TEAMING UP TO SAVE THE WORLD’S PLANT LIFE

SURGING AHEAD WITH OLYMPIAN ZEAL

JOURNEYING TO BETTER HEALTH IN BOLIVIA
I n 2004-05 Northwestern University undergoes its once-a-decade review to maintain its national accreditation. This process enables us to evaluate how well we achieve our mission and in that light to develop our goals for the future. Over the past year, faculty and administrators have come together to consider ways to extend Northwestern’s signature strength as a university that fosters interdisciplinary and collaborative work.

We often find that the most interesting problems are at the edges of the traditional disciplines: they require methods and expertise normally associated with separate fields—art history and computers, physics and materials science, music and cognitive science. There have always been gifted individuals able to span fields, but they run the risk of being seen as marginal to the core discipline. At Northwestern we encourage active collaboration of interdisciplinary teams of students and professors who learn to combine their expertise and to explore problems beyond the reach of other approaches.

Interdisciplinary work stimulates creativity. A recent article in the Chronicle of Higher Education by Stephen J. Tepper argues that “creative people feed off the energy of others; they excel when challenged and forced to confront and incorporate other perspectives and approaches; and they depend on the support and encouragement of allies and colleagues when trying out new and often risky ideas.” We think of universities as, by definition, encouraging creativity. But institutions create structures—departments—that can confine creativity. Our job is to reduce barriers to cross-disciplinary research and teaching. Even more, our job is to provide positive means by which people with common interests can find each other and generate creative insights.

We have succeeded in breaking down some of the physical barriers to collaboration. The Crowe Hall addition to Kresge has benefited the humanities in the same way that the interconnected science buildings on north campus promote conversations across the sciences. In the near future we hope to create the same opportunities for our social scientists who are still located in separate buildings.

Our resourceful faculty also foster collaboration through the curriculum. So, for example, Environmental Science in Weinberg College is embracing a new inter-departmental, humanities and social sciences minor in Environmental Policy and Culture, and at the same time reinventing itself as an inter-school science and engineering program with the McCormick School of Engineering and Applied Science. In the new program, students from both schools will bring their combined expertise in political process, scientific discovery, and engineering to bear on local environmental problems—renewal of urban brown-zones; abatement of lead toxicity in poor areas of Chicago; and restoration of lakefront ecology.

As we plan for the coming decades, I would welcome your reflections on opportunities and barriers for interdisciplinary study that you encountered as a student in the College. Please write me at dean@wcas.northwestern.edu, or stop by to see me when you are visiting the campus.

Daniel Linzer
JOHN PERKINS, a life trustee of Northwestern with many years of service to both the University and the College, died at his Winnetka home in September at the age of 83. Perkins was formerly president of Chicago's largest bank, Continental Illinois National Bank and Trust Company, which he joined after serving in the Navy until 1946. His distinguished career included positions as chairman of the Midwest Securities Trust Co.; Governor of the Midwest Stock Exchange; chairman of the American Bankers Association; and member of the advisory committees at the U.S. Treasury and the Federal Reserve. Lawrence Dumas, Northwestern provost and former Weinberg dean, said of Perkins, “John’s leadership of the Visiting Committee and of the Campaign for Great Teachers was of enormous help to me when I became Dean of Weinberg College. The Visiting Committee helped us develop clear plans for the College’s future and the Board worked hard to raise the money needed to fulfill our plans.”

Mr. Perkins is survived by his wife, Len (Francis Welker), a 1945 graduate of the College, and by their three sons and two grandchildren.

Professor HAROLD PERKIN, who died at 78 in October, will be remembered for establishing social history as a major area of study in both his native England and the U.S. Deeply influenced by his background—he was a relative of unskilled laborers to wealthy factory owners—he could observe firsthand the complex layering of English society. In his groundbreaking book, *The Origins of Modern English Society, 1780-1880*, he explained his country’s evolution from a landed hierarchy to a class-based urban society, looking at changes in economics, politics and philosophy, as well as social history. According to a tribute in London’s *The Guardian*, when Perkins headed west from the University of Lancaster to teach at Northwestern, his horizons broadened and he began to view England’s past in an international context. This prompted another sweeping work, *The Third Revolution, Professional Elites in the Modern World*.

Northwestern colleague T. William Heyck said two qualities of Professor Perkin stand out: his capacious and orderly mind and his scholarly generosity. “He had no sense of scholarly territoriality, no ‘urf anxiety’ at all,” Heyck recalled. “He was happy to tell you about everything from the origins of the ‘furlong’ to the political betrayal of the cause of Labour by Tony Blair. (He was a devoted Labourite and advocate of the Welfare State.) I benefited enormously from his generosity and so did many others.”

Biochemistry professor NEIL WELKER, who championed hands-on research experience for undergraduates, passed away in August. Professor Welker’s lifelong research interests focused on a thermophilic cloning system which was devloped to produce mutant forms of enzymes with improved catalytic characteristics. The system has been used for the domestication of enzymes that convert biomass into commercial and environmentally useful products. According to colleagues, Professor Welker was ahead of his time in realizing the importance of exposing students to the principles of research and scientific thought in order to sharpen their investigative and problem-solving skills. Joshua Schnell, assistant chair of the department of biochemistry, microbiology and cell biology, said of Welker, “His dedication to the teaching mission of Northwestern was manifest in his innovative laboratory teaching program for which he received an undergraduate teaching award in 1995….His service as Director of the Undergraduate teaching laboratories and Director of the Center for Biotechnology are examples of Neil’s passion for training undergraduates and graduates to succeed in laboratory research.”

Toward that goal, his students and colleagues have established the Neil Welker Fund which will award cash prizes each year to an undergraduate for advanced laboratory work and to a graduate student for superior performance as a teaching assistant. Those wishing to contribute to the fund may contact Kristen Williams, Director of Development for Weinberg College, at 847-491-4585 or k-williams3@northwestern.edu.

JoAnn Gibbons, the only scientist from the Midwest to receive the NIH Director’s Pioneer Award from the National Institutes of Health. The newly-established award recognizes scientists and thinkers who demonstrate “highly innovative ideas and approaches to contemporary challenges in biomedical research.” Mirkin, who is renowned for developing nanoscale medical diagnostic systems, was one of nine scientists to win the award, and the only scientist from the Midwest.

He told *Crosscurrents* that the award—$4.5 million over five years—will allow him to focus on the development of novel nanotechnology tools for understanding the fundamental basis behind recognition in biological systems. “Specifically, we will be trying to learn how surfaces patterned with multiple agents at the nanometer length scale can be used to trigger recognition and signaling events in cells, viruses, and other biological entities.” As director of Northwestern’s Institute for Nanotechnology, Mirkin stands to shape the development of this field.

His laboratory developed the bar code assay which is “approximately a million times more sensitive” than previous methods of detecting protein markers. According to Mirkin, the assay allows his team to examine new biomarkers for diagnosing diseases from Alzheimer’s to many forms of cancer. “It is opening the door to single cell analysis of protein expression and because of its extraordinary sensitivity, it has a chance to significantly change the entire field of medical diagnostics.”

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leksandar Hemon, who received his master’s degree in English at Northwestern and was Simon Blatter Visiting Professor in spring 2002, has been awarded a MacArthur Foundation Fellowship, the so-called “genius grant.” Hemon currently commutes from Chicago, where he lectures in the School of Continuing Studies, to Sarajevo, has been praised for his work in Sarajevo, has been praised for his work in writing with wit and compassion about cultural displacement and the experiences of war. According to the

The O.B. Hardison, Jr. Poetry Prize, given each year by the Folger Shakespeare Library, is the only major award in this country to recognize excellence in both poetry and teaching. Thus the award of the Hardison prize was a “great and unexpected pleasure” for Reginald Gibbons. Northwestern professor of English, poet, and fiction writer. Gibbons, who also edited the literary journal *TriQuarterly* for almost 20 years, “has accomplished more already than what two or three people combined might normally accomplish,” noted one of the judges, Michael Collier, himself a poet. In speaking to *Crosscurrents*, Gibbons focused on the experience of teaching Northwestern students: how much he learns from them in small, discussion-filled classes and how he enjoys taking them to literary performances in Chicago. He says he feels fortunate to teach in one of the top undergraduate creative writing programs in the country. “I have always felt strongly about

the importance and value of our mission in teaching creative writing to undergraduates—we teach them how to read closely with attention to qualities of language, literary genre and literary form....I feel privileged to work in a department that is congenial to creative writing, and to have wonderful colleagues and excellent students.” He is currently working on a novel and has recently completed a book of poems.
SERVING AND CONSERVING THE FUTURE

PURPLE GOES GREEN: THE NEW PARTNERSHIP BETWEEN NORTHWESTERN UNIVERSITY AND THE CHICAGO BOTANIC GARDEN

“More than half of plant and animal species are threatened with extinction by the end of the 21st century. It’s a global tragedy in the making.”

David Lentz, vice president of Scientific Affairs at the renowned Chicago Botanic Garden in Glencoe, Illinois, speaks as an authority in the field of paleobotany. Faced with the challenges of understanding the complexities of biodiversity and seeking solutions for worldwide habitat destruction, Lentz has teamed with Northwestern University to develop a new interdisciplinary program that will attract bright and energetic students who will become leaders in botanical science and plant conservation.

A working partnership between the Botanic Garden and Northwestern’s biology department, the new plant biology and conservation program encompasses a wide range of possibilities for study, from the microscopic world of bacteria to the macroscopic complexity of threatened ecosystems. Researchers will investigate existing populations of endangered plants, examining their genetics, the environmental changes to their original habitats, and their potential for successful reintroduction to appropriate localities. “This program is being developed just in time, when it’s not yet too late to have an impact,” says Lentz. “Currently, there are no recovery plans in place for 55 percent of our endangered plant species, and, until now, there have been no programs that focus on training future plant conservationists who can address the problem of species extinction.”

The partnership was born in 2002, when Barbara Whitney Carr, president and CEO of the Chicago Botanic Garden, and Weinberg dean Daniel Linzer, discussed cross-fertilizing the research capacities of the University with the “living laboratory” resources of the Garden to produce a scientifically rigorous curriculum. “Plant science is an extremely important area of study, which the University has long wished to offer our students,” says Linzer. “The Garden has an outstanding research staff, and Northwestern can provide access to information, materials, and facilities that will advance their research tremendously. By working together, we can accomplish much more than either institution could on its own.”

Robert E. Shaw (McC ’70, KSM ’81) and his wife Charlene (’70) were among the first alumni and friends to support the new initiative. Their decision to donate to the conservation program was both personal and pragmatic. “Better understanding of the plant world has led to numerous medical, environmental, and commercial advances,” says Robert Shaw. “But more importantly, we feel that if we don’t help to train this generation to understand how ecosystems act and interact, then we are doing a disservice to the future of humankind.”

Former associate dean Craig Bina (’85, MS ’86, PhD ’87), Wayne V. Jones II Professor of Geological Sciences, served on the committee that guided the process to fruition. “Already this has been an exceptionally productive relationship, with nothing but benefits for all concerned,” says Bina. “We’ve created an outstanding interdisciplinary team of scientists and educators eager to work together on a very important subject, and expanded opportunities for botanical research at the Garden for our students and faculty.”

Biologists and botanists are not the only ones to benefit from the deepening partnership with the Garden. Unique events like the Chapungu outdoor sculpture exhibit, which featured discussion on art history and political science led by Northwestern faculty, have been enjoyed by thousands of school children and adult visitors. Additional opportunities for cultural enrichment have included special lectures, tours, and receptions just for Northwestern alumni and associates.

The program will open its doors in fall 2005, providing coursework and research opportunities leading to the master’s degree in plant biology and conservation. With a faculty composed of experts in biology, environmental studies, anthropology, archaeology, engineering, and economics, students will be provided with a truly remarkable educational experience. Researchers and educators from the Garden have received adjunct University appointments, allowing them to serve on review and dissertation committees, and Lentz has already taught a 300-level course in historical ecology for Northwestern. The first graduate applications are in process, and eight under-graduate students participated in this past summer in botanical research at the Garden, paid for in part by a grant from the National Science Foundation.

Committee member William Leonard, chair of the Department of Anthropology, is delighted that an ecological voice is being reintroduced to scientific discourse at the University. “We’re giving students the opportunity to discover how their piece of the world fits with the rest,” says Leonard. “Biodiversity and conservation are complex subjects, requiring investigators who think outside the box, implement technologies across the traditional disciplinary boundaries, and aren’t afraid of intricate solutions.”

“Every gift to the Northwestern University-Chicago Botanic Garden partnership will help promote understanding of issues of global climate change, species extinction, and stewardship of the ecology, integrating the relevance of plant biology and ecology to societal health. It will help us make a difference to our students, and to the world. If you are interested in supporting this exciting new initiative, please contact Kristen Williams, Director of Development for Weinberg College of Arts and Science, at 847-491-6435 or k-williams@northwestern.edu.”

Lentz agrees. “This new partnership with Northwestern draws upon what’s best from both institutions, providing the chance for a challenging, innovative, and effective collaboration,” he says. “I know that I speak for everyone here at the Garden when I express appreciation for the vision of the Northwestern administration, faculty, and donors who are making this initiative possible.”

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Larry Wilson is a senior development writer at Northwestern.

PHOTOS: ABOVE, WEINBERG JUNIOR MERCEDES STICKLER WORKING LAST SUMMER AT CHICAGO BOTANIC GARDEN. LEFT, DAVID LENTZ TEACHING A CLASS.

“If we don’t help to train this generation to understand how ecosystems act and interact, then we are doing a disservice to the future of humankind.”

ROBERT E. SHAW
WHAT DOES IT TAKE TO BE AN OLYMPIAN?
“IN LANE 6 FOR BULGARIA IS MICHAEL ALEXANDROV” BY NANCY BENZEN

I felt extreme pressure but I somehow knew that everything would come together in the future, and I had faith in all the hard work I put in day in and day out.

Going to the 1996 Olympics in Atlanta with my father was a big inspiration for me, a turning point. I was 11. Every night after that I would pray that I could go to the Olympics.

WHAT’S THE HARDEST THING ABOUT YOUR LIFE AS A SWIMMER?

Staying on top of things—prioritizing and managing time wisely—because swimming isn’t the only thing I have to worry about. If it was, I’d be the happiest person alive.

SO YOU ENJOY PRACTICE?

Getting out of the pool after practice is hard. In the water you’re really relaxed and then you get out and you’re like, wow, gravity is different. You walk to the showers and everything hurts. I don’t remember having one thing that didn’t hurt this summer—even the top of my head. I was swimming three times a day, doing about 14 miles, and I was really broken down. And I’d ask myself, why am I doing this? But the minute I’m done after a meet, it’s a feeling I can’t explain. It’s happiness knowing that you accomplished what you went out to do.

IS THAT TRUE WHETHER YOU WIN OR LOSE?

Yes. When you win, you know you did something right. When you lose, you still can learn about strategy.

HOW DOES THE OLYMPICS DIFFER FROM OTHER COMPETITIONS?

It’s the Olympic spirit. One night I was done with my first event and I was walking from the bus to our little house and I saw the whole Olympic Village and it looked huge. The best athletes are there. It’s inspiring to see them and learn from them. Looking at their rituals, at their getting ready in the morning, how they eat. It’s all about concentration.

IS IT HARDER TO CONCENTRATE ON YOUR RACE IN THE OLYMPICS?

At the Olympics there are cameras at the sides of the pool and they’re moving with you. You can’t see them when you’re a spectator, but when you’re swimming it’s a big distraction.

ANY SPECIAL PREPARATION FOR THE OLYMPICS?

I would visualize my race with a stop watch: “Take your mark and go” and then the first 50 meters and the second, third, and fourth. I’d visualize the race so many times that I’d get it down exactly to the time that I would swim at the Olympics. That was cool.

DID YOU LEARN ANYTHING FROM OLYMPIC MEDALISTS IAN THORPE AND MICHAEL PHELPS?

They’re great athletes. I had a lot of pride in just seeing them. But they’re not that different from any other athletes at the Olympics. They have to qualify just like the other athletes…. I learned how Michael Phelps concentrates and blocks the publicity out. He said, “I came to the Olympics to swim, not to give interviews.” That was something I had a lot of respect for.

I got to watch all the finals and was a commentator for Bulgarian television. It was a lot of fun just to see them race [imagining] myself next to them in each race and thinking what I would do differently.

HOW CLOSE ARE YOU TO BEING AT THEIR LEVEL?

I’m two seconds away from the top three in the 200 individual medley, the 50, 100, and 200 breaststroke, and the 100 freestyle. And that would be [he pats the table twice quickly] that much. I’ve gradually been doing better each year and I’m looking to finally make a jump, a breakthrough. I’m totally ready to medal at the next Olympics and even then I’ll want to medal again.

WHAT ARE YOUR GOALS FOR NORTHWESTERN’S TEAM?

We hope to get to the top 10 in the NCAAs as a team and get more finalists; last year we had two. I hope to be a good example to my teammates and help them out. I’ve competed at a different level and maybe I can help them achieve their goals.

WHAT ARE YOUR PASSIONS BESIDES SWIMMING?

I play the piano for our church and the retirement home in Champaign. Have you heard of Yanni? [The Greek-born composer and singer was also a champion swimmer.] He’s my favorite. I also play classical music—Bergmueller, Beethoven, Chopin.

WHO IS YOUR PERSONAL HERO?

My Dad. He’s my coach, my massage therapist; he does everything for me. We really respect and learn from each other. He owns the world record for master swimming in the 40 to 45 age group. We swam at the U.S. Nationals together in 2001. And he beat me.

I’m done after a meet, it’s a feeling I can’t explain. It’s happiness knowing that you accomplished what you went out to do.

NORTHWESTERN SWIMMERS WERE CHEERING FOR BULGARIA’S RED, WHITE, AND GREEN, AS WELL AS FOR THE STARS AND STRIPES DURING LAST SUMMER’S OLYMPICS AS TEAMMATE MICHAEL ALEXANDROV COMPETED FOR HIS NATIONAL TEAM. ALEXANDROV WAS BORN IN SOPHIA, BUT MOVED TO CHAMPAIGN, ILLINOIS AT AGE 10 WITH HIS MOTHER, KALINKA, AND FATHER, PLAMEN. HE SAYS HE CAME TO NORTHWESTERN BECAUSE OF HIS TRUST IN BOB GROSETH, HEAD SWIM COACH, AND SERGIO LOPEZ MIRO, ASSISTANT COACH, AND THE OPPORTUNITY TO STUDY AT A TOP UNIVERSITY.

IT ALSO HELPED THAT NORTHWESTERN HAS NO SWIM PRACTICE ON SATURDAYS, AND MICHAEL, A SEVENTH DAY ADVENTIST, CAN ATTEND CHURCH SERVICES WITH HIS PARENTS.

SECOND-YEAR STUDENT IS STUDYING ORGANIC CHEMISTRY AND BIOLOGY IN THE HOPE OF BECOMING A DOCTOR. AND HE DOES HAVE A SOCIAL LIFE, ALTHOUGH FOUR HOURS OF DAILY TEAM PRACTICE AND LATE-NIGHT STUDYING LEAVE HIM OFTEN SLEEP-DEPRIVED.

His father, a physical therapist, is also his coach, not surprising since Plamen swam in the 1980 Olympics for Bulgaria. Plamen is “really, really happy” that his son is a U.S. Olympian. His father, a physical therapist, is also his coach, not surprising since Plamen swam in the 1980 Olympics for Bulgaria. Plamen is “really, really happy” that his son is a U.S. Olympian.

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Travel to the villages of the Tsimané people in the Amazonian lowland starts in La Paz, Bolivia’s high-altitude capital. Bill Leonard, chair of Northwestern’s anthropology department, says you have a choice. You can take a “fasten your seatbelt” bus ride on unpaved switchback roads with no guardrails. Or you can take a plane, which doesn’t feel much safer to Leonard: “The small bush plane circles the airport three or four times before it gets enough lift to fly over the mountain ranges. And then you glide down. But on a clear day, it’s a spectacular flight. You can really see the changes in ecology, flying up over snow-capped peaks and then down into the tropical rainforest.”

It is the opportunity to observe more subtle changes—changes in a way of life—that draws Leonard and his colleagues to the area. The Tsimané (pronounced CHEE-MÁN-AY) are traditionally forager-horticulturalists living in the eastern foothills of the Andes; many are now engaged in the logging industry. Leonard and his colleagues are trying to understand how their transition to a modern market economy influences their health and well-being. They are an interesting group to study, says Leonard, because until recently—the last 25 years or so—they were isolated and highly nomadic.

The collaborative project, now in its sixth year, is funded by the National Science Foundation, Northwestern, and Brandeis University. Leonard’s interests are diet, nutrition, growth and development; Northwestern colleague Thomas McDade’s are issues of immune health [see adjacent article]. Both are biological anthropologists, who say they are exceptionally pleased that the project has provided a fertile training ground for Northwestern students and post doctoral researchers, as well as graduate students in anthropology from across the country. Brandeis collaborators are cultural anthropologists Ricardo Godoy, Victoria Reyes-Garcia, and Tomas Huanca, as well as agronomist Vincent Vadez.

Before starting their research, the team laid out their plans before the leaders of the Tsimané council and received their approval. “Not being exploitative is critical to doing this work,” says Leonard. “We’re imposing on people’s lives, going into their houses and asking them bizarre, off-the-wall questions. So we need to provide some sense of why this information is important to them.”

The team gives back to the community in many ways: sharing their data on the growth and development of children, holding workshops on improving healthcare and nutrition, even teaching basic accounting skills to help the Tsimané in their dealings with merchants and loggers.

The Tsimané live in small villages of 50 to 100 people, usually extended families, along the banks of the Maniqui River. Fishing and hunting...
of small game—precious, monkeys, anteaters, and armadillos—provide some sustenance but not enough. And while rain forests typically foster great plant and animal diversity, soil quality tends to be poor. So the Tsimáné have traditionally practiced swidden agriculture: Men of the household cut down a patch of forest with machetes, burn the vegetation to enrich the soil, and plant rice, corn, plantain (a banana plant) and sweet manioc, grown for its edible rootstock. After five to seven years, they move their families to another part of the forest and start the process again.

Language, as well as geography, has kept them isolated. Jesuit missionaries arrived in the late 16th century, but the Tsimáné were never successfully settled in missions and their language, also called Tsimáné, remains unlike any other, even within Bolivia. Leonard and his colleagues are currently working with the people of 13 villages located along the banks of the Maniquí. Those closest to the town of San Borja tend to be more integrated into the regional economy and speak more Spanish than those to the north, who are usually more isolated and adhere more closely to the traditional Tsimáné way of life.

The anthropologists have found that the process of modernization defies easy categorization. Even the meaning of “modern,” when applied to the Tsimáné, raises many questions. “Much previous research has tended to look at cultural and lifestyle change as linear and onedimensional, traditional versus non-traditional (modernized),” says Leonard. “In reality, it is a much more complicated process with many dimensions which do not move in lock-step with one another—education, language, preservation or loss of indigenous knowledge, material possessions, land holdings, employment. Food sources are part of the picture—what percentage of food is from hunting and gardening and what percentage is from the marketplace—as is access to Western medicine.”

The group is collecting information on all these factors to provide a richer picture of how the villages, groups, and families are affected by outside market forces. On the health front, they have found that growth stunting, parasitic infections and low hemoglobin levels (anemia) are problems among all the Tsimáné children. These problems appear to be linked—a high rate of disease limits the availability and absorption of necessary nutrients, resulting in anemia and limited growth.

When acculturation enters the picture, health, sometimes in surprising ways. “It appears that the early stages of the transition are associated with the most problems,” Leonard says. The group’s research has shown, for example, that children’s height status and hemoglobin levels, when plotted on graphs against the mother’s and father’s Spanish proficiency, show a marked drop when going from ‘no Spanish’ to ‘some Spanish.’ So in this case, at least, one aspect of becoming ‘modern’ seems to adversely affect one’s health.

“There are different ways of being ‘modern,’” Leonard explains. “It is not simply that becoming ‘modern’ should improve or reduce one’s health; rather it is the conditions under which people adopt new lifestyle dimensions that will influence whether their health improves or declines.” Households with greater levels of social support and greater wealth are going to do relatively better than households that are more marginalized, researchers are finding. And low income households drawn into wage earning tend to be at greatest risk for things like childhood under-nutrition; they are caught between two worlds and not getting the benefits of either.

That point comes to life in some of the villages closest to San Borja, where chain saws buzz in the distance, and as many as half the men are involved in logging. Those hired as supervisors (often those with some education and Spanish language competence) may make enough money to afford better food, lodging, and medicine. But day laborers, whose pay is lower and work schedule more sporadic, often end up in debt, with no solid income, nor the support of the community they once relied upon.

“If a man is off for weeks at a time with the loggers, he is not hunting and gathering and taking care of his crops,” Leonard explains. “One of the ways in which these
Engineers from the National Science Foundation for research “that may ultimately improve child health through a better understanding of the social and environmental factors that affect the development of the human immune system.”

McDade explained why this approach promises to push wide open the boundaries of what we can learn about the health of populations, both overseas and here at home: “Most health research has involved the collection of blood and other clinical tests that have not been feasible in remote locations where lack of electricity means no freezer or lab centrifuge. Another drawback is acceptability: I don’t think we’d have good success approaching children with a big syringe to draw lots of blood, especially since we need to return to those same children (for samples) every six months.”

So the vast majority of human biology research has been based on Western populations, with access to electricity and familiarity with medical examinations. Anthropologists in distant locales have relied on health surveys that leave uncharted the underlying physiology and other health issues not readily observable. “Public health officials and anthropologists alike have a great interest in the health of those in developing nations and settings, people who live under different ecological and cultural circumstances,” says McDade. “As anthropologists we’re interested in human variation, to see how the biologies of people in remote settings may differ from those in the West or how different circumstances from those we experience might affect health.”

McDade has spent several years developing methods to measure infection and immune function using the finger prick technique. Here is how the process works in Bolivia: field workers go to children in their homes and use a finger prick from a sterile, disposable lancet to collect a few drops of blood onto a standardized filter paper. “We haven’t got a problem collecting samples this way from kids as young as two years,” says McDade, admitting that candy sometimes sweetens the process. “It’s a great way to bring the method to the person rather than relying on someone to come to our lab or clinic.” Since most indicators studied are stable, samples don’t have to be frozen or even chilled. They are then taken downstream by canoe to the town of San Bonita, a process which can take several days. Once samples arrive at the new Laboratory for Human Biology Research at Northwestern, McDade, colleagues, and students measure them using standard clinical laboratory protocols. They use an ordinary home punch from Office Depot to create seven tiny disks from each blood spot, which allow them to measure such health markers as C-reactive protein, an indicator of infection; transferrin receptor, a measure of iron status; and antibody production against the Epstein Barr virus, an indicator of immune function. Each disk is then put into a test tube and a buffer is added to reconstitute it into whole blood. McDade has used the technique to study populations in Samoa and Kenya, as well as in Bolivia, and is working with researchers at University of Chicago to implement its use in studying the health of adults in Chicago.

The anthropologist initially thought he had to choose between teaching at a small school or doing research at a large school of public health or medical school. “I decided I wanted to do it all and felt that Northwestern was a place that would allow and encourage me to do that. And I’ve really been happy with that decision.” He says he was attracted to Northwestern because of its approach to anthropology and the cooperative ethos of its department, especially in light of the split at some other institutions between biological and cultural anthropologists. “Anthropology is one of the few disciplines that looks at the human experience from multiple perspectives—the evolutionary/historical approach, the social/cultural and the biological. I was very attracted to [Northwestern’s] commitment to an integrative anthropology.”

McDade was also drawn to the University because of its emphasis on undergraduate teaching. As a director of the Laboratory for Human Biology Research, he is enthusiastic about bringing students into the process at every level. Weinberg senior Roseann Wu is currently working with McDade to analyze material collected in Bolivia. His students in Methods in Human Biology Research learn to collect and analyze blood samples and other health markers. High school students benefit from the mentoring of McDade and colleagues: “Last year we had three students from Evanston Township High School who spent 20 hours in the lab over winter quarter helping me and learning what is science, what is anthropology, and what is biological anthropology. We’ve tried to create a collaborative environment here at Northwestern,” he says, “where students and professors work together in areas of mutual interest. It seems to have worked.”
ART
To Joanne Scheff Bernstein, who teaches Arts Management, it is just as important for a cello player to understand the market forces acting on a symphony as it is for the director or business manager. They all need to know how union functions too, as do the advertising writers and the critics.

For the sake of this class, at least, Bernstein defines art as an attempt to communicate and an arts organization as one that facilitates that communication between art and the audience. It is these non-profit organizations, such as symphonies, operas, and theater and dance companies, that Bernstein teaches her students to manage in this, one of the most innovative classes in one of Weinberg’s most innovative minors—the Business Institutions Program.

It is 9:30 a.m. on the second day of class and Bernstein, dressed in a tailored grey suit accented by a blouse that precisely matches her carved carnelian bracelet and brooch, explains a few basic economic principles to her students’ attention with talk of “variable costs” and “ameliorative efforts” is compounded by the early hour and the classroom’s chilly temperature. But Bernstein’s carefully organized lecture and penchant for analogy brings such abstract concepts into sharp focus.

She prompts her students to think of an orchestra like any other product to be sold—a cell phone, for example. But unlike a cell phone, which can be tested with a prototype before anyone invests in it, an orchestra’s prototype is its opening night. And at that point, as Bernstein points out, “It’s too way too late to make significant changes because you have already invested all your cost.”

This application of academic principles to real-world situations highlights the unique endeavor of both Bernstein’s class and the Business Institutions Program itself. BIP students come from every Northwestern discipline to take classes like Entrepreneurship, Global Economic History, and the Sociology of Healthcare Markets. The program’s faculty is drawn from Economics, Sociology, History and Political Science. But the principle at the heart of BIP draws all these disciplines together: Help students understand the business side of whatever career they plan to pursue and show them how the fundamentals of a liberal arts education apply in the outside world.

Some BIP students plan to seek an MBA but others merely want that difficult-to-define “business background” that employers often seek.

Abby Wolbe, a creative writing major who assists with Bernstein’s class, was looking for something even simpler: “balance.” She chose the minor after her older brother was told by prospective employers, “You didn’t take anything involved with numbers.” “I was a freshman,” she says, “and heading toward a creative major and I needed to balance that.” BIP classes enable her to balance different disciplines, kinds of class work, and even the left and right sides of the brain.

Bernstein’s class also helped Wolbe connect her heavy involvement in theater with an internship at a consulting firm for non-profits. The program’s opportunities for individually-tailored projects impress Wolbe and many others. “You create a sort of specialty package,” she explains. And with more than 100 classes accepted as contributions toward the minor, Wolbe decided that BIP’s opportunities outweighed her “fear of econ.”

HISTORY
BIP isn’t the first incarnation of an undergraduate business program at Northwestern. The university offered a full-fledged undergraduate business major before discontinuing it in the ‘60s in keeping with a larger trend among prestigious colleges and universities. At the time a series of reports attested to the superiority of a liberal arts education over an undergraduate business degree as preparation for an MBA.

But by the late ’80s, says Ron Braeutigam, former BIP director who is now Weinberg associate dean for undergraduate studies, both students and employers were clamoring for more business-related courses. Thus BIP was born as an interdisciplinary certificate program and in 1995 adopted by the College as a full minor.

Braeutigam, the Harvey Kapnick Professor of Business Institutions, explains: With the old undergraduate business major, students took the “business version” of economics, mathematics, statistics, or psychology classes. These were almost inevitably less rigorous than a calculus class taught by the mathematics department or an economics course in the economics department. In contrast, BIP allows students to fulfill distribution requirements in the departments best equipped to teach them, to choose almost any major, and then to add five BIP electives to three core classes in economics and organizations. The program is designed to help students learn the fundamentals of the business side of their chosen field and gain a better grasp of business principles in general.

“It teaches you about business institutions in a broader context outside of just crunching numbers,” says Melissa Hayes, a 2001 economics graduate with a BIP minor.

STATISTICS
After graduating one student with a BIP certificate in 1989, the program has steadily grown to more than 90 graduates in 2004. As of last April, 406 students had declared BIP minors, a number Braeutigam says has probably grown to about 450, making it the largest minor at Northwestern.
About one-third are economics majors, but students of sociology, journalism, communications, education, engineering, and many other fields also declare the minor.

BIP offered six core classes and 20 electives, including four linkage seminars, fall quarter 2004.

**PHILOSOPHY**

Lucy Millman, assistant to the BIP director, handles much of the daily work for the program. For the last decade she has also served as the BIP students’ personal advocate. Thus almost every BIP graduate has passed through her office. “Lucy is an incredible resource,” says Hayes. “I think that support network was the most important thing [about BIP].”

To hear Millman and Braeutigam talk about the program, it is easy to see why graduates are so loyal. All their decisions are couched in terms of what will most benefit students, including an almost perpetual review of BIP classes to determine which will be offered again and which will go quietly into the history books. When they added Bernstein’s Arts Management class five years ago, Braeutigam was initially unsure of student interest in such a course—until, that is, between 60 and 70 students tried to sign up for the first class. Wolfe remembers that even last year there were “15 on the floor the first day” who didn’t get in. Braeutigam hopes that BIP will never stick with a steady list of classes, but will strive to be dynamic and responsive to students’ needs.

Mark Witte, a popular economics teacher who now directs BIP, continues this legacy by systematically talking with students, especially non-econ majors, about what’s working and what’s not. “I don’t want BIP to be an economics program,” he says. “I want to keep [the subject matter’s] diversity.”

**THE REAL WORLD**

One of the most effective ways BIP connects what Braeutigam calls the “ivory tower” to the real world is through internships. Students are encouraged to research and find positions with businesses. Non-paying internships almost always count for credit. BIP students can also combine a summer internship, even one that pays, with a seminar taken for credit in the following fall.

Melissa Hayes was introduced to BIP (and received BIP credit) through Millman during her internship at Solomon Smith Barney, Inc. now Citigroup Global Markets, Inc, for Chicago Field Studies, which Millman also organizes.

“Coming right out of school, it was great to have so much additional professional experience,” says Hayes, who worked at Morgan Stanley for two years after graduating and is now employed by a non-profit.

BIP Linkage Seminars also connect students to the business world, embodied by lecturers from the non-academic universe. Professionals from their industries’ front lines come to campus to teach seminars like Managing Workforce Diversity; Entrepreneurship; Sports Management; and Giving to Change: Case Studies in Philanthropy. Like most lecturers, Jeff Bail, president of S3/Sports and Sponsoring Solutions, Inc., brings his Sports Marketing students not only his expertise but also guests with relevant experience such as the marketing staff from major sports teams, sports journalists, and corporate-sponsor marketing executives.

Thanks to an arrangement with Northwestern’s Kellogg School of Management, one of the country’s top business schools, PhD candidates in marketing teach a Linkage seminar in marketing management each quarter.

BIP classes can inspire even those students who don’t minor in the program—like Sarah Levy. Since graduating only a year and a half ago with a sociology degree and a passion for food, Levy has started her own gourmet chocolate company, hired two employees and launched her product at 70 Midwest Whole Foods stores. And she says she owes it all to a single BIP class she took her senior year, where she picked up the skills necessary to do her own bookkeeping, pricing, and marketing.

“I don’t think I would have had the guts to start my own business, especially at this young age, if it hadn’t been for the things I learned in Entrepreneurship,” Levy said.

Medill senior Miki Johnson edited PLAY, The Daily Northwestern’s weekly entertainment magazine, and is helping produce a documentary on media coverage of protesters at the Republican National Convention. She can be reached at m-johnson@northwestern.edu.
A
tendees at the March 2003 induction of a new president of the University of Iowa must have known they were welcoming a man of wide-ranging interests in David J. Skorton (WCAS ’70, MD, FSM ’92). In an eloquent, thoughtful speech Skorton read no fewer than 13 haiku poems by writers as diverse as Richard Wright and the 18th-century haiku master Ichiku. “I figured there’s probably only one time in your life when you’re installed as a university president, so I decided to write my own speech and build it around haiku,” Skorton recalls. “I was a little apprehensive before I delivered it, because I didn’t know how it would come out. But people seemed to like it.”

THE SPRING HILLS GROW DIM, TODAY JOINING OTHER DAYS, DAYS GONE, DAYS TO COME. – RICHARD WRIGHT

His love of haiku merely hints at Skorton’s distinction. In becoming president, Skorton, a cardiologist, joined an elite group of current U.S. university presidents with medical degrees; the grand total is now three, according to the Association of American Universities. (He joins the presidents of Johns Hopkins University and Case Western Reserve University.)

Just as remarkable, while serving as university president Skorton continues to practice cardiology at the University of Iowa Hospitals and Clinics in Iowa City. He also holds professorial appointments in medicine, electrical and computer engineering, and biomedical engineering at the University of Iowa. After a few years the head of the medicine department asked Skorton if he wanted to fill a recently vacated administrative position in the division of general internal medicine.

“I had no administrative experience at all,” Skorton reflects. “The only experience I had that was relevant in the sense of dealing with people was selling shoes in Chicago as a student. But I took the job and it’s been 18 years that I’ve been in administration.” Skorton eventually became the university’s vice president for research, and within 10 years added two more top administrative positions to his duties.

As university president, Skorton faces some real challenges. Like most other public universities, the University of Iowa has experienced cutbacks in revenue over the last few years; state appropriations have been cut by roughly 16 percent. “We do have other means of support, of raising funds,” Skorton says. “Nevertheless, in quiet hours I wonder whether people don’t value as highly as I hope they would the concept of public higher education that’s broadly accessible. Unfortunately, as state support has declined across the county, tuition at public universities has gone up, and that’s a big concern.”

The annual in-state undergraduate tuition at Iowa is around $5,000, which is a lot less than private universities, but for some families, a steep hill to climb. The larger issue isn’t the debt load of the students, it’s deterring kids
The initiative will debut with a symposium on "The Creative Process: From the Laboratory to the Studio," featuring interdisciplinary talks by scholars and artists. The symposium will be followed by a series of events throughout the year, including workshops, concerts, and lectures, aimed at fostering a deeper appreciation of the arts and humanities. The university will also commission new works in literature, visual arts, and performing arts.

The generosity and leadership demonstrated by alumni, parents, and friends play a critical role in advancing academic excellence in the College. Your gifts help make possible exciting new courses, such as cross-disciplinary research seminars which bring together students from a variety of academic backgrounds. They are seed money for putting into practice new ideas to improve and enrich the entire College experience—like the comprehensive advising system which has proved so helpful to our students. Your support allows more students to work side-by-side with a faculty mentor for the summer or to present their original work at a conference, experiences which may leave a lasting impression on them and guide their career choices.

Wilson Society funds also enable Dean Daniel Linzer to respond to unanticipated needs that arise during the academic year. They have allowed the College to develop academic partnerships with outstanding Chicago institutions such as the Chicago Botanic Garden and the Field Museum. They bring in scholars and public figures as guest lecturers to add a special dimension to courses. They help create undergraduate prizes to recognize outstanding student achievement. In short, they add immeasurably to the spirit of discovery and joy of learning that we experienced during our own time at the College.

Your gifts, large and small, are important. We hope you will continue your partnership with the College’s outstanding faculty and staff by renewing your membership in the Wilson Society. Thank you for your support of liberal arts excellence at Northwestern.

Sincerely,

Steven C. Preston ’82
Senior Vice President and CFO
The ServiceMaster Company

Carole Browe Segal ’60
Cofounder and Vice President, Civic Affairs
Crate & Barrel

We are very grateful for the support of the nearly 500 Wilson Society members whose names are listed on the following pages. To those who are not currently members, we extend a warm invitation to join us.

The Purple Presidents: In addition to David Skorton, many other current college and university presidents hail from Weinberg College. We realize this list may be incomplete. Please let us know if we’ve missed anyone.

Madeleine Wing Adler
Lawrence D. Bryan
Frank A. Cassell
Johnnetta B. Cole
John H. Keiser
Dale T. Knobel
James V. Koch
Jae Sik Koh
Kelvin K. Olgyvie
James W. Schmotter
Rebecca L. Sherrick
John B. Simpson
Graham B. Spanier
Howard A. Tullman
West Chester University, West Chester, PA
MacMurray College, Jacksonville, IL
University of Pittsburgh at Greensburg, Greensburg, PA
Bennett College, Greensboro, NC
Southwest Missouri State University, Springfield, MO
Denison University, Granville, OH
Old Dominion University, Norfolk, VA
Hanshin University, Seoul, Korea
Acadia University, Wolfville, NS, Canada
Western Connecticut State University, Danbury, CT
Aurora University, Aurora, IL
University of Buffalo, Buffalo, NY
Penn State University, University Park, PA
Kendall College, Evanston, IL
### HEBREW

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### FOREIGN LANGUAGES OFFERED AT NORTHWESTERN*

### THEN AND NOW

#### FOREIGN LANGUAGES

**1980s - 2004**

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#### THE EARLY DAYS

From Northwestern’s founding onward, Greek and Latin were part of the Classical Course, considered the gold standard in higher education. French and German were substituted for Greek and Latin in the Scientific course. By the late 19th century, German’s role as the language of research had grown, as more U.S. universities, modeled on German research universities, began offering the Ph.D. Chicago’s large German population also supported its popularity. The addition of Scandinavian, Danish, and Swedish reflected the large Scandinavian population in Chicago and the upper Midwest. Hebrew was offered through Garrett Biblical Institute for those interested in studying the Old Testament.

#### SECOND WORLD WAR TO TODAY

With the curriculum in the early 1950s as the Soviet Union emerged as a world power. From the 1970s on, language offerings became global with the addition of Japanese and Chinese, Czech and Serbo-Croatian (now Serbian and Croatian). In the 1980s came Hebrew again, along with Arabic and Swahili. Coming at the dawn of the 21st century, Hindi were Korean, Polish, Yiddish, Persian, and Turkish.

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*With enrollments of 20 or more*