lot of ability as a politician and as a manager. Having done the book, I have an ounce more sympathy for him than before, maybe more than an ounce, and an even greater understanding of how difficult running a city like Chicago is."

Policies more than personalities drive Biles' interest. Thus, alongside the biographies are his books *Memphis in the Great Depression*, *A New Deal for the American People* and *The South and the New Deal*, all published before he arrived at ECU. More recently a book he co-edited on housing policy, *From Tenements to the Taylor Homes: In Search of an Urban Housing Policy in Twentieth-Century America*, is receiving favorable reviews in academic journals. And he is awaiting publication of *The Human Tradition in Urban America*, which he edited, and *Encyclopedia of the Great Depression*, for which he was an associate editor.

"My interest is in how government makes policy and how it affects people's lives," he said. "When policy makers make policy, they're trying to make things better. Sometimes it's a bust, but sometimes people's lives improve." •

Stephen Jones of N.C. State, left, Chancellor William Muse of ECU, and Alton Thompson of N.C. A&T confer after announcing the $3 million grant to the N.C. Agromedicine Institute.

FARMING, FORESTRY AND FISHING

FEDERAL GRANT ESTABLISHES CENTER TO IMPROVE OCCUPATIONAL HEALTH, SAFETY IN SOUTHEASTERN U.S.

The North Carolina Agromedicine Institute, headquartered at ECU, has received a five-year $3 million federal grant to establish the Southeast Coastal Center for Agromedicine. First-year funding totals more than $1 million. The center will promote the health and safety of agricultural, forestry and fisheries workers and their communities in seven states — North Carolina, South Carolina, Virginia, Georgia, Alabama, Mississippi and Florida — and the territory of Puerto Rico.

The grant, announced in September by the National Institute for Occupational Safety and Health (NIOSH), funds 10 research and outreach projects. It also creates other opportunities for the center's cooperating institutions, said Dr. Susan Gustke, director of the Agromedicine Institute. "We're now recognized as a key player in this field," she said. "This gives you more strength when you submit proposals to other agencies."

Initial projects funded under the Southeast Coastal Center for Agromedicine will involve faculty from ECU, N.C. State, N.C. A&T, Virginia Tech and the University of Florida. They include:

- A study of how the human body metabolizes some of the newer pesticides on the market.
- An evaluation of programs designed to prevent injuries in crop workers.
- An evaluation of farm vehicle safety as urban traffic spreads onto rural roads.
- A study of how young farm workers make decisions involving hazardous tasks and whether the decision-making process affects safety.
- Emergency medical training for the extraction of injured people from logging sites.
- Education about pesticide dangers for medical professionals.
- A program to tailor pesticide education and materials for migrant workers with limited literacy skills.
- Education and intervention to reduce skin disease among fishers.
- An intervention program to reduce heat-related stress in field crop workers, an extension of a project that originated at ECU.
- Expansion and maintenance of the National Agriculture Safety Database.

Among the ECU investigators on these projects are Dr. David Griffith in anthropology; Dr. Juan March in emergency medicine; Dr. William Burke in dermatology; and Dr. Byron Burlingham in microbiology and immunology. Burlingham also is the ECU campus coordinator for the Agromedicine Institute.

The institute itself is a collaboration of ECU, N.C. State and N.C. A&T, with the cooperation of the agricultural extension service of N.C. State and A&T and of the North Carolina Area Health Education Centers (AHEC). Begun as a grassroots effort, the University of North Carolina Board of Governors officially named it a UNC institute in May 1999. Dr. Thomas Feldbush, ECU vice chancellor for research and graduate studies, chairs the institute's board of directors. Gustke was named director in August 2000 but began work full time only last July. A physician, she also directs ECU's telemedicine program and previously oversaw the Eastern Carolina AHEC. The Agromedicine Institute will continue to conduct other research and outreach projects independent of the NIOSH grant.

The Agromedicine Institute's partners had only six weeks to pull together the 449-page proposal after NIOSH announced the grant competition. "It was a good thing the institute was based on a collaborative model," Gustke said.

NIOSH funded 10 regional agromedicine centers nationwide. Others are based at Bassett Healthcare in Cooperstown, N.Y.; Marshfield Clinic in Wisconsin; Ohio State University; Colorado State University; the University of Texas Health Center at Tyler; and the universities of Kentucky, Iowa, Washington and California at Davis. •

MAPS AND MORE

NEW CENTER MAKES GIS TECHNOLOGY USABLE, AFFORDABLE

The Center for Geographic Information Science opened its doors in fall 2001 to help ECU faculty and students make more effective use of geographic information technology. Headquartered in the Brewster Building, the center gathers under one umbrella the latest GIS hardware, software and databases and provides training and technical support for users.

"Most users find (the technology) so overwhelming," said Dr. Ron Mitchelson, chairman of the geography department, which oversees the campuswide center. "One of our jobs with the center is to get the data into a format they can use."

GIS enables its users to create visual records — such as maps and three-dimensional images — from a variety of otherwise incompatible data. Center director Dr. Yong Wang pointed to a study of a proposed dam in Randolph County as an example. Just to begin to understand the dam's impact required information from five different sources: a geopolitical map, elevation readings, data on land use, aerial photos showing the location of houses and Census data. With GIS, all of that data could be layered into a single product. Other information could be added as well. "When we overlaid EPA data, we saw an old dump right where the edge of the lake would come," he said.

Mitchelson draws on GIS for his own examination of Israeli investments in the occupied territory of the West Bank. To a geopolitical map, he has added a new Israeli-built superhighway, Israeli settlements, new factories and other employment centers. A final layer delineates a 30-minute commuting distance around the employment centers. "The Israelis have invested a ton, not only in settlements but in infrastructure," he said. "They're not going to give those back. What does that investment mean for the peace process?"

Images from the GIS center indicate some of the variety of research under way.

The center's planning committee involved representatives from across campus, many of whom already work with GIS. The Center for Health Services Research and Development, for example, produces an atlas that shows the distribution of disease and causes of death throughout eastern North Carolina. This information can now be tailored to specific needs. The GIS center has licensed software that will allow clients to make their own maps and graphs by selecting different kinds of disease, demographic and resource data from the Center for Health Services clearinghouse.

Until recently, each university department purchased its own equipment and software. Now, a campuswide site license for the most commonly used GIS software has cut the university's cost in half, Mitchelson said. Such savings allow for other investments, such as a large-format plotter and high-speed printer. A library of databases is being amassed with a concentration on eastern North Carolina.

"The center represents a major increase in our capability to do displays of data and portraits of landscape and demographic change in the coastal margins," said Dr. Lauriston King, director of the doctoral program in coastal resources management. "We'll also be able to *monitor* changes in the physical and social environment."

The experience at other universities with central GIS facilities suggests that the technology's use will become even more widespread and cross-disciplinary. The center also will offer its services to the eastern North Carolina community, helping counties without GIS capability update tax maps, for example. The potential applications have just one major requirement.

"As histories study time lines, we study space," Mitchelson said. "In biology, it might be a question of where rare species are. In geology, it may be where fractures are. In political science, you might look at where a fire station should be located, or in business, where to put the next mall. All these discussions are tied together by space."

Space will not limit GIS users, however. The GIS center is equipped with 25 individual work stations and projection equipment, greatly expanding the ability to train new users in the technology. In addition, Web access allows researchers to continue to work out of their own labs and offices. •

David Knox, shown here in class, often surveys student attitudes toward relationships.

THE LOVE DOCTOR

SOCIOLOGIST TAKES A CLOSE LOOK AT WHAT MAKES RELATIONSHIPS CLICK

A child of the Deep South, Dr. David Knox grew up with manners stamped into his soul. Even now, when his own children are grown, "Yes, ma'am" and "no, sir" flow naturally into his conversations. He holds doors open for women. And let a woman buy his lunch – even a business lunch? No, never, absolutely not.

He recognizes that he's an increasingly rare phenomenon. "I think our society is embarrassing in its display of manners," he said. Ever the sociology professor, and one who specializes in matters of the heart, his observations led him to question whether young people behave any better on dates than they do in the classroom and whether those manners even matter to them.

The question led to a survey of college students, and the survey, to answers: Manners do matter, especially to women. "If she's dating a guy and he doesn't open the car door or say thank you or please, she probably just looks the other way," Knox said. "But once she gets him on the radar and wants to take him home to mama, he's gotta have some manners. So the importance goes up as the relationship intensifies. I think that's important, and I'm thrilled to find out something like that."

Knox has been pondering such questions since the age of 15, when thoughts of love first appeared on his own radar. Now a professor of sociology, he specializes in the study of families and relationships. Within that context, college students prove to be both a convenient source of study and a useful one. If he's going to teach young people, he said, it helps to stay in touch with their thinking and mores.

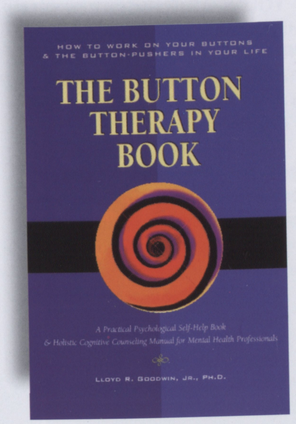
He has been prolific. Often working with Dr. Marty Zusman, a former ECU colleague now at Indiana University Northwest, he has published more than two dozen articles in the *College Student Journal* in the last decade alone. The articles, based on surveys, have explored student attitudes toward sex, single motherhood and interracial dating; abuse among college couples; interfaith marriage; and why and how relationships break up, among other topics.

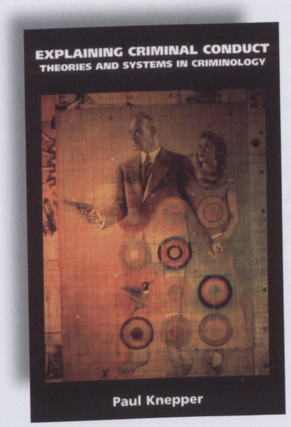
College students hold no monopoly on Knox's interest. His focus is on relationships, not age groups, and he has written for varied audiences. Two books, *One Child by Choice*, published in 1977, and *The Divorced Dad's Survival Book: How to Stay Connected with Your Kids*, are targeted to general readers. First published in 1998, *The Divorced Dad's Survival Book* was reissued in paperback in 2000. Knox also has a string of college textbooks to his credit. Other publications focus on issues beyond the college years.

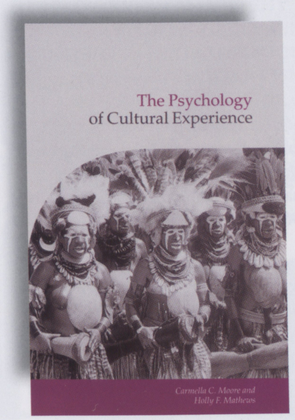
"Marrying a Man with 'Baggage': Implications for Second Wives" provides an example. Written with Zusman, it appeared in the Fall 2001 issue of the *Journal of Divorce and Remarriage*. In it, the authors report that two-thirds of women answering a survey on the 2nd Wives Crusade website say the husband's first marriage causes more problems than they expected. Financial obligations to the first family head the list of reasons. Taken by a self-selected group of women, the survey cannot be presumed to represent all second marriages, Knox said, but it nonetheless supports his view that the heart often leads the brain.

"One of the illusions is that people who get divorced and are in a second marriage are wiser because they've experienced this before," he said. "The reality is that love is just as strong the second time as it is the first time. Love is a drug. It narcotizes the brain." Reality sets in after the couple is married and the child support check is due. As a result, second marriages have an even higher failure rate than do first marriages.

On the other hand, Knox said, people who've been through one divorce come away with one lasting lesson. "They've learned if it gets bad enough, they can leave and survive," he said. "When remarried spouses of 15 years are compared with first married couples of 15 years, the former are happier. One reason is that they would have left if they were not." •







- **THE BUTTON THERAPY BOOK: HOW TO WORK ON YOUR BUTTONS AND THE BUTTON-PUSHERS IN YOUR LIFE** ***(Trafford Publishing, 2002) by Lloyd R. Goodwin Jr.***

This book doubles as a psychological self-help book and a counseling manual for mental health professionals. Goodwin is interim chairman of rehabilitative studies in the School of Allied Health Sciences.

- **EXPLAINING CRIMINAL CONDUCT: THEORIES AND SYSTEMS IN CRIMINOLOGY** ***(Carolina Academic Press, 2001) by Paul Knepper.***

Knepper, professor of criminal justice studies, reviews theories of criminal behavior and their public policy implications. The book's cover features a reproduction of "Detectives Don't Rest," an original artwork by Paul Hartley of the School of Art.

- **THE PSYCHOLOGY OF CULTURAL EXPERIENCE** ***(Cambridge University Press, 2001), edited by Holly Matthews and Carmella C. Moore.***

The essays in this volume focus on the relationship of the individual experience and chart a new research agenda for psychological anthropology in the 21st century. Matthews is a professor of anthropology.

- **SOCIOLOGY OF PHYSICAL EDUCATION AND SPORT: AN INTRODUCTORY READER** ***(RoutledgeFalmer Press, 2002), edited by Anthony Laker.***

Written for British undergraduate students, this book covers theoretical background and a range of contemporary issues in sports and physical education. Laker is degree director in physical education in the department of exercise and sports science.

- **EVALUATING WORKSITE HEALTH PROMOTION** ***(Human Kinetics, 2002) by David Chenoweth.***

Chenoweth, professor health education, has written an introductory textbook for undergraduate and graduate students planning careers in worksite health promotion and health management.

- **PRIMATES FACE TO FACE: THE CONSERVATION IMPLICATIONS OF HUMAN-NONHUMAN PRIMATE INTERCONNECTIONS** ***(Cambridge University Press, 2002), edited by Agust'n Fuentes and Linda Wolfe.***

This book examines the diverse relationships between humans and other primates and observes how these relationships play a critical role in conservation practice and programs. Wolfe, chair of the department of anthropology, contributed a chapter to the book in addition to co-editing.

- **FENIAN DIARY: DENIS B. CASHMAN ON BOARD THE *HOUGOUMONT*: 1867-1868** ***(Wolfhound Press, 2001), edited by C.W. Sullivan III.***

This book contains the diary of Cashman, a political prisoner transported to Australia on the last convict ship from England, two essays by Sullivan on Cashman and the rhetoric of his diary, and a collection of poems by Cashman and other political prisoners onboard the ship. Sullivan is distinguished research professor of English and a member of the Welsh Academy.

Continued

• **THE CINEMA OF ECONOMIC MIRACLES: VISUALITY AND MODERNIZATION IN THE ITALIAN ART FILM** *(Duke University Press, 2002) by Angelo Restivo.*

An assistant professor of English, Restivo discusses the Italian art cinema in relation to the economic and cultural changes that transformed Italy during the 1960s.

• **CHILD MENTAL HEALTH: EXPLORING SYSTEMS OF CARE IN THE NEW MILLENNIUM** *(The Haworth Social Work Practice Press, 2002), edited by David A. Dosser Jr., Dorothea Handron, Susan McCammon and John Y. Powell.*

Providing services to children with emotional problems and their families is a major challenge. This book addresses that challenge using the values and practices of the organized and coordinated "system of care" approach. It also incorporates the perspectives of both service providers and consumers of those services. Dosser is a professor and director of the marriage and family therapy program, Handron is an associate professor of community nursing systems, McCammon is a professor of psychology, and Powell is a professor of social work, all at ECU.

• **INDIVIDUAL INCOME TAXES: FROM LAW TO PRACTICE** *(South-Western Publishing, 2001) by Dan Schisler and Frederick Niswander.*

This textbook helps students understand both tax law and the practical intricacies involved in the preparation of a tax return. The authors are CPAs and associate professors of accounting.

• **TÉLESCOPIE: LA SCIENCE DU GENRE** *(Peter Lang Publishing Inc., 2002) by Frédéric Fladenmuller.*

Fladenmuller, associate professor of foreign languages and literature, examines the way Marcel Proust used science in his literature. *Télescopie* is written in French and appears as part of the publisher's series Currents in Comparative Romance Languages and Literatures.

• **LIFE-STYLE PERFORMANCE: A MODEL FOR ENGAGEMENT IN HUMAN EXISTENCE** *(Slack Inc., 2002) by B.P. Velde and G.S. Filder.*

• **COMMUNITY OCCUPATIONAL THERAPY EDUCATION AND PRACTICE** *(Haworth Press, 2002) by B.P. Velde and P.P. Wittman.*

The first book describes how to create a multi-dimensional occupational therapy program with examples from various settings, cultures and populations. Articles in the second book illustrate occupational therapy as a collaborative initiation in which those who need them guide the provision of services. Beth Velde is director of graduate studies in occupational therapy.

• **INTENTIONAL HELPING: A PHILOSOPHY FOR PROFICIENT CARING RELATIONSHIPS** *(Merrill/Prentice Hall, 2001) by J. J. Schmidt.*

Primarily written for counselors, clinical social workers and other professional helpers, this book is a supplemental guide to the theories, skills and knowledge that proficient clinicians bring to helping relationships. Schmidt is a professor of education and chair of the department of counselor and adult education.

• **PROFESSIONAL PORTFOLIOS FOR PRACTICING TEACHERS** *(Phi Delta Kappa Educational Foundation, 2001) by Ann Bullock and Parmalee Hawk.*

This consise book provides practicing teachers with information and logistics for creating a teaching portfolio. Bullock is an associate professor of education, and Hawk is director of teacher education for the School of Education.

• **YOUNG ADOLESCENT DEVELOPMENT AND SCHOOL PRACTICES: PROMOTING HARMONY, 2ND ED.** *(National Middle School Association, 2001) by J. Van Hoose, D. Strahan and Mark L'Esperance.*

With chapters on physical, sexual, intellectual and social development and the personal characteristics of young adolescents, this book offers an intimate glimpse into the development of 10- to 15-year-olds and provides insight into what their behavior means. L'Esperance is an assistant professor of education.

• **SCIENCE AND TECHNICAL WRITING, 2ND ED.** *(Routledge, 2001), edited by Philip Rubens.*

This completely revised edition covers everything from audience analysis to grammar and Web design. Rubens is a professor of English.

• **A HISTORY AND PHILOSOPHY OF SPORT AND PHYSICAL EDUCATION, 3RD ED.** *(WCB-McGraw Hill, 2002) by Robert Mechikoff and Steve Estes.*

This textbook in sports history discusses how philosophical ideas about mind and body have played out in sports and physical education, from the time of ancient Greece to the present. An associate professor, Estes is chair of the department of exercise and sport science. His coauthor is one of two historians for the International Olympic Committee.

RECORDINGS

• **THE COMPLETE PIANO MUSIC OF WILLIAM GILLOCK VOL. III** *(Green Mill Recordings, 2002), performed by Henry Doskey.*

This compact disk is the third in Doskey's series of piano solos by Gillock, a noted music educator and composer for piano students and their teachers. Doskey is an associate professor of music.

The Science and Technology Building, ECU's largest project funded by the voter-approved higher-education construction bond issue, is scheduled for completion in May 2003.

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