NORTHWESTERN UNIVERSITY
WEINBERG COLLEGE
OF ARTS AND SCIENCES

CROSS CURRENTS

CONSERVING THE FUTURE, BEE BY BEE

THE NATURE-MENOMINEE CONNECTION

WRITING AND REAL ALLIGATORS

THE MAGAZINE OF ARTS AND SCIENCES

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NORTHWESTERN UNIVERSITY
WEINBERG COLLEGE OF ARTS AND SCIENCES

DEPARTMENTS

COVER PHOTOS, FROM TOP:

PAUL GROWALD CARES FOR HIS BEES AT SHELBURNE FARMS PHOTO BY DEENIE GALIPEAU

MENOMINEE STUDENTS IN THE CLASSROOM PHOTO COURTESY OF DOUG MEDIN

WRITER KAREN RUSSELL PHOTO BY STEVE PYKE

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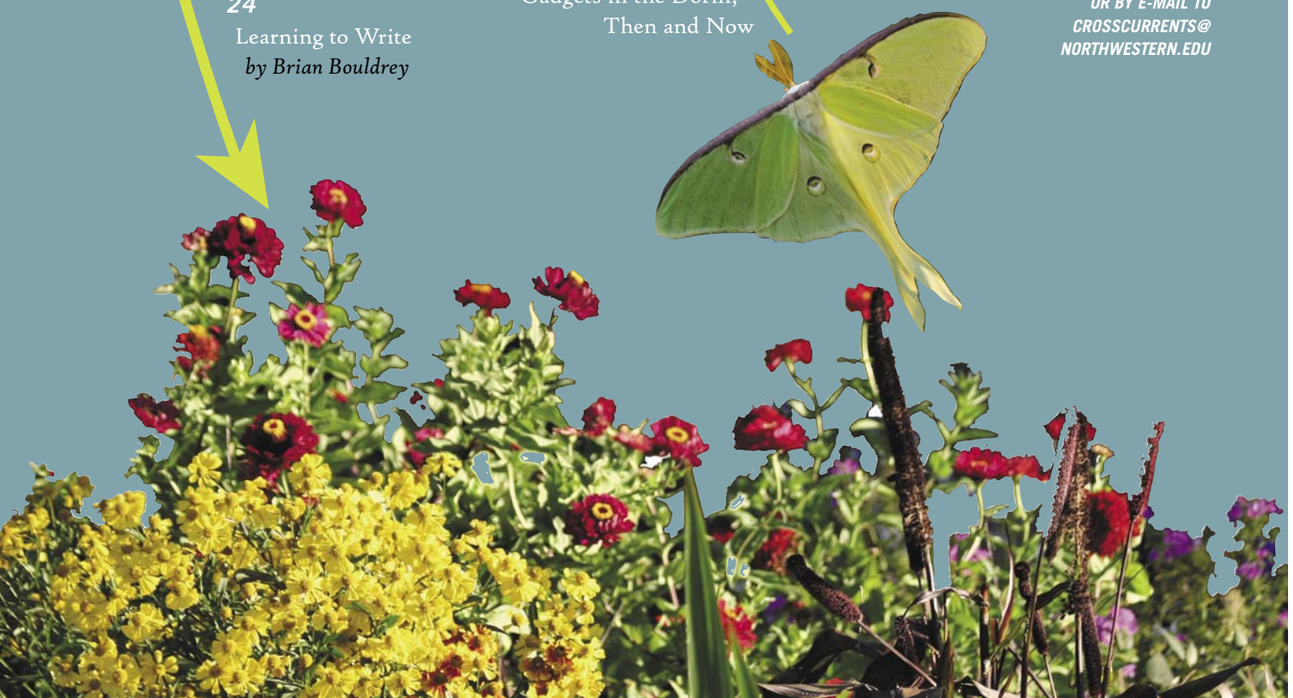


Photo by Mary Hanlon

FROM THE DEAN

Two stories in this issue of *Crosscurrents* highlight the study of the mind. We feature a story about the work of psychologist Doug Medin, who studies how people think about their natural surroundings. A second piece tells you about a new undergraduate program we are developing in language and music systems, a collaboration among scholars in several departments and schools of the University.

Undergraduate interest in studying psychology has grown sharply in the past few years. In 2001, 123 students graduated with a major in that field (already making it one of the most popular in the College), and undergraduates signed up for 158 independent studies to pursue research with a faculty mentor. The number of graduating majors has increased steadily to 165 in 2005. Undergraduate research has become even more popular, reflected in 270 independent studies in that department last year.

The College attempts to anticipate and respond to changes in undergraduate interest among fields. Such adaptability has some real challenges given budgetary constraints on faculty numbers, but it is of considerable importance because access to courses and research opportunities are key factors in the quality of the undergraduate experience. In psychology, we have been able to hire several excellent scholars in the past few years, which makes the department an even more attractive place for top graduate students as well as undergraduates looking for the right academic path. Morale is high, even as we seek creative solutions to find adequate lab, office, and teaching space for new initiatives.

We have also enlarged student opportunities by developing natural partnerships both within and beyond the University. Some of our faculty hold joint appointments with the School of Education and Social Policy or another unit, and a number of courses taught in other Northwestern schools are directly relevant for students in psychology. Some of our faculty work closely with the Family Institute, a private institution with a focus on clinical psychology that is located on the Northwestern campus; this partnership enables a broader array of opportunities for faculty and student research. The cognitive neuroscience group benefits from close ties to the Feinberg School of Medicine and to Evanston Northwestern Healthcare, a private health system affiliated with the University, with their magnetic resonance imaging facilities.

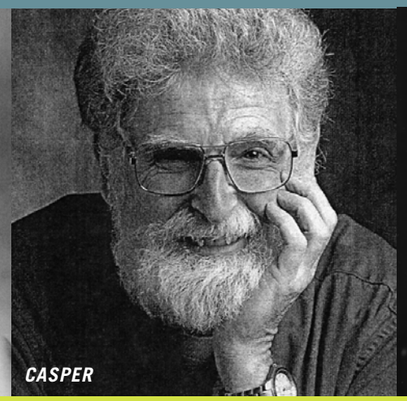
Inter-departmental programs provide further opportunities. Our cognitive science program for both undergraduates and graduate students draws on psychology and linguistics in the College, and from departments in several other schools. The new program in language and music systems, described in this issue, will become a valuable complement to cognitive science.

Strong graduate programs, too, buttress the quality of undergraduate education. Graduate students serve as teaching assistants, mentor undergraduates in research, and by their own career choices and dedication to their academic pursuits demonstrate to undergraduates the excitement of pursuing an advanced degree. Psychology and other departments throughout the College succeed in attracting outstanding graduate students to Northwestern thanks to scholars like Doug Medin.

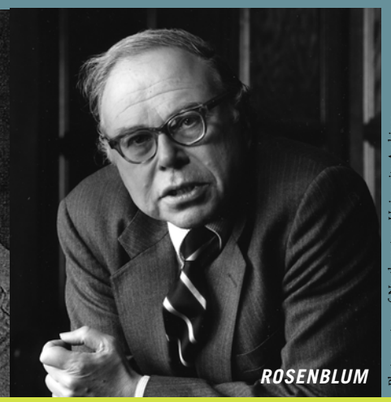
I look forward to hearing your thoughts on these important challenges for the College, and your reactions to what you read in this issue.

Daniel Linzer

SMYTHE-HAITH

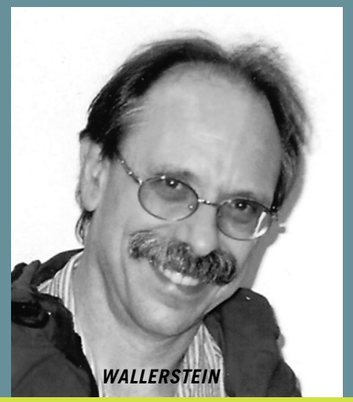


CASPER



ROSENBLUM

Photo courtesy of Northwestern University Archives



WALLERSTEIN

IN MEMORIAM: FOUR MEMBERS OF THE POLITICAL SCIENCE DEPARTMENT

MABEL SMYTHE-HAITH, former ambassador to Cameroon and Equatorial Guinea and professor emeritus of political science at Northwestern, died in February at her home in Tuscaloosa, Alabama. She was 87.

An Alabama native, she graduated from Mount Holyoke College and received her master's degree in economics from Northwestern in 1940 and doctorate in economics and law from the University of Wisconsin. She worked with Thurgood Marshall on preparation for Brown v. Board of Education, the 1954 landmark desegregation case.

Her first husband, Hugh G. Smythe (G '45), was appointed ambassador to Syria and Malta by President Lyndon Johnson, who named Mrs. Smythe-Haith U.S. representative to UNESCO. In 1977 President Jimmy Carter appointed her ambassador and in 1980 assistant secretary of state for African affairs. From '81 to '83 she was the Melville J. Herskovits Professor of African Studies at Northwestern, and served as associate director of development for that program. In '83 she also received Northwestern's Alumnae Award.

John Paden, a former colleague who teaches international studies at George Mason University, said, "Mabel was a role model for students who wanted to combine academic and foreign-service careers. She was a person of common sense, great wisdom, and real compassion, a gentle but firm voice on human events. We will miss her deeply."

JONATHAN (JAY) CASPER, 63, former professor of political science, died in March following a lengthy illness. He had joined the University's faculty in 1985, and he served for two terms as chair of the department, playing a pivotal role in its growth and, especially, its program of graduate studies. He was also associate dean of Weinberg College and faculty fellow at Northwestern's Institute for Policy Research. He was senior fellow at the American Bar Foundation in Chicago.

Professor Casper received his PhD from Yale University in 1968, becoming a pioneer in the study of law and society. He played a significant role in the Law and Society Association, focusing on how lawyers performed their duties. He wrote about the death penalty and its biased application, about search-and-seizure practices and outcomes, and about juries: how they reach decisions and how various trial processes affect those decisions. He brought an important interdisciplinary perspective to his research by exploring what psychological theories had to say about decision-making in the criminal and civil-justice systems. He authored or co-authored five books and numerous articles.

Before coming to Northwestern, Casper served on the faculty of Yale University, Stanford University, and the University of Illinois at Urbana-Champaign and had been named a Fellow of the Guggenheim Foundation. Casper received his bachelor's degree from Swarthmore College in 1964.

VICTOR ROSENBLUM, 80, noted legal scholar and professor of political science, died in March in Evanston. He was revered by students in both Weinberg and the University's Law School as an expert in administrative law and a teacher whose passion for learning was contagious.

Professor Rosenblum was active in civil-rights causes throughout his career, a political liberal who strongly urged the right to life and successfully argued the anti-abortion side of the Hyde Amendment before the Supreme Court in 1981 (the case upheld Congress' refusal to fund abortions). He served as chairman of Americans United for Life from 1989 to 1995.

Rosenblum earned his BA and LLB degrees from Columbia University and a PhD from the University of California at Berkeley. He served the U.S. House of Representatives in 1957-58 as associate counsel. In 1958 he joined the faculty of Northwestern's Department of Political Science. For a brief span in the late '60s he served as president of Reed College, returning to the University as professor of law and political science. In 1988 he was named Nathaniel L. Nathanson Professor of Law, and he held that endowed professorship until he retired in 2002. Holding the title of emeritus professor in service, he continued to teach in the Law School and the College's political science department.

MICHAEL WALLERSTEIN, political economist and former chair of the political science department, died in January at age 54. An internationally respected specialist in Western European comparative politics and labor organization, he is best known for using economic models to research issues such as inequality and the redistribution of wealth in advanced industrial societies. His work has had an impact on public policy as well as on the field of political science.

Northwestern was the site of Professor Wallerstein's national memorial service. Family, friends and colleagues spoke of his deep concern for others, optimism about the spread of equality and justice, and dedication to pursuing the truth as a mathematical economist and political scientist. He was an inspiring mentor to students and younger colleagues.

Wallerstein's BA was from Stanford, and he took his PhD from the University of Chicago in 1985. He taught political science at University of California, Los Angeles, before coming to Northwestern in 1994. In 2004, he moved to Yale University and in 2005 was elected to the American Academy of Arts and Sciences. Recognizing his outstanding service to Northwestern and his field, the department of political science has created the Michael Wallerstein Memorial Fund. For details, please contact Kate Anderson at (847) 491-4583 or k-anderson9@northwestern.edu

MARCY-JAMES-BONBRIGHT SCHOLARS WITH WEINBERG DEANS, FROM LEFT, CASSANDRA MALIK, STEPHEN MASTER, PIYAPA DEJTRAKULWONG, DEAN DANIEL LINZER, SARAH NOVIS, TZE HUI LIM, CHANDLER ROBINSON, RUTH SHNIDER, AND RONALD BRAEUTIGAM, ASSOCIATE DEAN FOR UNDERGRADUATE STUDIES

Photo by Jim Ziv

AWARDS

The Marcy-James-Bonbright scholars—who won awards for the highest averages in their fields—will graduate in June. And then they head for the wider world, to work or seek advanced degrees in areas as varied as medicine, geophysics, theater, and banking.

Chandler Robinson is one of nine students in the nation selected for a Fulbright scholarship to study in the United Kingdom. The chemistry and mathematics major will pursue a master's degree in international health policy at the London School of Economics. He has conducted original research on the three-dimensional shape of drugs and established an undergraduate research symposium for the Chicago area. Piyapa Dejtrakulwong will study for a PhD in geophysics at Stanford. She majored in geological sciences and mathematics and spent a summer doing research at the Woods Hole Oceanographic Institution in Massachusetts.

Statistics and economics major Tze Hui Lim will head to Princeton for a master's degree in finance. Stephen Master has been hired by UBS Investment Bank in Chicago. He says he benefited greatly from the honors program in mathematical methods in the social sciences and from numerous mentors in the economics department.

A senior thesis showed Cassandra Malik how much she enjoys the research aspect of sociology. After an internship in Washington, D.C., she will seek an advanced degree in the field.

English and Italian major Ruth Shnider is similarly occupied with her senior thesis on Edna St. Vincent Millay, after spending junior year at the University of Bologna. She hopes to land a job in arts administration in New York next year. Victoria Guzzo, who studied art history, will seek a similar position in Chicago.

Psychology major Sarah Novis is headed to Feinberg School of Medicine in the fall, after completing neurobiology research on visual-attention problems. Thomas Van Buren says he has enjoyed the stimulation of a wide variety of classes—classics, physics, Italian, and organic chemistry. He also plans a career in medicine.

Awards for Weinberg students and graduates are still coming in, but here are a few highlights:

- Gates scholars number 4 out of 40 nationwide. Students Laura Hughes and Rachel Pike and graduates Ben Gross and Thomas Johnson III have received the awards for full funding for a year of post-graduate study at the University of Cambridge in England.
- Michael Chanin, co-founder of the Northwestern Conference on Human Rights, was named to USA Today's 2006 All-USA College Academic First Team. He is one of only 20 students so honored.
- A coveted Truman scholarship was won by junior David Rubenstein, who is now in Cairo studying Arabic. The Middle Eastern studies student will receive three years of funding to pursue an advanced degree.
- Andrew Moses Lee has been awarded a Goldwater scholarship and Tyler Jaeckel an Urban Fellows award.

LANGUAGE AND MUSIC:
WHY THEIR COMBINED STUDY MAY YIELD FRUITFUL RESULTS

ROBERT GJERDINGEN, PROFESSOR OF MUSIC STUDIES, LEFT, PRESENTS "THE SYNTAX OF 18TH CENTURY MUSIC" AT A REHEARAL FOR A "MUSIC, LANGUAGE, AND COGNITION" DINNER

AT RIGHT ARE RICHARD ASHLEY, WHO ORGANIZED THE EVENT, AND KELLY MCNEILL, ASSISTANT TO THE VICE PRESIDENT FOR ADMINISTRATION AND PLANNING

Photos by Mary Hanlon

DEVELOPMENT

"Northwestern is a progressive, innovative institution where committed scholars and teachers pursue cutting-edge work in many forms, a vibrant microcosm of a creative world. [With] 11 independent schools... offering academic programs high in quality and remarkably diverse in portfolio, the environment for cross-fertilization of ideas is rich and challenging...."

From *The Highest Order of Excellence*, Northwestern's planning document for 2005-2010

What is special about human language and music, both so much more complex than the communication systems found in animals? How do linguistic and musical systems arise in groups of people? How are they learned and how are they processed by the mind? We are closer to answering these intriguing questions with recent advances in instrumentation, methodology, and computer modeling. And some of these breakthroughs are likely to happen at Northwestern, as a new undergraduate initiative in language and music systems brings together experts in four schools: Weinberg College, the School of Music, the School of Communication, and the McCormick School of Engineering.

JANET PIERREHUMBERT

"Language and music systems are so similar and yet so tantalizingly different," says Janet Pierrehumbert, the Wender-Lewis Research and Teaching Professor of linguistics and head of the initiative. "In both, the primary mode of perception is sounds; you hear the sounds in sequence and you organize them in your mind." Rhythmic patterns distinguish not only one musical style from another—march versus tango—but also one language from another. The rhythm of English is different from the rhythm of French which is different from that of Japanese. "In all of these cases, you have a kind of rhythmic skeleton which you then use to organize sounds—the melody in music or the speech sounds in language," Pierrehumbert explains.

RICHARD ASHLEY, ASSOCIATE PROFESSOR, MUSIC COGNITION/THEORY

There are also differences, of course. In language, words refer to objects and concepts; sentences can be true or false. Music can surprise, inspire, or sadden people. It can evoke feelings or memories, but it does not refer to facts about the world in the way that language does. Language has both direct and indirect meanings, whereas music only has indirect meanings. So there is an important question of how much music and language share the same cognitive architecture, and in what respects they are different. "Anybody who works on speech sounds or has a musical ear knows there is a connection. The question is: can you say something about it?" Northwestern is poised to do just that, she says.

"It's a synergy. We have a top music school with major strength in music cognition—the experimental and technical side—faculty and students who program computers, read theoretical articles, make their own theoretical proposals, do advanced data analysis. The University is also a powerhouse in speech and hearing. Some of the faculty interested in auditory processing are also actively looking at music.

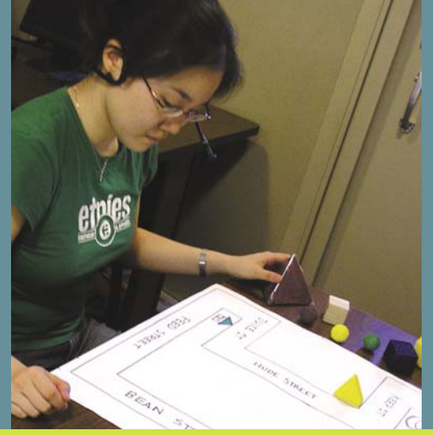
"My own department, linguistics, is a pioneer in investigating the sound structure of language. We're also very strong in aspects of linguistic meaning related to context and social interaction—exactly those aspects that are most closely related to musical meaning. We probably have the strongest lab culture of any linguistics department in the country. So there's a very robust set of interconnections at Northwestern now."

JEN ALEXANDER, LEFT, WITH SUPERVISORS PATRICK WONG AND ANN BRADLOW

Two current projects involve cooperation between Ann Bradlow's laboratory in linguistics and Patrick Wong's in communication sciences and disorders. Graduate student Jen Alexander has shown that English speakers with musical training have more success, on the average, than others in learning the Mandarin Chinese tone system as adults. Patterns of activation in the auditory cortex can even provide advance indications of whether someone will have good enough auditory processing to succeed in learning the contrasts. Research by linguistics undergrad Tyler Perrachione asks the questions: Are you better at recognizing someone's voice if you speak the same language? When you are trying to recognize a voice, are you listening for overall voice quality or does your ability to recognize words come into play? "With undergraduates, bi-lingualism and multi-lingualism are hot topics," says Pierrehumbert. "Socially, they're fascinating and they're powerful on the research side as well, because you can look at two language systems in one person's mind and see in a very precise way how language systems interact."

AT RIGHT JESSICA MAYE, ASSISTANT PROFESSOR, COMMUNICATION SCIENCES AND DISORDERS, PREPARES TO CONDUCT RESEARCH ON INFANTS' STATISTICAL LEARNING

The dual study of language and music systems plays to the strengths of many kinds of students. Because the work tends to be analytical, students gifted in mathematics would perform well, according to Pierrehumbert. Also, the bi-lingual: "From spending time in France, I've noticed that students who have spoken two languages from the time they are young have an abstract idea about language that other people don't have." Other students ripe for work in this area would be music-loving science majors and psychology majors who want to focus on the language part of human cognition.



STUDENTS ARIM CHOI (LEFT) AND MELISSA BAESE COMMUNICATE OVER AN AUDIO CHANNEL IN A SOUND BOOTH. THEY ARE EXAMINING WHAT HAPPENS TO DIALOGUE WHEN ONE PERSON IS SPEAKING ENGLISH AS A SECOND LANGUAGE.

As for careers, the field would prepare students for areas that combine math, computer programming and data analysis—working for companies like Microsoft and answering questions like "What would make topic searches in Amazon really work?" There's also a huge demand for linguists by intelligence services worldwide—for computer-assisted word analysis of political texts or language identification. Communications specialists could solve problems in the medical field, such as what sort of protocols would insure successful interactions between doctors and patients of different cultures? Another sought-after group would be second-language instructors and speech pathologists who are sensitive to linguistic and dialect differences.

Photos by Mary Hanlon

LINGUISTICS STUDENTS MELISSA BAESE, TYLER PERRACHIONE, AND KEN KONOPKA LISTEN TO REHEARSAL TALKS

Pierrehumbert says the job of the Language and Music Group will be like handling the controls of a central switching office in a railroad yard. "Courses will attract students coming in from different schools at the University. They will learn a common vocabulary and set of skills and then, with the proper advising, be placed in different labs based on their interests—not necessarily in the school they came from." Courses officially began this spring quarter: a class on

BRYAN PARDO, ASSISTANT PROFESSOR, ELECTRICAL ENGINEERING AND COMPUTER SCIENCE, CONFERS WITH MATTHEW GOLDRICK, ASSISTANT PROFESSOR, LINGUISTICS

inductive statistics, in which students find patterns in a heavy volume of language data, and a math seminar on the surprising statistical properties of the Internet and e-mail, which have striking resemblances to statistical patterns found in physics and cosmology.

Pierrehumbert says the field is ideal for students—undergraduate and graduate alike—who want to do high-level research after learning a relatively small number of technical skills. "If a smart student starts an honors thesis by junior year, he or she can have a paper published the next year," she says. "There are so many questions which haven't yet been answered."

IF YOU ARE INTERESTED IN HELPING WEINBERG COLLEGE CONTINUE TO EXPAND PROGRAMS LIKE THE INITIATIVE IN LANGUAGE AND MUSIC SYSTEMS OR THE PHD PROGRAM IN AFRICAN AMERICAN STUDIES

PLEASE CONSIDER MAKING A GIFT. CONTACT KRISTEN WILLIAMS, WEINBERG DIRECTOR OF DEVELOPMENT, AT 847-491-4585 OR K-WILLIAMS3@NORTHWESTERN.EDU

AFRICAN AMERICAN STUDIES PHDS— READY FOR TAKEOFF

DEVELOPMENT

This fall will mark a historic moment for Northwestern: the start of a doctoral program in African American studies. The six new graduate students who come to campus are an outward sign that black studies at Northwestern, born of protest in the late 1960s as an undergraduate program, has reached a new stage: that of training the next generation of scholars. On campus, the program promises to promote both racial and intellectual diversity; at the national level, it signals the University's commitment to achieving prominence in the field.

Photo by Mary Hanlon

DARLENE CLARK HINE AND DWIGHT MCBRIDE

"This is the first African American studies PhD program in the Chicago area and only the seventh in the country," says Weinberg Dean Daniel Linzer. "With Northwestern's history and reputation in the field and with the resources of Chicago to draw upon, this is the ideal place for such an enterprise. We are very proud to be a part of it."

Doctoral programs signal the maturation and acceptance of a discipline, according to Darlene Clark Hine, one of the country's most prominent black historians. "Northwestern is a highly regarded institution. The University's support of the creation of a doctoral program in African American studies was a major development and roundly applauded by those of us in the field." Hine is a pioneer in black women's history and is now Board of Trustees Professor of African American Studies and History. She says when she came to campus two years ago she was immediately impressed with the "palpable sense of enthusiasm and excitement" for the doctoral program.

Hiring Hine and other top faculty was the first order of business when Dwight McBride, now department chair, came to the University to help build a small department into a powerhouse. The number of core faculty members in African American studies has quadrupled in four years. McBride, an expert in African American literature and black gay and lesbian studies, says the University's solid support of the discipline has made possible excellent hiring at all levels. "This includes promising young assistant professors and mid-career associate professors who will continue to build their reputations here." Current faculty members constitute one of the strongest departments anywhere. With backgrounds in literature, history,

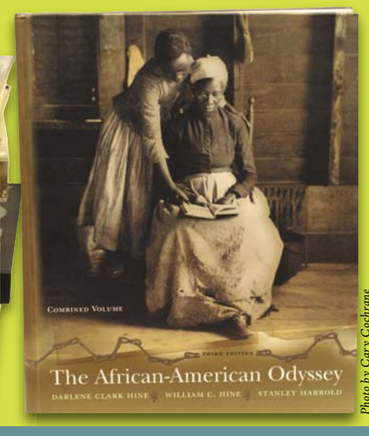


Photo by Gary Cochrane

A SMALL SAMPLING OF THE MORE THAN FOUR DOZEN GROUNDBREAKING BOOKS BY THE AFRICAN AMERICAN STUDIES FACULTY AND AFFILIATES

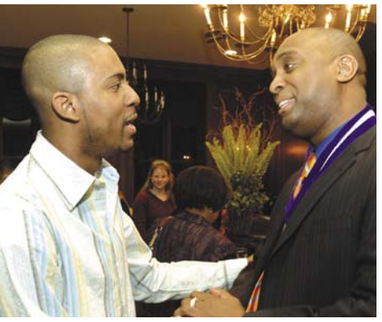
Photos by Mary Hanlon

FAR LEFT, INCOMING PHD STUDENTS; ZINGA FRASER, TERA AGYEPONG, LATASHA LEVY (JAMES TURNER'S STUDENT; SEE SIDEBAR BELOW), AND PATRICIA LOTT

THEY WILL BE JOINED BY KORTNEY ZIEGLER, AT LEFT

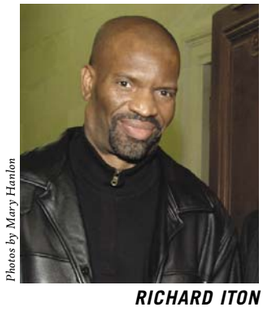
political science, sociology, and communications, they have written or edited more than four dozen books on topics including slavery, diaspora, civil rights, black feminist theory, welfare, and labor movements. In addition, students will take classes from faculty affiliates—20 at last count—in other departments, and from faculty throughout the University, gaining from their varied perspectives.

Choosing a strong focus for the curriculum was equally important. Says McBride, "Instead of trying to do everything African American, from music to literature to politics to culture, we said, 'Let's concentrate on three areas which are broad enough to allow for innovation, but focused enough that we create pathways in the curriculum that have coherence." The three tracks—history, social science, and expressive arts and literature—will have a common thread of the larger African diaspora. Courses offered will include "The History of Black Women in the Diaspora," "Black Expressive Arts and Culture," and "Racism, Deconstruction, and Governmentality."



WITH MCBRIDE IS PHD STUDENT FRANK LEON ROBERTS FROM NEW YORK UNIVERSITY

Next was attracting stellar students, a goal which has been realized even in this, the program's first year. Political scientist Richard Iton, director of the graduate program, says five of the students will come with master's degrees or graduate work from Columbia, University of California-Berkeley, Cornell, New York University, and University of Illinois at Urbana-Champaign; the sixth will pursue a joint JD/PhD. Their research interests are wide ranging: African American women's history; law, gender and diaspora; postcolonial theory; representations of slavery in the expressive arts; African American politics; and black queer film.



Photos by Mary Hanlon

RICHARD ITON

The program offers "the kind of cutting-edge African American studies available nowhere else," says Iton. Adds McBride, "If you have a good product, clearly people will come. We are thrilled with the caliber of students we were able to admit this year. When people come to visit, they see that the kind of conversations they imagine for themselves are really happening here."

Students will also benefit from the scholarly discourse across campuses throughout the Chicago area. Some of that dialogue can be heard in Dwight McBride's home every quarter, at a dinner with the head of African American Studies at UIC, the director for the Study of Race, Politics, and Culture at the University of Chicago, and the director of the Black and African American Studies Program at DePaul—"a really good community of scholars who are very collaborative," according to their host.

The academic resources of the entire city of Chicago will, in fact, be available to cross-train students. McBride says, "If you come here to work with Richard Iton and me on a project for your dissertation, it also makes sense to have someone like [political scientist] Cathy Cohen of the University of Chicago on your committee. We can make that happen."

The students, in return, will add an important dimension to campus diversity—both intellectual and racial. "The students will force us to remake ourselves," says Iton. Professors will expand their knowledge base so that they can evaluate students' work. They will be challenged by the kinds of questions and demands such students bring to the classroom. "Our students will 'trouble' the discussions in English, political science, and history, in a good way," says Iton.

McBride sees doctoral students as potential mentors as well. "By interacting with graduate students, undergraduates begin to understand what PhD work is and to imagine the possibility for themselves. In a field that typically attracts more African American students than most, that means adding more minority students to the pipeline for graduate school."

According to the latest admission figures, African Americans students comprised 6.4 percent of Northwestern's freshman class in 2005, up from 4 percent in '96. University officials hope that a strong PhD program will raise the visibility of African American scholars on campus and promote a minority-friendly environment for students and faculty alike, no matter what their field of study.

To those who once considered African American studies a limited or provincial field, McBride clarifies Northwestern's vision for the program: "We are not interested in the narrow, nationalist view of black studies. We're interested in one that is expansive, connective, collaborative—like a course I am organizing with professors in the Italian and Slavic departments. Called "Aspects of Love," it will deal differently with those national literatures that each of us represents.... The way we're producing knowledge is becoming more nuanced, more responsible, more interdisciplinary. And that, to me, is very exciting."

James Turner (G '68) could hardly have imagined this flowering of African American studies at his alma mater when he led more than 100 fellow students in a non-violent takeover of the Bursar's Office in May 1968. At that time there were no courses in black studies. "African Americans don't have a written tradition," Turner remembers being told by a professor. After the historic two-day sit-in, the administration promised more vigorous recruitment of blacks, on-campus housing, and the addition of courses in black studies. The Department of African American Studies was officially launched in September, 1972 and flourished for many years under the leadership of renowned novelist Leon Forrest.

"It is hard to imagine it has been 38 years since the takeover," said Turner when reached by phone. He went on to found the Africana Studies and Research Center at Cornell, where he is a professor of African and African American politics and social policy. "I feel a profound sense of satisfaction about the development of Northwestern's doctoral program. I am proud of Northwestern. This is an important commentary on the vision we held and the risks we took as students—and the course of my academic and professional life." One of Turner's own master's degree students will enter the new Northwestern PhD program in the fall. "How's that for historical coincidence?" he asks.

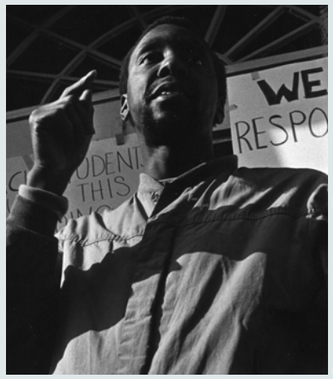


Photo courtesy of Northwestern University Archives

JAMES TURNER

PSYCHOLOGIST DOUG MEDIN— RETHINKING HOW WE THINK ABOUT NATURE

BY NANCY DENEEN

Photo by Doug Medin

MEDIN'S WORK PROMISES TO IMPROVE SCIENCE EDUCATION FOR MENOMINEE CHILDREN, LIKE THOSE PICTURED HERE.

We humans wouldn't get very far without being able to organize our knowledge into concepts and categories—applying what we know about item A to the similar but novel item B. To take an extreme example, if you once had the unfortunate experience of being bitten by a rottweiler and today for the first time saw a pit bull walking down the street, you wouldn't, if you didn't have categories, recognize the similarities between the two. You wouldn't be able to make predictions and choices—in this case, to be alert.

Photo by Mary Hanlon

DOUG MEDIN

For four decades, cognitive psychologist Douglas Medin has been pondering how our brains form concepts and categories. In his Swift Hall office, enlivened by pictures of his grandchildren and pets, the soft-spoken Medin shared highlights of a remarkable career. Thinking about how people weave categories together to create stories about the environment has prompted him to pursue fascinating research. In Guatemala and northern Wisconsin, for example, Medin and his colleagues study the relationship between how groups conceptualize nature and how they act in the natural world, and how culture and values influence these processes. This research seems likely to have a significant impact in fields far removed from traditional psychology, for instance: science education, conflict resolution, forestry.

Medin's own story begins in Estherville, Iowa. His mother and his father, who ran a dairy, strongly encouraged him to follow his own interests. He traces his love of nature to summers with his grandparents at their cottage in northern Minnesota. The locals, he says, called his fishing-expert grandmother "Lady of the Lake" and advised others to fish where she was fishing. Surprisingly, she didn't seem to mind and willingly shared her knowledge. "Unless their lines got entangled with ours, she was incredibly generous," says Medin. "We caught northerns, walleyes and pan fish, sunfish and blue gills, croppies, largemouth bass and smallmouth bass." As a boy with a fishing pole, basking in the sunny company of his grandparents, he couldn't have known how prominently categories of fish would be featured in his later work.

AN EARLY "RESEARCH EXCURSION" FOR MEDIN, AT RIGHT, AND HIS COUSIN HOWARD ON WOMAN LAKE NEAR LONGVILLE, MINNESOTA CIRCA 1958

His interest in human behavior began in eighth grade, when his inability to carry a tune excluded him from choir and landed him in a class with kids from "the wrong side of the tracks." As he got to know these classmates, he says, he became intrigued by the disparity between their intellectual curiosity and their poor performance in school. This led to a bachelor's degree in psychology from Moorhead State College, a doctorate from the University of South Dakota, and work in concepts and categories at the University of Illinois and the University of Michigan.

Biological concepts and human behavior have intersected in his work for quite some time. He first teamed with University of Michigan anthropologist Scott Atran in Guatemala about 20 years ago. They have been looking at the way three groups of people, (two Mayan and one Ladino, that is, of Spanish origin) living in the same rainforest and engaged in the same activities, view the relationship between plant and animal. "We began seeing cultural differences in mental models among the groups, coherent understandings of the environment and how people fit into it," says Medin. "For example, if a group thinks there is a natural hierarchy—humans at the top, then animals, then plants—then it follows that plants are supposed to help animals and animals are supposed to help people. If a group holds an alternate view, more of an ecosystem view in which you conceptualize that everything is connected, then you believe that everything has a role to play and there is no implied hierarchy." The Ladinos, who hold the former view, could tell the researchers a lot about how plants help animals, but denied that animals could help plants. The Itza' Maya, on the other hand, had a lot to say about animals helping plants and plants helping animals.

A SATELLITE IMAGE OF THE MENOMINEE RESERVATION, WITHIN THE BORDERS, ILLUSTRATES THE SUCCESS OF THEIR FORESTRY PROGRAM

Closer to home, Medin led researchers in northern Wisconsin to ask Native American parents and European American parents what they would like their children to learn about nature. There were huge differences in the responses of the groups. European American parents, at least rural ones, very commonly said they want their children to respect nature and to take care of the natural world. But they didn't say what Native Americans said most commonly: "I want my children to understand they are *part* of nature."

How do these varying views affect behavior? Both the Itza' Maya of Guatemala and the Menominee of northern Wisconsin have better records of sustainable agriculture and forestry than neighboring people with different understandings of nature. This is not surprising, says Medin, since both groups identity so strongly with the land. "Without the forest, we wouldn't be the Menominee," says one group. "When the forest is gone, the Itza' Maya will no longer exist," says the other.

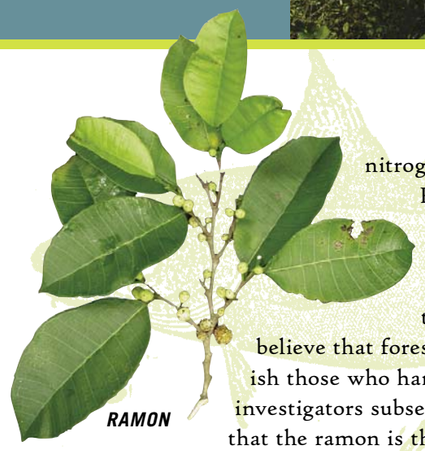
Medin's team has tested soil of the farm plots leased by the three groups in Guatemala for signs of health, which show up in concentrations of minerals like phosphorus and nitrogen. "The Itza' Maya do a better job," he says. All three groups practice slash-and-burn agriculture, but before they burn, the Itza' clear the areas around the trees they want to protect. Instead of building one huge fire, they have several small fires. "I didn't realize that was relevant until an ecologist told me that hotter temperatures [of the larger fires] volatilize nitrate more. By having several small fires rather than one big one, the Itza' do a better job of fixing

PRISTINE NATURAL SETTINGS SUCH AS THIS ARE VIGOROUSLY PROTECTED BY THE MENOMINEE. AT RIGHT, MENOMINEE CHILDREN, IN THEIR SCHOOL SETTING, ORGANIZE BIOLOGICAL CONCEPTS DIFFERENTLY FROM MAJORITY-CULTURE CHILDREN.

Photos by Doug Medin

PROVOST LAWRENCE B. DUMAS AND DEAN LINZER WITH MEDIN AT HIS INAUGURAL LECTURE AS THE LOUIS W. MENK PROFESSOR OF PSYCHOLOGY

Photos by Mary Hanlon



RAMON

nitrogen in the soil."

Researchers have noted that the Itza' Maya hold sacred the ramon tree—the Itza' believe that forest spirits will punish those who harm these trees—and investigators subsequently learned that the ramon is the most ecologically central tree in the forest, that is, the one most closely tied to the life cycle of other plants and animals. "Their term for farm plot is 'milpa,'" says Medin, "and they call the ramon tree the milpa of the animals because it provides fruits for a lot of animals." Unlike other groups, the Itza' never burn the ramon as firewood and one finds significantly more ramon trees in the Itza' forest reserve areas.

In a similar vein, the Menominee—the oldest continuous residents of Wisconsin—hold co-existence with nature as a strong value. On the reservation, rules governing hunting and fishing outlaw the "wanton destruction" of any species. They catch fish to eat them, whereas the rural-majority culture outside the reservation fishes more for sport (often "catch and release") than for food. "If you're a Menominee, the idea that you want to get a fish on the line so you can entertain yourself might be seen as odd, as disrespectful," says Medin.

At the same time, European Americans fear that the Native American practice of spearing fish during spawning, when they are an easy, slow-moving target, will deplete the supply. Conflicts over fishing are many, and tribes have recently been pressured to give up their sovereignty over hunting and fishing regulations in exchange for state renewal of their casino gaming compacts—a choice "between fish and chips," as one legislator remarked.

To shed light on how different understandings reflect values and affect behavior, researchers asked the two groups to sort names of fish into categories. "We wrote the names of local species of fish on the white side of my Northwestern business cards," says Medin. "We asked people to sort them into groups that were meaningful and sensible. European Americans tended to sort in terms of goals ('these are prestigious game fish; these are garbage fish') or taxonomies (the bass family, the pan fish, etc.). Menominee fishermen were likely to sort ecologically: 'these are the fish you'll find in stagnant ponds, these are the fish you'll find in fast-moving cool water.' " The work is in its early stages, but it is hoped that a mutual understanding of differing perspectives will lead to conflict resolution and increased cooperation between the groups.

Parallel differences in ecological reasoning show up in Menominee and majority-culture children. In general, the Native Americans' conception of nature is more holistic and interconnected than that of other groups. In a test to create biological categories, for example, children are shown pictures of a human, a wolf, and a crane. Medin says the European American child will tend to place the crane with the wolf and say humans are different. Native American kids will typically group the human with its fellow mammal, the wolf.

The way they understand and organize biology may place Menominee children at a disadvantage in science education. "We were struck that on standardized tests, Menominee kids in fourth grade score above the national average in science," Medin explains. "It's their best subject. They are twice as likely as rural majority-culture children to know that plants are alive, for instance. But four years later, in eighth grade on these same kinds of tests, science has gone from being their best subject to their worst—now they score below the national average." To understand and address this decline in performance, he is working with learning-science graduate students at Northwestern; administrators at the East-West campus of Keshena University in Wisconsin; and the American Indian Center in Chicago, with support from the National Science Foundation.

"We think that science instruction is not culturally neutral; rather, it reflects a majority culture conception of biology and earth science. We looked at science textbooks, for example, and found that ecology was always the last chapter of the book. Our expectation is that if we made ecology an organizing principle, Menominee kids would find this more natural and might do better [in the subject and on the tests]." It would help, says Medin, if the Native Americans saw humans included in depictions of the ecosystem—they often are not, and the children find the omission baffling.

Improving Native American science learning has vaulted to the top of Medin's goals. But he emphasizes how fortunate he has been during the course of his career to pursue whatever area of psychology intrigued him most at the time. "Some of my research interests have evolved," he says. "It's fascinating and fun to go from how people understand nature to science education, or from how cultural groups hold certain things sacred to how that affects their moral decision-making." As he prepares for a weekend trip with his wife to their cabin near the Menominee reservation, he asks, "What's more fascinating than culture?"

IN A CATEGORY OF HIS OWN

In 2005 the American Psychological Association bestowed on Doug Medin its top honor for achievement in psychology scholarship. The Distinguished Scientific Contributions Award cited his major role in launching two of the dominant approaches to concepts: for one, "his context model of categorization, which proposed that people categorize novel items on the basis of their similarity to known category members...has had enormous impact on the field." Second, "his theory-based approach to categorization, which assumed that categorizing an object amounted to explaining the object's features...offered a new perspective on higher-level cognition." He is a member of both the American Academy of Arts and Sciences and the National Academy of Sciences—the nation's highest honor for scientists. Psychologists comprise only three percent of NAS members.

Despite Medin's stature in the fields of human learning, memory, attention, and decision making, he is known for his objectivity, modesty, and humor. Graduate student Dan Bartels points out that his mentor is open to new and competing ideas: "Some scientists are like empire builders. They go about trying to prove their idea right in as many different contexts as possible. But with Doug, a huge idea will come out of his work, but he's not afraid to say, 'On the other hand, here's an alternative idea.'" And when approached for an interview, Medin's first reaction was to ask, "Why don't you interview one of my colleagues instead?"

O, PIONEER!
THE FIRST 100 YEARS OF KATHARYN ELY

BY LISA STEIN

ELY IS "WOMAN OF THE YEAR" FOR THE TEXAS WATER QUALITY ASSOCIATION IN 2006. AT RIGHT, HER 100TH BIRTHDAY CAKE IN SEPTEMBER, 2005

Photo courtesy of Northwestern University Archives

THE FORMER KAY WILSON

In 1927, the year Katharyn Ely graduated from Northwestern, Coretta Scott King and Eartha Kitt were born, Charles Lindbergh completed the first solo nonstop transatlantic flight, and Al Jolson was thrilling audiences in the first "talkie," *The Jazz Singer.* Ely herself had plenty reason to rejoice, being one of the few women of the day to graduate from a major university with a bachelor's degree in mathematics.

Last September Ely reached another rare milestone: her 100th birthday. Ely's friends and her two children, eight grandchildren, eleven great-grandchildren and four great-great-grandchildren helped her celebrate at her home in Texas.

From the start, Katharyn Ely, known as Kay, showed grit and a willingness to work hard. She grew up Katharyn Wilson in Evanston, attended Evanston Township High School and was accepted at Northwestern, where other members of her family had studied. When she started in 1923, there were 600 women in the class and 457 men.

Ely was one of only five in her class to major in math, which was apparently no cakewalk because no fewer than 247 students failed math courses in her senior year, according to the President's Report for the academic year 1926-27 (the next largest group to fail a class was 148—in romance languages). Ely calls her former math classmates in what was then named the College of Liberal Arts "a good group, mostly men," and remembers getting 100 percent on one exam. "The professor told me I had done a good service," she recalls.

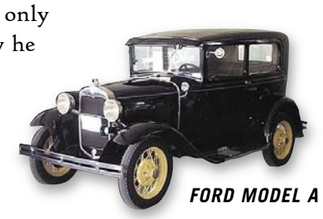
Although Ely lived at her parents' home while going to school, she joined a sorority, Alpha Gamma Delta, and threw herself into campus life with an energy that would have left less vigorous students supine. She served as vice president of the Anonian Literary Society, treasurer of the Y.W.C.A. Social Committee and representative on the Pan-Hellenic Council. She also belonged to the Women's Self Government Association House of Representatives (an organization made up of women living at home), the French Club, the Spanish Club, the Mathematics Club, and, for a little fun, the Cubs' Club. In all her pictures in the *Syllabus* she wears a serenely confident smile and a wavy bob.

READY FOR PROM SENIOR YEAR

Katharyn met Robert Ely, a business student in what used to be called the School of Commerce, at a Halloween party and the two married a year after graduation. In between she worked as an accountant for the School of Commerce, but didn't harbor any long-term career goals. "Women then weren't looking for a profession," Ely says. "You just wanted to be able to say you graduated."

The newlyweds decided to move to Freeport, Ill., where Robert had found a job in advertising, and each drove downstate, Ely in a Ford Model A and her husband in a Ford Model T. Such independence in a woman was unusual at the time. "She did a lot of things that ladies didn't do in those days and she has been that way as long as I can remember," observes her daughter, Joanne Grace.

Robert enjoyed his work until the Depression hit in 1929. "My parents woke up one morning and there was nothing there—no job, no savings," Grace says. "After that my father always said he'd only invest in the stock market with money he could afford to lose."



FORD MODEL A

The couple moved in with close friends for six months to share expenses and sold off possessions to pay the bills. In 1930 Ely gave birth to a son, Robert, Jr., and a year later her daughter was born. Once the family got back on its feet, Robert launched a real estate and farm management business, which included a working farm, with Katharyn serving as the accountant. They worked together that way for about 20 years, until they decided on a whim to make the biggest change of their lives.

"My husband was tired of having to weather through winter storms," Ely remembers. "He asked our neighbor, a banker, if he had the chance to do anything and live anywhere, where would he go and what would he do. The man said if he could do it all over again he would go into the water-conditioning business in Texas because it was just getting started." [Water conditioning involves treating water to suit the specialized needs of homes, business, and organizations—for instance, filtering water to make it extrapure for hospitals and taking out certain minerals for plant nurseries.]

Not long after, at the end of a business trip to Florida the Elys drove the Gulf Coast west into Texas and stopped at Victoria. They liked what they saw and within six months had sold their business, home, and farm and settled in a place where they didn't know a soul.

Water conditioning gave the Elys a great opportunity. They purchased a franchise, selling, installing and renting water-conditioning equipment. Eventually the Elys became the first secretaries in the newly founded Texas Water Quality Association. Ely has stayed active in the association and has received several honors for her work, including the association's "Woman of the Year" award in July 2005!

After their move south the Elys embraced Texas, becoming active members in a local church and community theater. They also found a new hobby in the 1960s: recreational vehicles, and spent a year touring the country in their RV. When they returned they picked up Barbara Bush and the wife of John Tower, then senator from Texas, and drove them through south Texas to stump for George H.W. Bush in his first senatorial campaign. "Barbara Bush is a real lady. Everyone she talked to received a handwritten thank you note," Ely remarks.

In 1980 the Elys moved into a retirement village in Weslaco, Texas, where Ely lives today. (Robert died in 1992.) She keeps busy playing bridge several times a week and enjoys dressing up as Uncle Sam for the village's Fourth of July celebration.

When asked the secret to her longevity, neither Ely nor Grace can think of anything in particular. "She rarely ever went to a doctor," Grace replies, laughing.

"Nothing unusual, just a normal, healthy diet and moderate exercise," Ely reports. "That, and staying mentally active."

PAUL GROWALD: PROTECTING THE BEES, SAFEGUARDING THE FUTURE

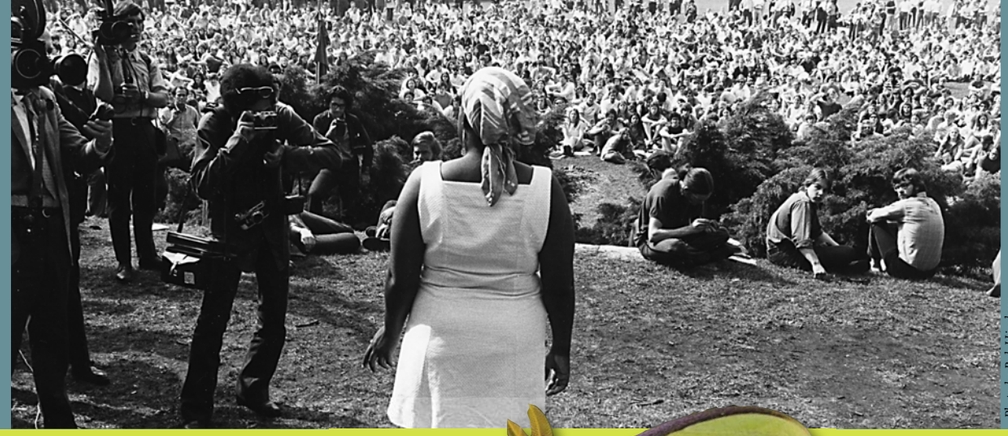


Photo by Bob Hinshaw

STUDENT LEADER EVA JEFFERSON ADDRESSES 5,000 STUDENTS ON DEERING MEADOW IN MAY, 1970.

HIS ACTIVISM CAUGHT FIRE AT NORTHWESTERN

BY NANCY DENEEN

When spring comes to northwestern Vermont, Paul Growald, class of 1970, once again dons his white beekeeping outfit and ventures forth to care for the 300,000 honeybees who make their home in his garden at Shelburne Farms. There, in large protective gloves and a veiled hat, he removes dead bees from the hives and feeds the live colony with pollen, raw honey, and liquid fructose in order to hasten the growth of an early brood of new workers. A puff of smoke from his canister makes the bees think a forest fire is coming and they'd better eat while they can.

Photo by Deenie Galipeau

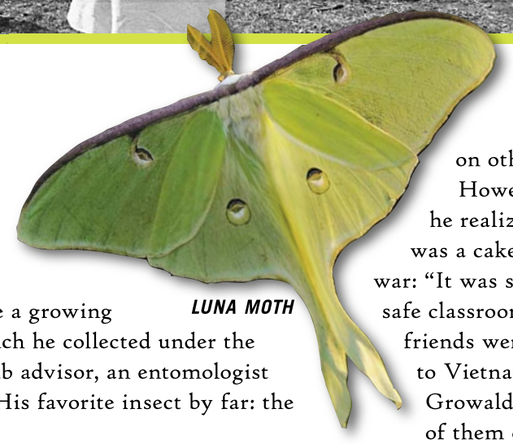
Each hive produces between 40 and 150 pounds of pure honey per year. "The honey is colored like the early morning sunlight in June here in Vermont," says Growald, "and tastes like the blossoms it is made from—honeysuckle, clover, and red and black raspberries."

In his organic garden he plants seeds of 85 varieties of vegetables (eight kinds of heirloom tomatoes alone), while his wife Eileen nurtures what will be her lush garden of annual and perennial blossoms. Both gardens benefit from the pollinating bees, who in turn, are treated to a thirst-quenching waterfall nearby. At the dinner table Paul and Eileen and sons Adam and Danny will enjoy the results of this natural synergy all summer and into the fall.

Growald's "joy and deep satisfaction" in caring for the bees is part of a larger passion—protecting the environment through preserving the world's pollinators. "We would disappear quickly without pollinators," Growald told *Crosscurrents* during a phone interview. "Nine out of ten plant species are pollinated by animals and one out of every three bites of our food comes from their work." And yet, he says, we're losing pollinators—which include other kinds of bees and wasps, butterflies, moths, beetles, flies, birds, and even bats—at an alarming rate due to loss of habitat and use of pesticides.

So in true activist fashion, a way of life since his Northwestern days, Growald is doing something about the problem. Through the North American Pollinator Protection Campaign, he has brought together from Canada, the United States, and Mexico more than 70 government agencies, corporations, and scientific researchers at universities and natural-history museums to raise public awareness and to press for favorable legislation. The project is under the umbrella of the Coevolution Institute, founded and chaired by Growald, whose mission is to catalyze the stewardship of biodiversity.

Growald's curiosity about the natural world began early. "There is a picture of me, still in diapers, with my butt in the air and my face on the ground, looking very closely at ants," he says, laughing. A move from suburban Michigan to Chicago's Park Forest allowed him to join an early non-farm 4-H Club. There he could indulge a growing interest in insects, which he collected under the watchful eye of the club advisor, an entomologist at the Field Museum. His favorite insect by far: the luna moth.



LUNA MOTH

At Northwestern he found time for his burgeoning interest in the environment but his most vivid memories concern Vietnam War protests. In the winter of his senior year, a handful of his classmates attacked the NROTC building. In May, after the National Guard had killed four students at Kent State, student leader Eva Jefferson led a peaceful strike of 5,000 students on Deering Meadow. Growald's own frustration erupted in the symbolic act of opening the south end of campus by pulling up the wrought iron fence along Sheridan Road. "Sections came up fairly easily," he recalls, "with four or five of us on each side." Stacked in the middle of Sheridan Road, they blocked traffic for five days. The fence was not replaced.

Growald says he has always been proud of the actions of Northwestern administrators during those days—keeping cool heads, communicating with student leaders, and handling tense situations internally rather than calling for police intervention, as happened on other campuses.

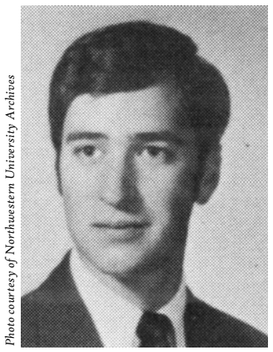
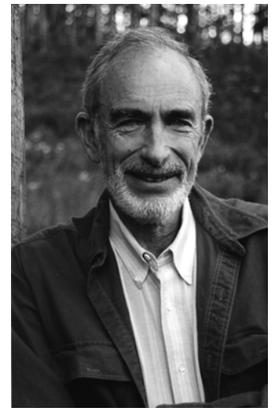


Photo courtesy of Northwestern University Archives

PAUL GROWALD, 1969

However dramatic the student protests, he realized even at the time that campus life was a cakewalk compared with the reality of war: "It was sobering for me to be sitting in a nice, safe classroom, while friends were sent to Vietnam," says Growald. "Some of them didn't come back....That was the basis of my social activism. I was trying to make a difference in a small way." A conscientious objector to the war, he counseled students on their draft choices and wrote editorials on academic reform, the environment, and population issues for the *Daily Northwestern*.



PAUL EHRLICH

Perhaps he made an even bigger difference when earlier that year he helped organize Northwestern's Students for a Better Environment. Accounts in the *Daily* tell of students attending the all-night Teach Out on the Environment in February with talks by such notables as biologist Paul Ehrlich, the Stanford professor who wrote *The Population Bomb*, predicting massive famine and environmental damage due to overpopulation. Speaker Dennis Hayes, building on what he learned at Northwestern's event, organized the first Earth Day several months later.

Growald was also part of an effort that affects even today's students: the faculty-student planning committee which spearheaded the successful drive for Reading Week before finals. "I probably had an

AT LEFT, PAUL AND EILEEN GROWALD. AT RIGHT, THEIR GARDENS AT SHELBURNE FARMS IN VERMONT.

Photos by Deenie Galipeau

undiagnosed case of attention deficit disorder back then and tended to leave things until the last minute. I knew I'd learn a lot more with a reading period. Unfortunately, it went into effect the quarter after I left."

Because he was involved in multiple causes, many of his mentors at Northwestern were administrators, provost Payson Wild and Seward Weber, dean of students, among others. He remembers with a laugh that spending time with the older crowd helped him develop a sophisticated taste for single-malt scotch, as well as the confidence to make positive changes in an organization. But professors had their lasting influence too. He remembers spellbinding lectures by social historian Christopher Lasch, "an authority on how concepts of childhood and family have changed over time. In the Middle Ages, for example, there was no term for childhood and child labor was a fact of life.... Two out of three of his lectures ended with standing ovations." A political science major, he also recalls the impact of professor Barry Farrell, a dynamo on the subject of foreign policy and the Soviet Union.

After graduation, Growald became Paul Ehrlich's executive assistant at Stanford. Simultaneously, he ran an alternative feature news service, the Fourth Estate Alternative, traveling across the country to interview young people who were improving their communities without the help of government funds. "That period, the early '70s, was one of the most radical in terms of changes in human rights: civil rights, women's rights, the beginning of gay rights," says Growald, the enthusiasm still audible in his voice.

Then came anti-poverty work. "We gathered surplus from canneries and packing sheds throughout northern California," he recalls. "Truckloads of perfectly ripe melons and dented canned goods that couldn't be shipped to Chicago or New York were taken to food pantries at local churches. Before that, people were hungry but the food was just thrown away." He became an expert in food systems and food policy and served on the California State Board of Food and Agriculture. He and colleagues effectively lobbied for changes in state regulations, including one that now allows farmers to sell their produce from farm stands and in farmers' markets. He became chair of the California League of Conservation Voters.

Along the way, Growald received his master's degree in urban studies from Occidental College in Los Angeles, built and operated a cable television company, and met and married Eileen Rockefeller, youngest daughter of banker and philanthropist David Rockefeller. "She was giving a tour of Shelburne Farms in 1980," he remembers. The farm complex is a 3800 acre nonprofit environmental education center, which promotes sustainable rural land use. "We bonded over our mutual interests—in agriculture, the environment, and Africa. We were engaged within five months and will celebrate our 25th wedding anniversary this summer." He speaks with pride of her accomplishments and those of their sons, one Princeton-bound and one already at Princeton.

"Eileen's most significant personal interest is in social and emotional learning," says her husband. "She co-founded the worldwide Collaborative for Academic, Social and Emotional Learning (CASEL) which helps kids from preschool to high school to know themselves better and to resolve conflicts." Illinois has adopted the program, which is based at the University of Illinois at Chicago. She was founding board chair of the Rockefeller Philanthropy Advisors, which advises wealthy families and individuals on effective collaborative giving. When he is not in school, son Adam is a professional banjo player with a bluegrass band. Danny is a budding field biologist, having researched plants and pollinators in the mountains of the Dominican Republic, and artisan blacksmith who has worked at Colonial Williamsburg.

The whole family is involved in conservation at Shelburne Farms: growing most of their own produce, raising chickens and turkeys, and buying mostly organic products when they shop. They pull the shades over the windows at night to conserve heat. They are converting to bio-diesel fuel for heating and putting in a solar panel for hot water. They believe they bought Vermont's first eco-friendly hybrid Toyota Prius. Like dads everywhere, Growald worries about lights left on after everyone has gone to bed: "It troubles me to see a light burning with no one benefiting from it."

Also like parents everywhere, he worries about leaving a healthy world for the children of the future. "Climate change and pandemics like bird flu dwarf terrorism as a threat. And we're creating much of the damage ourselves," he asserts. Buying fuel-efficient cars and organic foods and avoiding the use of pesticides, he says, can have a large impact on the environment.

"One reason I've focused on rather obscure issues like pollinators is a chance to have an impact on their successful resolution," he says. "I hope we can look back in ten years, see results, and say, 'We paid attention.'"

"In college we wanted to change the world. This is a way to see that change happen."

KAREN RUSSELL ON CREATING "IMAGINARY ISLANDS WITH REAL ALLIGATORS"

BY NANCY DENEEN

Photo by Steve Pyke

Karen Russell has been called a "literary mystic, channeling spectral tales that surge with feeling." This description will appear on the jacket of her new book, a collection of stories, *St. Lucy's Home for Girls Raised by Wolves*, to be published by Knopf in September. "Haunting Olivia" was published in *The New Yorker* last summer. She is working on a novel. And she is just 24. *Crosscurrents* found the former Weinberg writing major recently at Columbia University, where she is enrolled in the Master of Fine Arts program and teaching freshman writing.

WHAT WAS IT LIKE TO BE PUBLISHED IN THE NEW YORKER AT AGE 23?

It was the biggest miracle of my life. It sounds kind of cheesy to say that—"big Mickey ears and Walt Disney-style dreams come true" sort of thing—but it's true. I had just gotten my agent and was dubious about my prospects. I hadn't been published anywhere but a small e-zine. Then I got this call from my agent saying she had sold one of my stories to *The New Yorker*. I would have been happy if she had sold it to the *Journal of Dads* or the *Fireman's Newsletter*.

IN "HAUNTING OLIVIA," TWO YOUNG BOYS USE MAGICAL PINK GOGGLES TO SEARCH UNDERWATER FOR THEIR SISTER WHO HAD SET SAIL IN A GIANT CRAB EXOSKELETON. WHERE DID THAT BEGUILING ELEMENT OF FANTASY IN YOUR STORIES COME FROM?

I think that growing up in South Florida had a lot to do with it because it's a bizarre, dream-like sort of place. I grew up near Miami in Coconut Grove—one of the wackiest locales in the continental U.S. You're right at the edge of things. There is a neat mix of beautiful natural settings combined with wonderful, tacky, touristy stuff. On the one hand you have this gorgeous real setting, the ocean and these lush tropical trees, but you also have Parrot Jungle, where you're standing underneath this corona of macaws, trying to smile for a photograph.

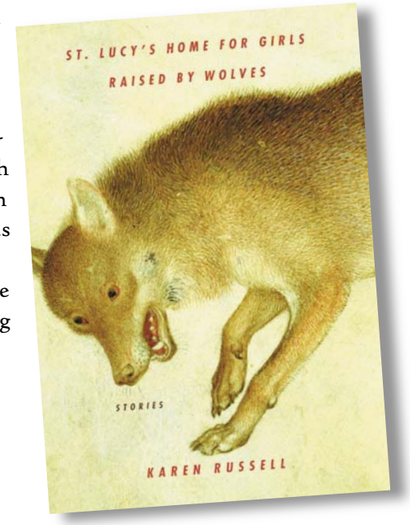
I also think that the books I read as a kid really influence my writing today. I was always a nerdy bookworm. I went to the library a lot. I'd get *The Count of Monte Cristo* to appease my mother, and then load up on these trashy horror novels or fantasy novels. Fortunately, my siblings were there to keep me from getting totally lost in my own clouds. I remember trying to make a *very serious* film of my first piano solo, and my brother and sister threw a beach ball at my head from offscreen. They were good for reminding me of my own ridiculousness.

DID YOU WRITE AS A CHILD?

I wrote really bad stories as a child and really bad poems in high school, with shattered glass and sighing emotions. Writing began as sort of a default option—I wasn't very good at most other things. I couldn't play sports. I took piano for a while and I remember my mom saying, "You don't have to go to those lessons anymore."

DID NORTHWESTERN HELP YOU DEVELOP YOUR STYLE?

Northwestern has such a great writing major—that's why I chose NU. I credit the writing major with helping to give me a solid foundation. I had some of my best professors ever in my writing classes. My freshman seminar with Edith Skom taught me more in one quarter than I had learned in years of high school English.



One of the gifts of the program was learning how to read—for structure or theme or sound. It's a way of really looking at what is on the page. I love that the major focuses on making students better readers of literature. That's been just as important to me as anything I learned writing my own first stories.

As a sophomore you take an introductory class in poetry and one in fiction. I was so scared of poetry and my instructor, Josh Weiner, opened up this whole genre to me. Introduction to Fiction was kind of an ego blow. I got this notion in high school that, yeah, man, I can write grammatical sentences, I am a great writer. And then I realized I didn't have a clue. Both of those classes extended the range of what I thought was possible in writing.

The workshop format is a little humbling. Suddenly all these other people are weighing in on these decisions you're making not so consciously (Why is this in the first person? Why do you keep writing about starfish and the moon?). You're also getting written feedback from seasoned instructors who have a lot of experience writing fiction or poetry. But [senior lecturer] Sheila Donohue was just the most wonderful editor of every student's work. And Brian Bouldrey created a safe space for us to grow and experiment, a supportive community of writers. [Bouldrey is director of the English major in writing.] It takes a lot of patience and generosity to read every student's work and critique it on its own terms, to believe in a student's writing and what it can be.

WHAT DID YOU LEARN FROM OTHER WRITERS?

Flannery O'Connor was and is my literary idol. She's so funny and strange and deeply moral. In the introductory classes sophomore year, I remember getting these packages of anthologies and just wanting to gobble them up, to physically eat these stories. We read "Secretary," this darkly funny story by Mary Gaitskill. So creepy and different than anything I'd read. And the novellas in *Seven Gothic Tales* by Isak Dinesen taught me that fiction can be considered "literary" and still have evil changeling monkeys.

We read Alexander Hemon the year I was there. [MacArthur "genius grant" winner Hemon received his master's degree in English at Northwestern and was Simon Blattner

Visiting Professor in 2002.] I am so envious of what he did with his stories; I wish I had written them. He came to this country from Bosnia not too many years ago, and he writes the most beautiful sentences, with such honesty and stinging humor, about the immigrant experience. But he will also structure his stories in weird ways: half will be footnotes, or he'll do some elliptical dream flip-book. The way he puts things together is really cool. I didn't know you could do that.

YOU ARE TAUGHT TO IMITATE SUCCESSFUL WRITERS IN CLASS. HOW DOES THIS WORK?

It was never "rewrite this story and plug in your own variables." We'd read a story by Elizabeth Bowen and discuss her choices: here's where the characters are introduced, here's the conflict, and the enigmatic ending. Then we would try to model our own stories loosely on the way a Bowen story is shaped. Otherwise, [writing without a structure] is like having all these beautiful Christmas ornaments and no tree to hang them on.

Everybody came up with these amazing, wildly different stories that grew out of the same assignment. All the [student] writers in my year were just doing their own thing and doing it so well, and using writers like Bowen and Hemon as a template to innovate on, to build on.

TELL US ABOUT YOUR COLLECTION OF STORIES.

A lot of stories are set on a fictional, swampy island, modeled loosely on the Florida Everglades. I was picturing an island in the Florida Keys that came unmoored, a fantastic setting. I remember reading at Northwestern this quote [by poet Marianne Moore] that "the art of poetry is creating imaginary gardens with real toads," so I wanted to create fantastical settings and situations that had some kind of emotional truth to them. The stories are very loosely linked. There's a story about kids who go to a sleep-away camp for disordered dreamers—narcoleptics and insomniacs. There's a story that the novel grows out of about a family of alligator wrestlers in the Florida Everglades. I credit a lot of these stories to early field trips I took to terrifying places.

THE NARRATOR OF YOUR NEW YORKER STORY WAS A 12-YEAR-OLD BOY. HOW DID YOU JUMP INTO HIS IMAGINATION AND LANGUAGE?

A lot of my stories end up having a child narrator. Timothy is a real girly-boy. He's noticing the color of clouds and has kind of an effete wonder about the world. I hear that voice a lot when I'm writing stories. I have a lot of failed stories with adult narrators. I'm pretty young myself and I wonder if there's a time lag for how you assimilate your experience and feel comfortable drawing on it. There's something about that time, from about 11 to 14, when everything feels so real. You're smart and waking up to certain adult truths of the world but you're also just a kid. There's something about being in that gap that's really a magical, privileged time.

I'm really close with my brother. And I think it's fun to imagine what it might be like to be a boy. It's similar to and different in funny ways from the ways that girls interact. I wish I could be an anthropologist of adolescent boys. They're hilarious. I just remember my brother would have sleepovers and there would be a big crisis. I would think, "Oh no, the cable's out. They're going to have to talk to each other." And instead they would just sit there staring blankly at the screen, no words exchanged. Then they all rocketed up from the sofa at the same time and started fighting each other. Girl sleepovers are different than this.

WHEN DID YOU FIRST REALIZE YOU COULD MAKE A LIVING AT WRITING?

[Laughter] I still don't feel that way.

DESPITE THE UNCERTAINTY OF THE PROFESSION, WHAT COMPELS YOU TO WRITE?

Photo by Steve Pyke

The real reason is that I just really like to tell stories. Reading was such a life-saving, enchanting experience for me when I was younger, and I wanted to learn how to do that sort of magic myself, to let strangers into these private rooms. I also like that stories provide you with a secret life on the page, the way you get to go on adventures without having to worry about real ghosts and alligators.

EXCERPT FROM "HAUNTING OLIVIA"

BY KAREN RUSSELL

Photo by Cary Cochrane

With the help of magic "diabolical" goggles, 12-year-old Timothy searches underwater at night for his sister, Olivia, assisted by older brother Wallow. It is feared that 8-year-old Olivia has drowned—swept out to sea in a sled made from the exoskeleton of a giant crab.

Here is a link to the entire article:
http://www.newyorker.com/fiction/content/articles/050613fi_fiction

"What do you see, bro?" "Oh, not much." I cough. I peer back under the surface of the water. There's an aurora borealis exploding inches from my submerged face. "Probably just plankton."

When I come up to clear the goggles, I can barely see Wallow. He is silhouetted against the lone orange lamp, watching me from the pier. Water seeps out of my nose, my ears. It weeps down the corners of the lenses. I push the goggles up and rub my eyes with my fists, which just makes things worse. I kick to stay afloat, the snorkel digging into my cheek, and wave at my brother. Wallow doesn't wave back.

I don't want to tell Wallow, but I have no idea what I just saw, although I'm sure there must be some ugly explanation for it. I tell myself that it was just cyanobacteria, or lustrous pollutants from the Bimini glue factory. Either way, I don't want to double-check. I shiver in the water, letting the salt dry on my shoulders, listening to the echo of my breath in the snorkel. I fantasize about towels. But Wallow is still watching me, his face a blank oval. I tug at the goggles and stick my head under for a second look.

Immediately, I bite down on the mouthpiece of the snorkel to stop myself from screaming. The goggles: they work. And every inch of the ocean is haunted. There are ghost fish swimming all around me. My hands pass right through their flat bodies. Phantom crabs shake their phantom claws at me from behind a sunken anchor. Octopuses cartwheel by, leaving an effulgent red trail. A school of minnows swims right through my belly button. Dead, I think. They are all dead.

"Um, Wallow?" I gasp, spitting out the snorkel. "I don't think I can do this."

"Sure you can."

Squat, boulder-shouldered, Wallow is standing over the ladder, guarding it like a gargoyle. There's nowhere for me to go but back under the water.

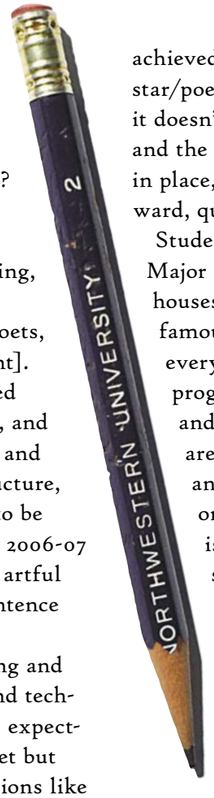
Getting used to aquatic ghosts is like adjusting to the temperature of the ocean. After the initial shock gives way, your body numbs. It takes a few more close encounters with the lambent fish before my pulse quiets down. Once I realize that the ghost fish can't hurt me, I relax into something I'd call delight if I weren't supposed to be feeling bereaved.

I spend the next two hours pretending to look for Olivia. I shadow the spirit manatees, their backs scored with keloid stars from motorboat propellers. I somersault through stingrays. Bonefish flicker around me like mute banshees. I figure out how to braid the furry blue light of dead coral reef through my fingertips. I've started to enjoy myself, and I've nearly succeeded in exorcising Olivia from my thoughts, when a bunch of ghost shrimp materialize in front of my goggles, like a photo rinsed in a developing tray. The shrimp twist into a glowing alphabet, some curling, some flattening, touching tails to antennae in smoky contortions. Then they loop together to form words, as if drawn by some invisible hand: "G-L-O-W W-O-R-M G-R-O-T-T-O."

SOME OF THE WRITING FACULTY IN THE ENGLISH DEPARTMENT IN 2005: JOHN KEENE, BOULDREY, TARA ISON (VISITING), REGINALD GIBBONS, AND CHRISTINA PUGH (VISITING)

LEARNING TO WRITE

BY BRIAN BOULDREY



Teaching and learning in a creative-writing program, especially at the undergraduate level, can be a mysterious process to both teacher and learner. Can it be taught? Can it be learned? But much of the mystery is removed in Northwestern's comprehensive (and dare I say, "one of a kind") English Major in Writing, constructed over the past 25 years by Mary Kinzie and Reginald Gibbons [professors, poets, and literary critics in the English department].

It is a small, rigorous, and carefully-stepped sequence based on imitation, apprenticeship, and close reading. In poetry it focuses on mode and prosody, in fiction on point of view and structure, and in creative nonfiction (a new sequence to be launched in the 2006-07 school year) on artful and stylistic sentence writing.

Photos by Mary Hanlon

BRIAN BOULDREY

It is demanding and stresses craft and technique. Students expecting to hear sweet but feckless evaluations like "Good for you! You have an imagination!" will be disappointed. Even students in the midst of our program may not quite understand why we require them to do what they must do to get through the major. That mystery—was I taught? did I learn?—may not be solved by today's undergrad apprentices for many years. After all, if you already know what you're doing before you do it, why bother doing it?

But as a faculty member, when I hear of the success achieved by Karen Russell or Will Butler [the rock star/poet whose story will appear in the fall issue], it doesn't seem so mysterious. If we've done our job and the student has done hers, the tools and habits are in place, and achievement can come anytime afterward, quickly or slowly.

Students interested in applying to the English Major in Writing often come to informational open houses and ask about the success stories: "What famous writers have gone to school here?" Not everybody who comes through the Northwestern program will get the easily identifiable (if lovely and earned) success of Karen or Will. There are all sorts of success stories out there, and the answer I want to give to any student, parent, or fellow faculty member asking the question is this: All students should walk away with a solid preparatory foundation for a lifetime of reading, writing, thinking, and an ability to do these things with intellectual, emotional, and aesthetic complexity. In other words, they should walk away with the best and truest form of a liberal arts education. As a teacher, if I can be an instrument to that kind of success, then I think there's little mystery to what I'm doing here.

Brian Bouldrey is director of the English Major in Writing, senior lecturer in English, and author of Monster, *a collection of personal essays (Council Oak Books) and three novels,* The Genius of Desire *(Ballantine),* Love, the Magician *(Haworth), and* The Boom Economy *(University of Wisconsin Press).*

GADGETS IN THE DORM THEN AND NOW

A father dropping off his son at Northwestern recently remarked, "There is more computing power in this dorm room than there was at my entire university in the 1960s." Rooms were simple and gadgets were few in the first half of the 20th century, according to University archivist Patrick Quinn. Socializing occurred in dormitory lounges; papers were written mostly with fountain pens; telephone calls came through a central switchboard. The '70s brought an end to parietals and hanging out in one's room became the norm. An ensuing explosion in technology, coupled with ever-increasing miniaturization, made many of the following gizmos possible and portable, if not always affordable. So, we're wondering... what was in *your* dorm room?

1930s

- Philco "Cathedral Model" table radio
- Wind-up alarm clock
- Corona manual typewriter (most typewriters were in library "typing rooms")
- Parker fountain pen

1940s

- Webster Chicago phonograph player, came in a little suitcase
- Brownie reflex camera
- Motorola portable radio with lift-up lid

1950s

- RCA black and white TV (probably in dorm lounges)
- Moonbeam clock, awakened you with silent alarm of blinking lights
- Record player for 78s and 45s. Came with a plastic disk for center of 45s.
- Polaroid Land camera—pictures in 60 seconds

1960s

- Electric typewriters replacing manuals
- Hall phone in dorm, Princess phone at home
- Record player with automatic swinging arm to change 45s
- Electric popcorn popper

1970s

- 8-track tape player and tapes. "Saturday Night Fever" anyone?
- Phone in room, probably boxy in shape, with rotary dial
- Handheld calculating machine—could add, subtract, divide, multiply!
- Stereo system with turntable, for playing "vinyl" albums
- Mini refrigerator

1980s

- Sony Walkman® with cassettes
- Desktop computer—Apple with 3" disc or IBM with 5" floppy
- Color TV and VCR, either VHS or Betamax
- Hewlett Packard scientific programmable calculator
- Atari, Nintendo and other video game systems

1990s

- Laptop computer
- Music on compact discs rather than cassette tapes
- Digital camera
- Cell phone with text messaging capability

2006

- Computer with flat screen monitor
- Cell phone with picture-taking feature, Internet connection
- Apple iPod Nano® for downloading music from computer

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