

CROSS

CURRENTS

**SHINING LIGHT ON AFRICAN ART
A HISTORY-MAKING TENNIS STAR
DEDICATION GATHERS TOP RESEARCHERS
WOMEN SCIENTISTS ON BREAKING BARRIERS**



4
New Pancoe-ENH Life
Sciences Building Dedicated

6
Weinberg Increases
Representation in
National Academy of Sciences

8
Sharon Patton:
Bringing a
New Visibility
to African Art
by Lisa Stein

10
Women Scientists
In 2003:
Why the Pipeline Still Leaks
and What To Do About It
by Nancy Deneen

16
Neena Schwartz:
The Mentor of Mentors

16
Rosenzweig Awarded
MacArthur Fellowship

18
The Winning Ways Of Tennis
Phenomenon Cristelle Grier
by Lorel McMillan

25
Admissions Requirements

NORTHWESTERN UNIVERSITY WEINBERG COLLEGE OF ARTS AND SCIENCES

DEPARTMENTS

1
From the Dean

2
Letters

6
Development

21
The Wilson Society

**COVER PHOTOS,
FROM TOP:
DETAIL OF MASK
FROM SMITHSONIAN;
TENNIS STAR
CRISTELLE GRIER;
PANCOE-ENH BUILDING;
HILARY GODWIN AND
STUDENTS**

**CROSSCURRENTS IS
PUBLISHED TWICE
A YEAR FOR ALUMNI,
PARENTS, AND
FRIENDS OF THE
JUDD A. AND MARJORIE
WEINBERG COLLEGE
OF ARTS
AND SCIENCES,
NORTHWESTERN
UNIVERSITY.**

**WE'D LIKE TO HEAR
FROM YOU.
SEND LETTERS AND
STORY IDEAS TO
NANCY DENEEN,
CROSSCURRENTS,
WEINBERG COLLEGE,
AT ADDRESS ON BACK
COVER, BY FAX TO
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OR BY E-MAIL TO
CROSSCURRENTS@
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FROM THE DEAN



As a reader of *Crosscurrents*, you will frequently find stories about our undergraduate programs, our distinguished faculty, our alumni, and our campus. So, it may come as a bit of a surprise to you that I want to call your attention to graduate education. Why? Because graduate education is critically important for our success and for our mission as a research university.

Graduate school is the transition from being a student to being an academic colleague. Instead of just learning what is known, graduate students focus on what is not known. They discover what research questions need to be asked, and which have a good chance of being answered if we go about asking the right way. They acquire the technical skills and the familiarity with the research literature to attack these problems, they develop a “nose” for a productive line of inquiry, and they become adept at working through the frustrations of failed hypotheses, inadequate data sets, and fragmentary literary records. In short, they become scholars. One of Northwestern’s most important contributions to the world is to train graduate students to succeed as the next generation of intellectual leaders. Our students go on to discover new nanomaterials for medicine; they determine how to model complex economic situations to help business and government plan for the future; they provide an understanding of the historical, political, and social context for international affairs; and they offer insights into how literature and language convey ideas that change the way we think and feel.

The caliber of graduate students directly influences the quality of education for all students. Star faculty take positions at schools that have strong graduate programs, which enable them to teach graduate seminars on advanced topics and to work with graduate students on cutting-edge research. The best such students bring fresh eyes to problems and a thirst for collaborative discovery. High-quality research makes an institution a vibrant place to work. This in turn attracts more top faculty and students and results in support from government agencies, foundations, and corporations that enables us to grow. In our 2002 fiscal year, externally funded research at

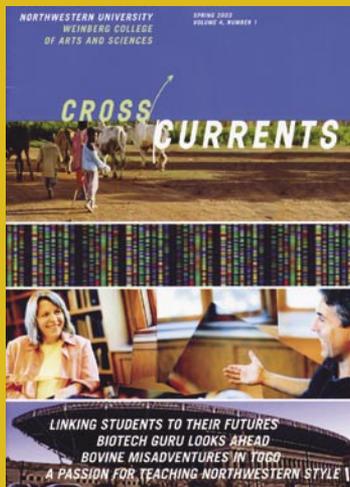
Northwestern exceeded \$300 million, the most for any institution in the Chicago area.

Undergraduates know well the contagious energy of excellent graduate students. With their own experience as undergraduates so fresh, graduate students are extremely effective mentors for undergraduates, particularly in the sciences where they work side by side in a professor’s lab. Our undergraduates can learn from graduate students about being successful in their studies and about making decisions about career pathways. Indeed, graduate students help establish the intellectual tone for the campus. Graduate students also serve as teaching assistants in all areas of the curriculum. They lead laboratory and discussion sections, answer questions and tutor students, and provide a forum for debate about the issues raised in large lecture courses. The better the teaching assistants, the better the learning experience for undergraduates.

We need a strong graduate program to have top faculty, outstanding research, and the best possible undergraduate educational experience. That’s our challenge, and for that I could really use your help. Prospective graduate students apply to those programs they learn about from advisors and fellow students. As you read *Crosscurrents*, spread the word about what is happening at Northwestern. Let us know about bright students whom we should be contacting. Tell us about opportunities for visits from our faculty to talk about their work and the work of their students at Northwestern. Of course, attracting the best graduate students can depend on providing stipends and tuition fellowships, and any help in that regard would also be wonderful.

I welcome your thoughts on this topic and on all matters concerning the College. You may reach me by e-mail at dean@wcas.northwestern.edu or stop by my office at 1918 Sheridan Road when you next visit the campus.

Daniel Linzer



LETTERS

ON THE LONG-TERM VALUE OF LIBERAL ARTS

Readers respond to Dean Linzer's letter inviting their comments (Crosscurrents, spring 2003)

I am a liberal arts graduate in chemistry with minors in physics and mathematics. Thanks to a caring and wonderful chemistry professor, Frank Gucker, for whom I also worked as a National Youth Administration employee, I enrolled in as many liberal arts courses as I could before I graduated.

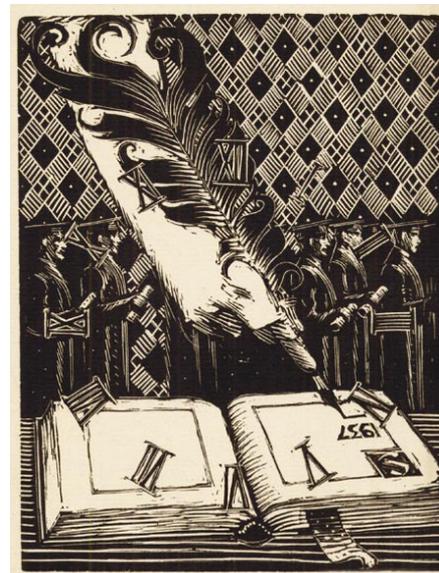
I can hear him now: "Paul, you should consider studying the liberal arts in addition to all the sciences. Your life will be so much fuller and richer." And this from a chemistry professor! So I enrolled in literature, psychology, and sociology courses. My counselor, Bill Nims, also helped me steer my way to a full educational experience. I was 100

percent self-supporting (it was during the Depression) and from a very conventional middle-class family with a limited view of life.

My chemistry education prepared me well to support my father, mother, brother, and sister for a number of crucial years. After World War II, I was able to enroll in medical school, go on to practice general medicine, and later become a board-certified psychiatrist specializing in pediatric psychiatry.

Reading Dean Linzer's letter, I rejoiced that Northwestern was holding fast to the liberal arts education that provided me with such an interesting and challenging life. I thoroughly agree with your assessment of the value of a liberal arts education.

—Paul Kingsley '37



Woodcut by Paul Honoré 1937



My experience in the College of Arts and Sciences was an intellectually fulfilling one because of the distribution requirements that I took. I feel privileged to have taken two classes with Professor Irwin Weil, as well as an additional one with Professor Gary Saul Morson. Without the "distros," I probably wouldn't have stumbled across such educational treasures.

Also, my initial experience in anthropology—another distro—led me eventually to pursue a minor in the field. Now, as I finish my medical

training, I find that the concepts I learned in these courses have enriched my experience as a physician in training and have allowed me to relate better to my patients.

In summary, I would say that the distros, though sometimes thought of as just items to be checked off on the way to a degree, definitely enriched both my Northwestern and post-Northwestern life.

—Andrew Hwang '97, MD

“I REJOICE THAT NORTHWESTERN IS HOLDING FAST TO THE LIBERAL ARTS EDUCATION THAT PROVIDED ME WITH SUCH AN INTERESTING AND CHALLENGING LIFE.”

—PAUL KINGSLEY '37

DARTMOUTH HOUSE REVISITED

My friend and fellow alum Carmen Edwards '80 identified my picture in your spring 2003 issue and sent me the article on Dartmouth House. Per your request for identification of those pictured, I was one of the original group of freshmen in Dartmouth House and lived there until the end of my junior year, in June 1978. I loved living in Dartmouth House! I enjoyed the camaraderie and diversity of my fellow residents. Dartmouth House was a unique living experience for a non-sorority college student.

Because it was a converted house, each room was different. Everyone wanted to live in the former dining room space because it was a huge room! I finally got my chance to live in the “dining room” in my junior year.



Photo by Franklin Habit

Thanks for running the photos of Dartmouth House and bringing back the memories.

—Ava D. Harth Youngblood
McCormick '79

Past president, Northwestern
Alumni Association

McCormick School of Engineering
Advisory Council

Northwestern University Board of
Trustees

I graduated from Northwestern with an English major and Latin minor and then, for two years, taught high school English and Latin. Ever since, I have not been employed outside the home, but as I reflect about my education, I cannot make a clear distinction between which part of it helped me in my “career” and which has enriched my life personally and in my roles as parent and active citizen in my community.

I am very much in favor of asking students to fulfill a fairly large number of distribution requirements instead of giving them the freedom to choose whatever might sound interesting at the time. As one of our wise friends who taught for years at the University of Chicago used to say, “You don’t know what you don’t know.” For example, I wish someone

had told me how much I would regret not having taken any history courses—not so much for learning facts, but for learning the discipline, how historians think and work.

As you so well explained in your letter, curricula and teaching methods must be continually evaluated and changed for the times. However, one constant remains, and that is the necessity for excellence of instruction. It is the professor, no matter what the course, who asks students to “evaluate data critically, work collaboratively, apply creativity to problems, and communicate clearly and effectively.” Even after 46 years, I am still challenged by what I learned in Moody Prior’s Shakespeare classes and from Stuart Small in the classics department.



MOODY PRIOR

STUART SMALL

Photos courtesy of University Archives

And so I would suggest that, whatever directions the College might take to stay relevant, the hiring and supporting of outstanding teachers is the most important thing it can do.

I am grateful for my Northwestern education. With what I know now, I wish I could begin again. Best wishes in the tasks ahead!

—Meta George '57

NEW PANCOE-ENH LIFE SCIENCES BUILDING DEDICATED

Photos by Mary Hamlin



**ARTHUR AND GLADYS PANCOE-
NORTHWESTERN HEALTHCARE
LIFE SCIENCES PAVILION
OPENS WITH CEREMONY, SYMPOSIUM**

On Friday, November 14, a distinguished group of visiting scientists, Northwestern faculty and administrators, and friends of the University gathered to dedicate an innovative new facility. In attendance were those whose generosity made the building possible: alumnus Arthur Pancoe and his wife, Gladys (“Hap”), and officials of Evanston Northwestern Healthcare. Pancoe, senior managing director at Bear Stearns & Company in Chicago, received a master’s degree in mathematics from Northwestern in 1951.

During the ceremony on the pavilion’s second floor, speakers expressed the common hope that interaction between basic research scientists and clinical investigators will bring fruitful results in molecular biology, genomics, cell biology, neurobiology, developmental biology, and reproductive biology. Clusters of basic scientists are already at work in their new laboratories studying questions of cellular function while physician-scientists from ENH are nearby, exploring the roots of diseases such as cancer and diabetes. The exchange of ideas between these two groups, known as

translational research, is encouraged through the use of cutting-edge equipment in shared facilities and an “interaction room” on each floor. The collaboration promises to bring effective treatments more quickly and efficiently to patients.

The pavilion was dedicated to the memory of the Pancoe’s granddaughter Beth Elise Pancoe, a student at Northwestern at the time of her death in 1999 from acute myelogenous leukemia. A portrait of Beth hangs in the pavilion’s lobby.

“My wife, Hap, and I could not have hoped for a more fitting memorial to our beloved granddaughter Beth. It is our sincere hope that the work done by the talented scientists who will occupy this building will serve to advance science so that one day, people like Beth can live full and happy lives,” said Arthur Pancoe.

The occasion was also marked by a daylong symposium, open to the public, that featured talks by alumni of the Weinberg College life sciences departments who are now leading scientists across the country. Nobel laureate Paul Greengard of the Rockefeller University delivered the keynote address, “Signaling: From Cells to Systems.”



Dean Daniel Linzer.





Janardan Khandekar, professor, Feinberg School of Medicine; Homer Livingston, Jr., ENH Chairman of the Board; University President Henry S. Bienen; Mark R. Neaman, ENH President and CEO.

We are pleased to share an excerpt from the remarks of Ellie Pancoe, right, mother of Beth, daughter-in-law of Arthur and Gladys, at the dedication.



Gladys and Arthur Pancoe with President Bienen.

When Beth succumbed to leukemia four years ago, our family was changed forever. We were broken-hearted by the death of our beautiful child, our fun-loving sister, our talented granddaughter, our warm-hearted niece. There are people who were special to Beth here in this room with us today, sharing in this tribute, who lost their best childhood friend, their quick-witted student, their favorite babysitter. Beth cast a wide net of love in her short life....

But this is not a eulogy; it's a story of inspiration. After Beth's death, so many people reached out to breach the disconnect we felt from life.... Art and Hap, I'm sure you will all agree, found a rather amazing way to make meaning from their loss in their generous gift to help establish the science pavilion here at Northwestern. They were, I believe, inspired to make meaning of Beth's loss in the way that made the most sense to them, where they felt most connected to her. They loved having her nearby while she went to school here. And, as you know, they also have a special love for this university.



Speakers Marc Vidal, Harvard Medical School and Curt Horvath, Mount Sinai School of Medicine; Keynote speaker Paul Greengard.

My father-in-law has always believed in the power of science to heal. He lives that belief every day in promoting drug research and development through his work. And Hap has always had faith in the power of the human spirit to make connections. So, here we are at that intersection of science and spirit. This building is dedicated to research that may one day answer fundamental questions about the mysteries of life. I know that Art and Hap will feel that their investment in this project will have been worthwhile if even one discovery is made here that contributes to advances in healthcare...if other families will one day be spared the suffering of losing their children and grandchildren.

I also want to say just a word about the partnership of Evanston Northwestern Healthcare in the realization of this building...Beth's leukemia was diagnosed in the walk-in clinic of the Evanston Northwestern Hospital. The hospital staff were the first responders to what became an intense life-saving effort. We were then, and remain today, extremely grateful for the care and competence of everyone involved in her care. The story of this building began on that day in April in the emergency room—our family and the hospital working together in a desperate moment—and ends here today, having come full circle, with our family and ENH working together again, this time with such a splendid result.



Members of the Pancoe family surround a portrait of Beth Pancoe.

WEINBERG'S NEW DEVELOPMENT DIRECTOR AND DEAN LINZER MAP OUT THE ROAD AHEAD



DEVELOPMENT

Ten thousand alumni and friends of Weinberg College came together to contribute to the success of the recently concluded Campaign Northwestern, which raised a record \$1.5 million. Buildings designed to foster collaborative research and learning have been completed, and areas of strength in many programs have been deepened. But the future is what occupies Weinberg's dean, Dan Linzer, and the College's new development director, Kristen Williams.

"The Campaign has laid a foundation and has positioned us well along on the road ahead," said Linzer, "but it's not a destination; it's a beginning. We look forward to building on our gains, to making independent research and study abroad opportunities available to more students, and to expanding some of the successful interdisciplinary learning models made possible by the Campaign."

Williams expressed her excitement to be part of the Weinberg College development team and wel-

comes the opportunity to meet alumni and friends of the College who care deeply about its mission. "It is especially thrilling to join as Campaign Northwestern comes to its successful conclusion, resulting in the creation of 24 new faculty lines, the construction of new buildings, and the increase in the number of graduate student fellowships and undergraduate summer research fellowships." Williams says she will build on the Campaign's energy and momentum as she assembles a development team that shares her enthusiasm for the College. Prior to coming to Northwestern, she worked in development at Loyola University Chicago and in alumni relations at Georgetown University.

In the dean's paneled office, Linzer and Williams shared with *Crosscurrents* the goals and plans for the College:

- Strengthening graduate education. As Dean Linzer pointed out in his letter in this issue, the best faculty are attracted to institutions with the

WEINBERG INCREASES REPRESENTATION IN PRESTIGIOUS NATIONAL ACADEMY OF SCIENCES

The National Academy of Sciences was established in 1863 by Abraham Lincoln to advise the government on matters of scientific importance. It is a private organization of the leading researchers in science and engineering, dedicated to the advancement of science and its use for the common good. Membership in the academy is one of the highest honors accorded scientists, social scientists, and engineers by their peers.

Four Weinberg faculty members have been elected to the academy in the past two years, and two newly hired scientists bring membership in the academy with them to the College. In all, 17 living Northwestern faculty members belong to the academy and include

professors both currently teaching and those with emeritus status.

"It is extremely gratifying to see our representation in the National Academy of Sciences growing," said Dean Daniel Linzer. "For individual scientists, it is recognition of their ongoing achievements in original research. It is also evidence that Northwestern is increasingly a place where scientists choose to set up their research programs and succeed at the highest level."

Elected to the academy this year were **JOSEPH TAKAHASHI**, Walter and Mary Elizabeth Glass Professor in the Life Sciences, who cloned the first mammalian circadian gene, and **ROBERT LAMB**, John Evans Professor

CARIN STAMPER, KECK BIOPHYSICS FACILITY MANAGER, DEMONSTRATES A LIGHT SCATTERING INSTRUMENT USED TO DETERMINE MOLECULE SIZE.



Photo by Cary Cochrane

strongest graduate programs. “Right now,” he told *Crosscurrents*, “in some departments and programs faculty do not have graduate students and are not teaching at the graduate level. Investing in graduate education would ensure the scholarly exchange between faculty and graduate students at the highest levels and would create the most vibrant intellectual experience for the whole community.”

- Continuing to build an optimal teaching and learning environment. “A research university needs to adapt continuously to the changing ways in which professors do their scholarship,” said Linzer. “Funds will help us improve library facilities and collections and create computer systems in which humanists can work in new ways. They will enable us to maintain laboratories, shared equipment, and facilities that are state-of-the-art.” An example is Keck Biophysics,

a shared facility allowing biochemists, chemists, and biologists to use high-tech equipment too costly for individual labs.

- Developing programs that encourage students to take advantage of Northwestern’s proximity to Chicago. “We’d like the College to serve as a gateway to the greater intellectual and cultural opportunities of the Chicago area,” Linzer explained. New and ongoing programs will further Northwestern’s partnerships with the Field Museum, the Botanic Gardens, the Adler Planetarium, the Newberry Library, and the Chicago Historical Society. The University has, for example, hired a lecturer jointly with the Adler Planetarium to teach undergraduate classes at Northwestern and oversee the planetarium’s outreach programs. And Field Museum scientists will teach Northwestern students courses in evolutionary biology at the museum.

of Biology, Cell Biology, and Molecular Biology. Lamb’s laboratory investigates the molecular structure and the replication mechanism of two viruses, both causes of potentially catastrophic diseases.

Also elected this year was

ARTHUR STINCHCOMBE, John Evans Professor of Sociology emeritus, who has used quantitative, historical, and field methods to research his areas of interest: law and society, science and technology, and economy and society.

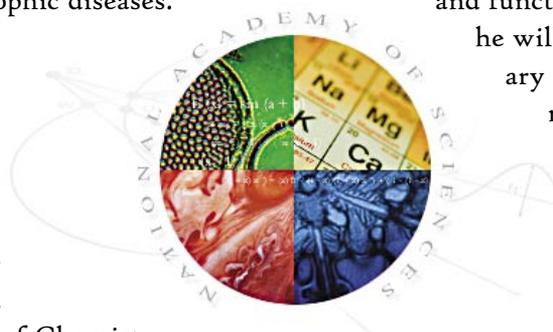
MARK RATNER, Morrison Professor of Chemistry, was inducted last year. His work involves both the development of theoretical methods and their application to chemical systems.

OLKE UHLENBECK, Board of Trustees Professor of

Biology, Molecular Biology, and Cell Biology and of Chemistry and a member of the academy, came to Northwestern this year. An expert in the structure and function of ribonucleic acid (RNA),

he will help create a new interdisciplinary research center to study macromolecular assemblies, known as “machines,” which are the site of many cellular functions. **C. BRADLEY MOORE** joined Northwestern this year as vice president for research and a member of the chemistry faculty.

His internationally recognized research includes work on molecular energy transfer, chemical reaction dynamics, photochemistry, and spectroscopy. He was elected to the academy in 1986.



SHARON PATTON



Photo courtesy of Oberlin College

BRINGING A NEW VISIBILITY TO AFRICAN ART

BY LISA STEIN

When Sharon Patton was named director of the Smithsonian's National Museum of African Art last January, she returned full-circle to a passion that first bloomed at Northwestern, where she received her PhD in art history in 1980.

As director of the Allen Memorial Art Museum at Oberlin College, Patton had overseen a collection that ranged from ancient to contemporary art. But for decades one of Patton's deepest interests has been African art. She has written two textbooks on African American art that included reference to African Art, curated five exhibitions of African Art, and taught countless classes. Now, Patton says, she wants to raise both the museum's profile and knowledge of African art among the viewing public.

"I want to expand the museum's connection to African Americans, Africans living in America, and all



Americans," she asserts. "Africa is a part of the history of the United States and of the Americas. I want

people to see that connection and not see African art as an exotic, unusual art form."

In addition to its holdings of ancient African art and works done in traditional media such as ceramics, wood, and textiles, the museum offers a wide range of contemporary African art. In fact, it is the only museum in the country dedicated to collecting contemporary African art, a role that Patton wants to highlight in upcoming exhibitions. "We find that when people come here, the art they see is not what they expect," Patton notes. "They expect statues or more modern versions of traditional art forms. But we also have art made of Plexiglas, rubber tubes, and sand."

In describing the museum's viewpoint, Patton says, "Our museum has a Janus face. One side gazes at the United States and our constituents here. The other side looks toward Africa, because it is representing that continent."

Although it was the promise of studying African art that brought Patton to Northwestern and eventually to national prominence, early on she had taken a slightly different path. She grew up on Chicago's South Side, and as a child discovered she had a talent for drawing. After graduating from high school she took art classes at the School of the Art Institute of Chicago as part of the art curriculum at Roosevelt University, where she earned a bachelor's degree.

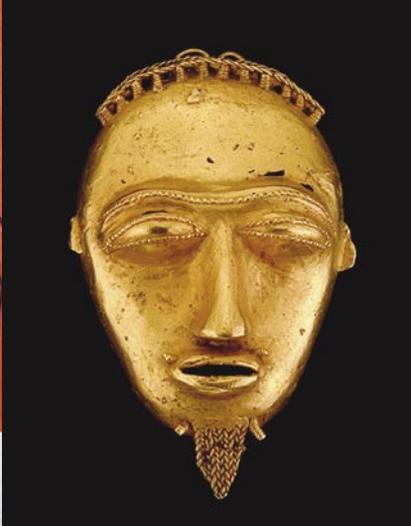
When her search for an art-related job in advertising agencies

and graphic design firms turned up nothing, Patton decided to return to school for a master's degree. She went on to study Italian Renaissance art at the University of Illinois at Urbana-Champaign, completing a master's degree with her thesis on Giorgione, an early 16th-century Venetian painter.

At 24 she started a job that changed her life: teaching art history and drawing at Mankato State College in Minnesota. One of her colleagues suggested she teach a course in African American art. "At first I thought, 'Why teach a course about African American artists? Why divide art history and talk about race and culture?'" Patton recalls.

The colleague told her to read James Porter's groundbreaking *Modern Negro Art*, the first comprehensive history of African American art, published in 1943. "The book was a real eye-opener," she says. "There were many African American artists from the 19th and 20th centuries who did outstanding work. They had received acclaim overseas but were not recognized within the standard of American art history.... I ended up teaching myself about African American art because there was no such course when I was a student."

Inspired by what she had learned, Patton developed and taught an African American art history course that included a range of artists such as Joshua Johnson, Henry Ossawa Tanner, Meta Warrick Fuller, Archibald Motley, Hale Woodruff, and Jacob Lawrence.

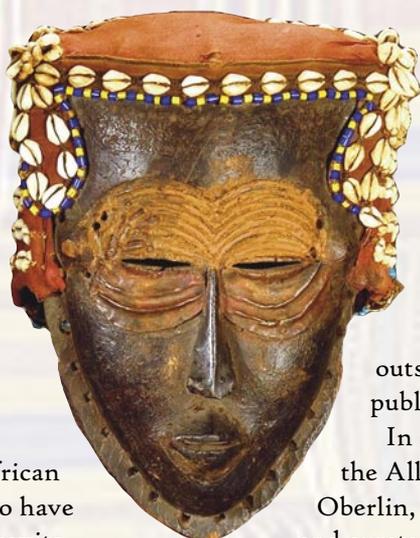


Art images courtesy of Smithsonian's National Museum of African Art

While teaching at the Virginia Commonwealth University several years later, she got her hands on a book about African art by Frank Willett, a British scholar. She found out that he was teaching at Northwestern, and Patton applied to study with him. She received a fellowship and headed back to Chicago.

In addition to studying under Willett, Patton studied Twi, the language of the Asante people of Ghana, with Jack Barry in the Department of Anthropology. She studied African history with Ivor Wilks, a Ghana specialist. Patton decided to focus her doctoral research on chiefs and royal family stools made by the Asante, which she has described as important political and social symbols.

About Northwestern's program in African studies, Patton says, "I was spoiled, just spoiled. Anyone studying African culture is fortunate to have the Melville J. Herskovits Library. Many visiting scholars and artists from Africa and Europe visited or had residencies at the Program of African Studies at Northwestern. It was and still is one of the major programs for the study of Africa in the United States. It's an outstanding resource."



Since earning her doctorate at Northwestern, Patton has held a variety of positions. She has overseen the art galleries at Montclair State College in New Jersey and taught at the University of Maryland and the University of Houston. She served as the chief curator at the Studio Museum in Harlem, one of the country's most renowned black art museums. From there she took the job of associate professor at the University of Michigan at Ann Arbor and directed its Center for Afro-American and African Studies.

Along the way Patton curated the exhibition "Memory and Metaphor, the Art of Romare Bearden, 1940-1987," which developed into a book of the same name. Patton also published *African-American Art*, which has become a standard textbook in the field and won the Choice Book Award for outstanding academic publication in 1998.

In 1998 Patton joined the Allen Museum at Oberlin, where she taught and curated two exhibitions about African art. Although Patton says she loved her position there, the invitation to direct the National Museum of African Art was an offer she couldn't refuse.

These days Patton is working on major plans for the museum, which is located on the south side of the

National Mall in Washington, D.C. She wants to make the museum more visible (literally, because 90 percent of it lies underground) by placing artworks in front of the façade or wrapping the façade in the manner of the contemporary artist Christo. She wants to build the museum's audience through outreach and educational programming, increase gifts of art to the Museum, schedule guest curators for exhibitions, and more effectively integrate digital technology and media in exhibits and programs.

Although Patton's new position comes with tremendous responsibilities, she says she relishes the challenge. "I'm very aware that my visibility is greater and I'm under more scrutiny because this museum is part of the Smithsonian family. We are a national museum, and that is both exciting and fulfilling."

LISA STEIN, MSJ MEDILL '93, WRITES ABOUT VISUAL ART FOR VARIOUS CHICAGO AND NATIONAL PUBLICATIONS.

CLOCKWISE FROM TOP LEFT: SHARON PATTON; ANA MMUO (LAND OF THE DEAD), AN OIL PAINTING BY NIGERIAN ARTIST UCHE OKEKE; PENDANT OF THE BAULE PEOPLES OF CÔTE D'IVOIRE, LATE 19TH TO MID-20TH CENTURY; MULTIMEDIA MASK OF THE LELE OF THE DEMOCRATIC REPUBLIC OF THE CONGO, EARLY TO MID-20TH CENTURY; CERAMIC VESSEL BY KENYAN ARTIST MAGDALENE ANYANGO N. ODUNDO, 1994.

WOMEN SCIENTISTS

OUR PANELISTS DISCUSS WHY THE PIPELINE STILL LEAKS

Weinberg College has increasingly become an attractive place for women scientists to advance their research and inspire students. The physics department has four women faculty members, one of the strongest representations in the country. The chair of geology is a woman, as is a recently named Howard Hughes Medical Institute Professor in chemistry. The life sciences can boast of an outstanding concentration of women as well. Biologist Linda Hicke calls

her department “unusually supportive of junior faculty, male and female, and committed to advancing the careers of talented and dedicated assistant professors in terms of money, time, and advice.”

On a national level the percentage of women earning doctorates in science and engineering almost quadrupled between 1970 and 1999. As undergraduates, women earn more than half the degrees awarded in the biological sciences. Yet, despite the

advances, women in this country hold far fewer tenured positions in academic science, receive lower wages, and face subtle barriers to career advancement.

Crosscurrents recently assembled a group of women scientists at Weinberg for a panel discussion. We asked the group why, when so many women are in the pipeline, so few make it to the top. They told us what roadblocks they faced and what helped them succeed despite the odds.

OUR PANELISTS: PART OF AN ALL-STAR ROSTER OF WOMEN SCIENTISTS AT WEINBERG



LINDA HICKE

(PhD, Berkeley) is associate professor of biology, molecular biology, and cell biology (BMBCB). In 1999 she was awarded a Presidential Early Career Award for Scientists and Engineers (PECASE), the highest honor the federal government grants to scientists beginning their independent careers. She was also a Searle Scholar. Hicke and her research team investigate how proteins that transmit extracellular information into cells are regulated. The research draws on genetics, biochemistry, and cell biology, and could lead to new therapies for the treatment of cancer and diabetes.



HILARY GODWIN

(PhD, Stanford), a Howard Hughes Medical Institute Professor, is associate professor of chemistry with a joint appointment in BMBCB. She has received a CAREER award from the National Science Foundation, a Sloan Research Fellowship, and a Camille Dreyfus Teacher-Scholar award, among other honors. Her lab studies the roles of calcium and zinc in neurological signaling and development in order to understand the mechanism by which toxic metal ions such as lead affect these processes.



DONNA JURDY

(PhD, University of Michigan) is professor and chair of the geological sciences department. Her current research interests are the tectonics of Venus and the magnetic lineations on Mars. Jurdy, with colleagues and students, uses the topographic and radar data returned by the Magellan Project to investigate the coronae and craters of Venus. She is a Fellow of the Geological Society of America and has won a Distinguished Service Award from the Association for Women Geoscientists.



INDIRA RAMAN

(PhD, University of Wisconsin-Madison), assistant professor of neurobiology and physiology, is currently principal investigator on grants totaling almost \$1 million, including support from the Searle Foundation, the National Institutes of Health, and the Klingenstein Fund. Her lab examines the biophysical properties of ion channels intrinsic to neurons, in order to identify how the diversity of ion channel families contribute to neuronal specialization. This work is important in the development of accurate computer models of neuronal activity.

IN 2003

BY NANCY DENEEN

AND WHAT TO DO ABOUT IT

FROM PHD TO PROFESSOR: THE DISAPPEARING WOMAN

Cc: Are there still issues for women in science? Is a discussion like this still relevant in 2003?

IR: I think women's experiences in science are still relevant and will always be. When I talk to Neena Schwartz, whose office is next door to mine, I realize that her generation fought enormous battles that make us come to the field with a sense of entitlement. I expect to be treated as an equal. I expect to be treated like a scientist.

Now there are much more subtle experiences that we need to deal with—showing that we're on equal footing with individuals—rather than fighting battles like not being allowed to get a PhD in mathematics from Princeton until, what, 1969?

LH: When I was in graduate school 20 years ago, there were 50 percent women in the graduate classes. Now, in our department the percentage of women faculty is around 12 percent. The big barrier is leaping from PhD to professor.

IR: I had many women friends coming up through my PhD, but of my circle of friends I'm practically the only woman who ended up in a tenure-track or tenured faculty position.

DJ: What were the issues for the others? Were they personal?

IR: A range of reasons. But what's interesting is that the reasons happened to hit the women much more than they hit the men.

HG: I think the biological one is a big one—having children.

LH: Women drop off, at least in our field, in the years when they're starting to think, "If I'm going to have a kid, I'd better do it now." Our biggest challenge as female educators is to make it possible for not just the superstars with tons of energy to be scientists and have children, but for women across the board to function in science at a high level and still have a family.

Cc: Is having children the major reason that women drop out of academic science?

HG: It's not that women scientists start to have kids and realize, "I can't do it." It's that they perceive that it's a difficult career path to take if you want to have a family.

LH: I get the strong sense from a number of my female graduate students that "Whoa, I just don't want your lifestyle."

WHY SCIENCE DEMANDS ARE DIFFERENT

Cc: Is scientific research less flexible than the humanities and social sciences in terms of having children?

IR: In running a lab you are the CEO. You can't just disappear. You can't imagine that your students would just carry on and your courses would be taught by adjunct faculty. The role you play is hard to walk away from.

LH: Research science moves at a rapid pace, and the productivity and contributions of individual laboratories depend heavily on the presence of one person, the principal investigator. For a lab to continue to receive funding (and therefore to exist), papers must be published every year, and the scientist must be aware of progress in her field on a weekly basis. Also, PhD students, at least in the chemical and biological sciences, are guided by their advisors on a daily or weekly basis. Leaving a lab for a substantial amount of time would be likely to have a significant negative effect on their training and success.

Cc: It is easier to have both career and family in some areas of science than in others?

HG: No. There are differences in the culture, but there's no difference in terms of how hard it is to get tenure, run a lab, and have a kid. As long as you're in a competitive scientific field, it's incredibly stressful having a kid because it slows you down.



“ONCE THE DEPARTMENT BECOMES POPULATED WITH MEN WHO HAVE 50 PERCENT RESPONSIBILITY [FOR CHILDCARE], THAT’S WHEN I SEE THINGS CHANGING.”

IS THERE A RIGHT TIME FOR CHILDREN?

DJ: So what would you recommend to people? Is grad school the time to have a baby?

LH: I always say high school (laughter), tongue in cheek.

IR: Having your kids in graduate school or as a post doc is extremely difficult.

LH: That’s why I strongly feel that something about the academic culture needs to accommodate this. And I don’t have any good suggestions for how that would work.

I think this is slowly changing. The men who have come into our department after me with the exception of one all have spouses with careers that are equally important. All but one have had children. Once the department becomes populated with men who have 50 percent responsibility, that’s when I see things changing, at least to some degree.

HG: The worst-case scenario is when your [male] colleagues have kids as junior faculty but do not share 50 percent of the child rearing. I have some colleagues—love them to death, but they did absolutely nothing in terms of child care—and they say, “Oh, I know what it was like.”

DJ: Yeah, right.

HG: Here are people who spend 200 days a year on the road and don’t think there would be any advantage to on-site daycare. Things like that.



Cc: Do you have children?

LH and HG: Yes. (They each have one child).

DJ: No. My mother had two when I was in high school. I got a realistic picture of what having children entailed and then chose another path. When my friends started having children they were amazed they couldn’t maintain two full time jobs. I don’t know what they were thinking.

IR: But you had your children as an assistant professor?

HG: I have one and he was born shortly after I was tenured.

Cc: What great timing.

LH: It’s not coincidental (laughter). You can’t imagine how many

post-tenure babies there are. In my department we were all childless when we were hired. I did not have my child until my lab was up and running, and that was also true of my colleague Amy Rosenzweig. (See story on Rosenzweig’s MacArthur “genius grant” on page 16.) For simple biological reasons, 39 is too old to be starting a family.

DJ: When you’re 17, you get pregnant like this (snaps fingers), when you’re 39....

LH: That is one thing I would tell younger women scientists: Don’t wait until you have tenure to have kids. Now that I have a child I can’t believe I would have considered not having one. It would have been a huge mistake. But for me, the way I grew up in the scientific milieu, [having children] was still very much in direct conflict with your career. We did not grow up during our generation believing that you could be a great scientist and have a family.

BUILDING A FAMILY-FRIENDLY CULTURE

Cc: A big issue still seems to be the lack of on-site daycare.

HG: For both Linda and me, our resolution to this was to have nannies at home. We’re lucky that financially we were able to do this. But this has been an issue that both of us have felt



strongly about since we arrived here, even before we had kids.

Cc: Just in the last year, the YMCA, in partnership with Northwestern, has begun to offer faculty, staff, and student-parents priority registration for daycare at their facility in downtown Evanston.

HG: I see that as a move in the right direction, but it's really a very, very small step.

DJ: The Organization for Women Faculty has been working on this



issue since I first came here in '81, and people just get exhausted with it. At this point, we're not working for any child who's even born yet.

LH: If we could show our graduate students and postdocs that we have on-site daycare for their kids and make it easier for them to maintain their work in the lab, that would convince the younger generation that combining a science career and family is doable. Somehow we have to make it clear that this career can

have tremendous advantages when you're a parent. It's very flexible.

IR: On those days when I think, "I wish I had had children. I wish I had taken the other path when I was 24 and had my three kids now," I remind myself how happy I am with the path I am actually on and I wonder: Can you really have everything?

HG: I think it depends on your definition of "having it all."

IR: I mean a full-time research career and children.

DJ: No husband? (laughter)

HG: Without on-site day care, I do not think it would be possible to be a single parent and have a career as a research scientist. You'd never be able to afford a nanny. There is something wrong with that. I don't like the fact that you *couldn't* do it if you were on your own. There are plenty of women I know who started out with a husband but didn't end up with one.

LH: This goes back to Hilary's point: Until people experience what it's like to be part of a dual career couple and have a child, it's almost impossible for them to realize how important things like child care are. Dan Linzer, who has a young

child himself, fought very hard to have a mother's room outfitted with a breast pump and men's rooms with changing tables in the new Pancoe-ENH building. This shows the younger generation that men have responsibility for child care too and that women can come back to work and still breastfeed their babies.

DO WOMEN DO SCIENCE DIFFERENTLY?

Cc: Do women bring different gifts and talents to science? Why should people care that women still make up such a small percentage of the science faculty in this country?

IR: I have a real problem with the statement that women bring something "else" to science.

LH: If there are as many qualified women as men to begin with, and there are a certain number of men



filling women's positions, then we're digging down much lower [into



LEFT: PHOTO OF AXON FOREST
 COURTESY OF NATIONAL SCIENCE
 FOUNDATION/GREG HOOD, JOHN
 BURKARDT, GREG FOSS; PITTSBURGH
 SUPERCOMPUTING CENTER

Photo by Gary Cochrane



the talent pool] than if we had 50 percent women. If women could fill these top positions, we'd have much more of the cream of the crop.

IR: I agree with all of those things. If qualified women drop out and are miserable, it's a problem. But when



I think of my women friends who are extraordinarily smart and who drop out of science to do something else that's rewarding, I ask myself if that's necessarily a tragedy, and I can't answer that.

HG: What you're asking is: is that a tragedy for them personally or is it a tragedy for the field?

IR: Both.

HG: It's important to read some of the research on how diverse groups approach not just science but work in general and how collaborative they are and how they tend to accept people from other groups. So saying we don't bring anything to the mix is saying that you don't think there is any advantage to having diversity,

and I think that's not true.

IR: No. These are two separate questions. Do women bring something intellectually different that is intrinsically female to the process of doing science? I doubt that the answer to that is yes. And does having women and men in a diverse group bring something to science? I have no question that that is true.

LH: I don't think women think about problems differently, but I do think there are behavioral differences.

MENTORS AND OBSTRUCTIONISTS

Cc: What kind of support and mentoring has made a difference to you and your career?

IR: I worked with three of the most wonderful men in science who treated me entirely as a scientist in training, and that made an enormous difference in my life. I'll always be grateful to them.



DJ: What year was your PhD?

IR: 1994. I started graduate school in 1989 with an absolutely horrible situation that was the flip side of

everything I had experienced before. My lab relationship deteriorated according to your worst nightmares. The five women in our program all ended up quitting graduate school within two years of each other. I literally ran away from science and entered a graduate program in a different field. I experienced complete boredom and discovered what I disliked had not been the field but the situation. Then I started my third first year of graduate school.

Cc: You're one persistent person.

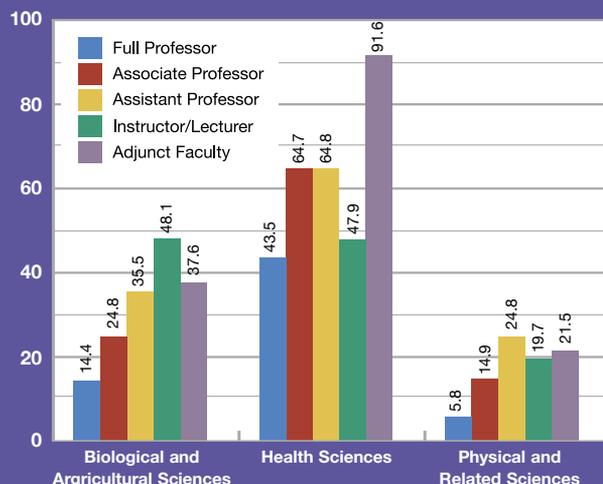
IR: I learned that there's no situation that's so important that you can't quit it. That was very valuable. And having the opposite experience, so I didn't see all men as hostile, was also important. I could discriminate among individuals according to their characteristics rather than their gender, which is what we're fighting for, right?

DJ: When I was in graduate school, from 1970 to 1974, there were no women faculty. We were treated like we were of no consequence. When speakers came, we weren't even introduced. But I

had a good postdoc experience; you need something supportive in your background.

WOMEN SCIENTISTS IN UNIVERSITIES

WOMEN AS A PERCENTAGE OF EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS IN UNIVERSITIES AND 4-YEAR COLLEGES, BY BROAD FIELD OF DOCTORATE AND ACADEMIC RANK: 1999



Source: National Science Foundation

A CHANGING ATMOSPHERE

HG: For me, part of the decision to come here was that I liked the faculty and felt like they were good-hearted, supportive people, even if they were all men. In chemistry the choice is between going to a department where there are no women or going where there are one or two.

LH: I am the senior female member of my department and I just got tenure two years ago. We've had senior women leave the department. But it is slowly changing.

HG: Have things changed? Oh, absolutely. I was the first woman in my department and it's not a pleasant thing to be. So now having three women out of 30 on the faculty, we are at the national average for the top 20 chemistry departments.

LH: BMBCB is definitely below the national average of 25 percent. We have four women, just 12 percent of the department. Two have been tenured for a year and two have just started. It's heavily weighted toward younger faculty.

HG: This shows how close things are in the chemistry department: With two women we were slightly below the national average, and with three we're slightly above.

LH: One woman can make all the difference in the world. (laughter)

CHANGING YOUR PERSONALITY TO SUCCEED

LH: I made a conscious decision when I was a graduate student that I wasn't going to be a nice, quiet, diplomatic woman. In our lab I learned to raise my voice and keep arguing. I learned to fight

and I think that's why I am where I am now, even though it's really unfortunate that I had to do that (laughter).

HG: I always swore. It comes in very handy. My postdoc advisor, Jeremy Berg, was exactly the opposite—one of those few men who was really active in child care. That was eye-opening for me: that you could be a really wonderful human being and still be successful in science. And he just was appointed director of NIH's National Institute of General Medical Sciences (NIGMS).

PARITY IN THE FUTURE?

Cc. Looking ahead 10 years, what gains do you see women in science making?

HG: Do we only get 10 years? (laughter) The reality is we're in a time period right now where many of those hired in the '60s are retiring. If we don't hire a significant portion of women and minorities to replace them, those positions are going to be filled with the same kind of people we have now [those not supportive of women combining career and family] and the culture is going to remain the same. This is the opportunity, right now.



Photo by Matthew Gilson

NEENA SCHWARTZ



THE MENTOR OF MENTORS

When Neena Schwartz came to Northwestern in 1974 as chair of biological sciences, she was already a respected endocrinologist. She hadn't faced overt sexual discrimination, she says, due to attending a then-women's college, Goucher, and receiving strong support from her parents and equal treatment from her professors at Northwestern's medical school. She couldn't help but notice, however, that she was the only woman chair of a department in the College of Arts and Sciences and that, while there were a few women faculty in life sciences, there were none in physics or chemistry.

"It was a surprise to me that there were so few women around. But the Women's Movement at the time shined a spotlight on the situation."

Schwartz's career at Northwestern was remarkable enough that she might have focused solely on her research and teaching. In the '70s and '80s, she significantly advanced scientific understanding of normal reproductive processes and their abnormal counterparts in reproductive dysfunction. She is noted especially for her role in identifying inhibin, a hormone in the ovaries, which regulates the number of eggs produced during ovulation.

But Schwartz looked beyond her own career, saw the

barriers that other women faced, and she acted. She joined, founded, mentored, testified, even sued so that other women would have opportunities to ascend to the top of their fields. And, almost 30 years later—as William Deering Professor of Biological Sciences Emerita, founder and former director of the Center for Reproductive Science, and winner of the Lifetime Mentor Award from the American Association for the Advancement of Science—she's still doing it.

"She has opened wide the doors for other women to advance," said Adair Waldenberg, Weinberg's associate dean of business and finance. "She has taken a pipeline that leaked like a sieve and encouraged women to go through it." In addition to the Association for Women in Science (AWIS), Schwartz helped form Women in Endocrinology (WE), in part, she says, to influence the direction of research and its application to human welfare. Through these national organizations and groups like Organization of Women Faculty at Northwestern, she has also helped provide senior female mentors to countless young women scientists to help them advance through the system.

Mentoring is an informal process that varies according

ROSENZWEIG IS AWARDED MACARTHUR FELLOWSHIP

Biochemist Amy Rosenzweig has been awarded a John D. and Catherine T. MacArthur Fellowship. Known as "genius grants," the awards honor the contributions of a broad spectrum of creative individuals in society—artists, inventors, scientists, social scientists, humanists, teachers, and activists. Rosenzweig was one of 24 people to receive the award this year. She is associate professor of biochemistry, molecular biology, and cell biology and of chemistry.

Rosenzweig and her group are interested in how metal ions are processed in biological systems. "In one project," she explained, "we are studying how the body handles copper ions, which are essential for

life but can be toxic in excess or in the wrong places. By understanding on the molecular level how copper ions are distributed in cells, we can gain insight into the causes and potential treatments for diseases such as Wilson disease or familial ALS, commonly known as Lou Gehrig's disease." Another project involves studying how bacteria convert methane gas to methanol using copper ions. This may lead to more efficient use of natural gas as an energy source.

Rosenzweig said she was surprised and honored to receive the award. "It is really gratifying to have our work recognized—not just my efforts, but the contributions of the students, postdoctoral fellows, and collaborators with whom I have worked."

**“SHE HAS OPENED WIDE THE DOORS
FOR OTHER WOMEN TO ADVANCE.”**

—ADAIR WALDENBERG

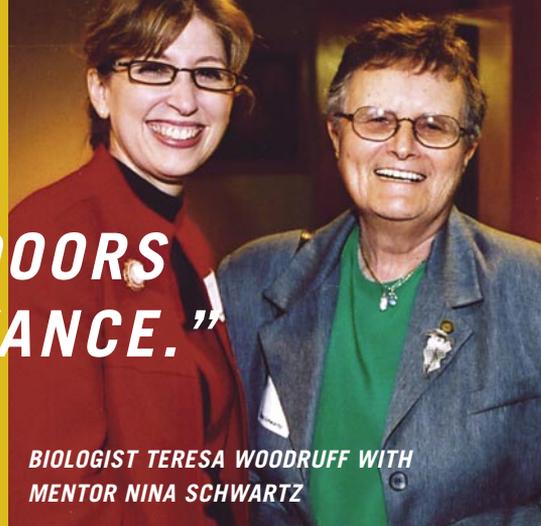


Photo by Mary Hamlon

**BIOLOGIST TERESA WOODRUFF WITH
MENTOR NINA SCHWARTZ**

IS STILL MENTORING

to what people need and want, says Schwartz. But a few factors are critical to the process. “Untenured teachers and students need to understand that they can get something from a mentor. And the mentor needs to listen to what people are really asking before giving advice.”

Even in retirement she has a busy office in Cook Hall with a beautiful view of Lake Michigan and a door that is never closed for long. She helps young faculty—both women and men, both scientists and scholars in other fields—to realize what it takes to be promoted or to get tenure. “There are good ways to present your curriculum vita and bad ways. I’ve been on promotions committees for years and I know what committees want to see,” says Schwartz. She also gives critical advice to women about sexual harassment, which, she says, though uncommon, is especially terrible when it happens to graduate students, the least powerful people in the system.

Weinberg dean Dan Linzer has experienced the value of Schwartz’s mentoring firsthand and has asked her to mentor young Weinberg faculty in an official capacity this year, thus ensuring that her door will remain open for years to come.

Her department, neurobiology and physiology, is

known for its supportive climate, due in large part to her efforts. Colleague and former chairperson Lawrence Pinto says, “As one of the co-founders of our department, Neena sought out colleagues who were of high quality both professionally and personally, with a strong sense of community and respect for one another. The culture that she fostered continues to this day, making our department a very desirable place to work.”

She says that the University has been supportive of her as well, by providing her with sufficient lab and office space and grant money. She is gratified that the general climate for women at Northwestern has improved since she first came here. “The Task Force on Women in the Academic Workplace in 1994 led to a standing Committee on Women in the Academic Community—a good watchdog for women’s rights,” she says. And she reminds us of the “very satisfying” growth in the number of women department chairs—from one in 1974 to nine in 2003 or 36 percent of all Weinberg chairs. But she cautions, “Let’s face it: the battle is not yet won.”

“Northwestern has been very supportive of my work,” she added. “We have excellent facilities, including access to synchrotron radiation at the Advanced Photon Source at Argonne National Laboratory.”

She will receive an unrestricted gift of \$500,000 over five years. She plans to use the funds for high-risk research projects, such as X-ray crystallographic studies of membrane proteins, and for high-quality childcare for her two-year-old daughter.

Photo by Mary Hamlon



**BACK ROW, LEFT TO RIGHT:
STEPHEN SMITH, RAQUEL LIEBERMAN.
FRONT ROW: LILYA YATSUNYK,
AMY WERNIMONT, AMY ROSENZWEIG,
CARNIE ABAJIAN, SHANNON HENRY.
NOT PICTURED: DEEPAK SHRESTHA,
AMANDA HAKEMIAN**

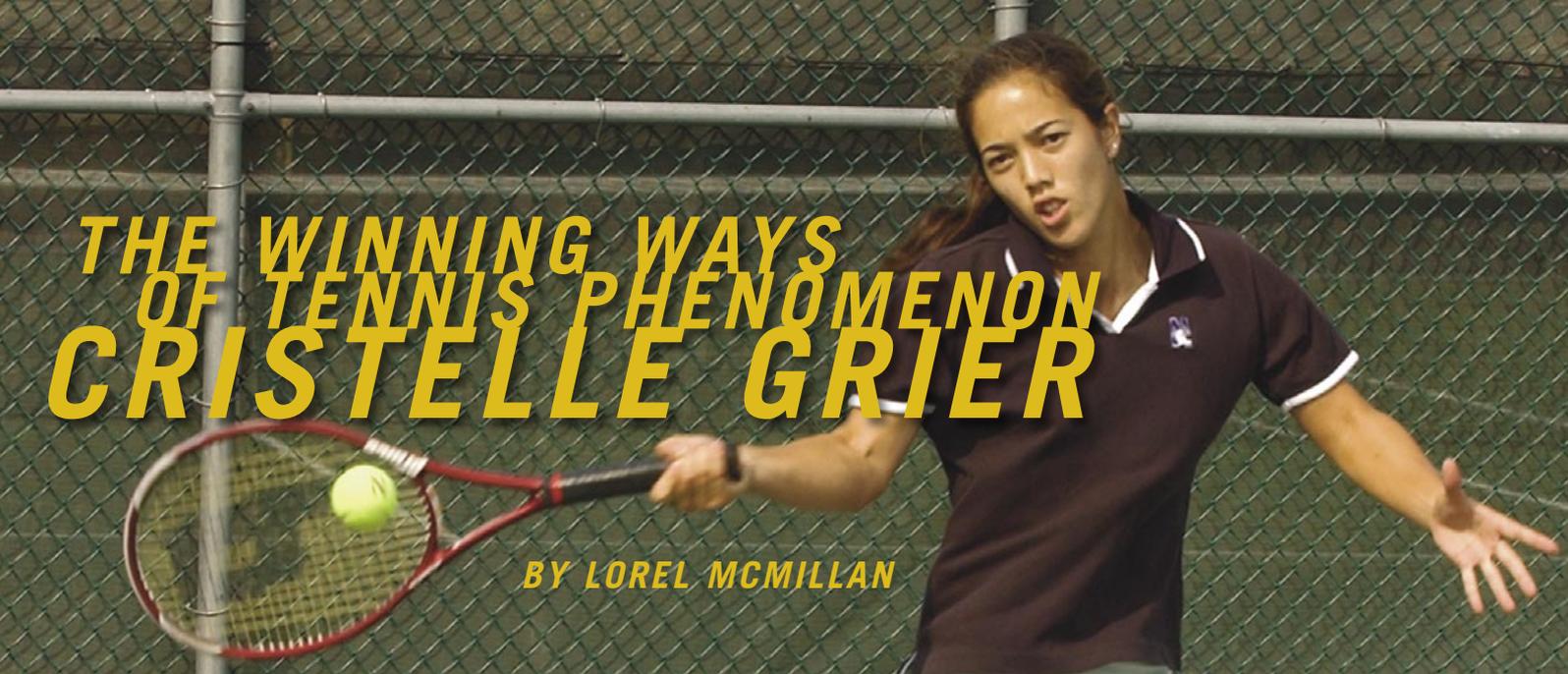
TENNIS STAR CRISTELLE GRIER HAD AN OUTSTANDING FIRST YEAR AT NORTHWESTERN, COLLECTING AWARDS SUCH AS BIG TEN PLAYER OF THE YEAR AND BIG TEN FRESHMAN OF THE YEAR. SHE PLAYED IN THE QUALIFYING ROUNDS AT WIMBLEDON FOR THE THIRD TIME. THE 20-YEAR-OLD WEINBERG COLLEGE SOPHOMORE STARTS THE PRE-SEASON THIS FALL AS THE FOURTH-RANKED WOMAN IN COLLEGE

TENNIS. BUT IT IS CLEAR WHEN SPEAKING WITH HER THAT HER REAL FOCUS IS ON A TEAM GOAL: WINNING A SPOT FOR NORTHWESTERN AMONG THE TOP 10 COLLEGIATE TEAMS IN THE COUNTRY.

A NATIVE OF SURREY, ENGLAND, CRISTELLE GREW UP BEHIND THE GARDEN WALL OF WIMBLEDON, WHERE HER FATHER IS WIMBLEDON DIRECTOR OF CHAMPIONSHIPS AND HIMSELF A CAPABLE SQUASH AMATEUR. DURING HIGH SCHOOL SHE

PLAYED TENNIS AND NETBALL, RAN TRACK, AND WAS A LONDON CHAMPION IN THE JAVELIN. SHE CHOSE NORTHWESTERN OVER FIVE OTHER COLLEGES AND UNIVERSITIES.

HER COACH, NORTHWESTERN'S CLAIRE POLLARD WHO IS ALSO A NATIVE OF GREAT BRITAIN, SEES HER AS AN IDEAL PLAYER, IMMENSELY TALENTED BUT WITH A GREAT TEAM ATTITUDE, SOMEONE WHO SAVES HER RUTHLESSNESS FOR THE COMPETITION.



THE WINNING WAYS OF TENNIS PHENOMENON CRISTELLE GRIER

BY LOREL MCMILLAN

WHEN DID YOU BEGIN PLAYING TENNIS?

When I was about three I played a game called short tennis, really just a badminton court, a very small net, and plastic balls. At eight or nine I picked up a proper racquet, so to speak. It wasn't until I was 14 that tennis sparked in me.... I asked my dad how my interest came about and he said that I walked into his office one day and said I wanted to play more seriously. I can't remember doing that.

WHAT DID PLAYING MORE SERIOUSLY ENTAIL?

It meant a bigger commitment time-wise, more effort, and a lot more dedication to the sport....I met up with Roger Taylor, the Davis Cup Captain in Great Britain and a fantastic player in his time. He was my mentor from the time I was 14 to 18, then it was just time to move

on. So I jumped around from place to place for the next year or so and then came here.

WAS THAT AN UNUSUAL PLAN FOR A YOUNG ENGLISH PLAYER?

In England, you either stay in education or you play full time. College does not lead to professional sports. The year prior to coming here was a big help [in making a decision] because I did a fair bit of traveling and got homesick while I was away. I went to a lot of places in Europe like Holland and Switzerland. The big trip was to Australia for three weeks. I found out that it wasn't where I wanted to be, playing tournaments as an amateur on the circuit.

YOU ARE A LONG WAY FROM HOME. WHY NORTHWESTERN?

I found out that [current teammate] Ruth Barnes was here. I know her

sister Alice very well. Ruth had nothing but high praise for the school, so I came out here. I got in touch with Claire and it just felt right. It wasn't really a contest by the end of it. This was the place.

THIS IS A DIFFERENT CULTURE FOR YOU. WHAT'S IT LIKE BEING HERE?

Everyone is so friendly and open, and the atmosphere is so charged here, so positive. There may be bumps in the road but everyone says we'll get over them together. Here, if you've done something badly, you know it, but you will find the positive in it to work on. There is a willingness to do something better and to do it bigger and to put more of yourself in it. It's just a different atmosphere over here, and I like it. A lot.



NORTHWESTERN IS ACADEMICALLY CHALLENGING. HOW DO YOU MANAGE THE DEMANDS?

It's a balancing act when you're at such a great school, with the academic focus and our determination to get the program into the top 10. Both of those take such a commitment. Here, if you want to do it, and you are willing to do it, there is everyone around to help you do it.

HOW MANY HOURS A DAY DO YOU PLAY TENNIS?

Two or three hours of tennis, and then there is fitness that goes along with that. We are restricted to 20 hours of training in a week, however, for our own protection.

IT'S A LONG SEASON, ISN'T IT?

Tennis is a yearlong sport. I think one of the foremost problems in the Women's Tennis Association is that there is no off season. We're quite used to it because we've grown up with it.

DO YOU HAVE TIME FOR A SOCIAL LIFE?

I'm not a big party girl, myself. Pretty much at the end of the day, I'm ready for bed.

HAVE YOU DECLARED A MAJOR YET?

It is going to be American literature: I love reading. It's the greatest hobby in the world. I've started reading *Uncle Tom's Cabin*. There is an awareness when you are reading books like this that they helped change the times.

WOULD YOU LIKE TO TURN PRO SOMEDAY?

I would love to. Having taken that year out I know pretty much what it takes. So, if in the next three, four, or five years I'm in the position to, and I feel that I want to, I'd like to give it a shot.

ARE YOU UP FOR THE PROFESSIONAL LEVEL OF COMPETITION?

I'm learning that here. With the coaches' help, I have looked at matches differently, and I think that is why I was lucky enough to get that winning streak last year.

YOU HAD AN OUTSTANDING SEASON IN 2002, BUT IT ENDED IN DISAPPOINTMENT.

Yes, our team finished 18th in the nation, which is unfortunate for us. A complicated eligibility ruling

[due to the differences in British and American school systems] meant Ruth and I were unable to play in the regional championships last year. Missing two starters was a big blow.

YOU EARNED A WILDCARD TO COMPETE AT WIMBLEDON, AND IT WAS YOUR THIRD TRIP THERE. WAS IT SCARY? WAS IT HOME?

It certainly wasn't home. The qualifying events were held at a different venue. I think it's being my third year made it a lot more comfortable for me. You're talking about playing with and hitting with and just being around players who are within the top 200 in the world. And it's just fantastic. You can try to see what they're doing, try to get ideas from them. Obviously it's individual, but you'll see that they'll train differently, they'll eat differently. There are little nuances that you'll pick up. A lot of the top players will get massages and get themselves treated, even if it's just for a slight niggle.

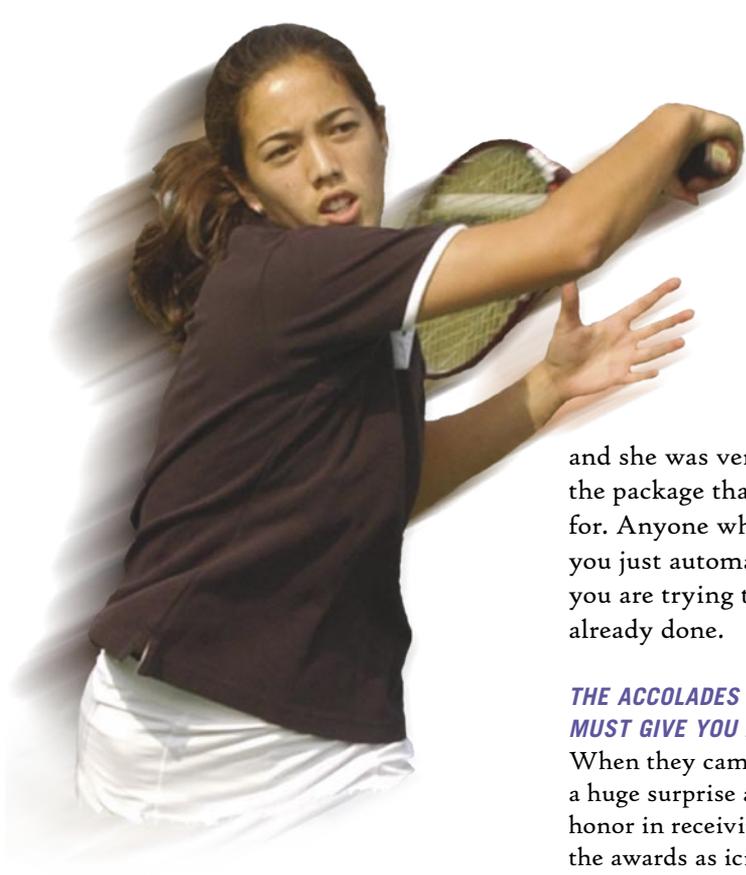
WHAT'S A NIGGLE?

A niggle is something that is not

NORTHWESTERN UNIVERSITY WOMEN'S VARSITY TENNIS TEAM



FRONT ROW (FROM LEFT, SITTING): CRISTELLE GRIER, JESSICA RUSH, ASSISTANT COACH JEN LUTGERT, RUTH BARNES. BACK ROW (FROM LEFT, STANDING): ALEXIS PROUSIS, ANDREA YUNG, JAMIE PEISEL, KRISTI ROEMER, HEAD COACH CLAIRE POLLARD, GEORGIE WOLFFER, CONNIE CHIANG, ASSISTANT COACH LEIGH WEINRAUB, STACY KOKX NOT PICTURED: JESSICA GORDON, ALEX GULACY.



and she was very athletic. She had the package that everyone is looking for. Anyone who is in the top five you just automatically respect, when you are trying to do what they have already done.

The real honor and privilege is not in receiving them; it is in working to get them with the people I'm with. I don't think I could have received any of them if I wasn't training with the Northwestern team, if I didn't have the support that Claire gives us or the environment that the school gives us. It's not quite as simple as getting an individual award. It's a team, and when you do things as a team you receive things as a team.

LOREL MCMILLAN (MEDILL '73 AND '74) IS A FORMER SENIOR EDITOR OF INTERIORS MAGAZINE WHO WRITES FREQUENTLY ABOUT ART AND INTERIOR DESIGN.

THE ACCOLADES THAT YOU HAVE WON MUST GIVE YOU A LOT OF CONFIDENCE.

When they came to me, they were a huge surprise and I felt a great honor in receiving them. But I view the awards as icing on top, a bonus.

quite an injury, but it's something that is bothering you.

YOU LOST TO YOUR SECOND OPPONENT AT WIMBLEDON THIS YEAR. WAS IT A LEARNING EXPERIENCE OR JUST A CRYING SHAME?

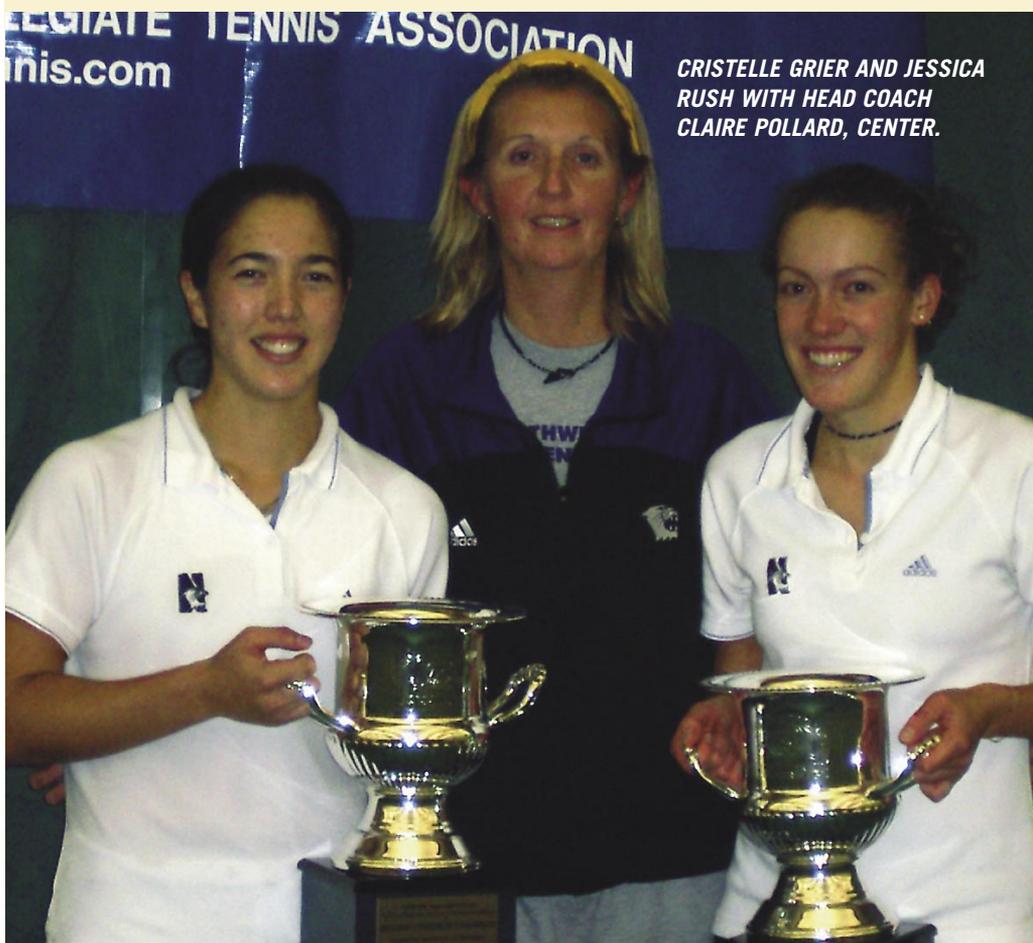
A bit of both. There were instances in that match where I played the best I've ever played, and eventually it came down to the fact that perhaps I wasn't fit enough, or still jet-lagged. At three-love in the third set I cramped in the calf. My opponent was a fantastic competitor. From such a good match you can pick out things that you need to work on. There were shots that I played that perhaps in college tennis just might not come back. [Wimbledon competitors] have a different mind set. They've learned to be more concentrated on winning, which is where their wages come from. It is a very ugly way of looking at it, but it is so costly to travel and to bring a coach, that it is one of the things that you have to concentrate on.

WHO ARE YOUR PERSONAL TENNIS HEROES?

Most definitely Steffi Graf. She had a certain grace all about her,

NEWS FLASH

CRISTELLE AND TEAMMATE JESSICA RUSH MADE HISTORY ON NOVEMBER 8 AS THE FIRST BIG TEN TEAM TO WIN THE INTERCOLLEGIATE TENNIS ASSOCIATION DOUBLES TITLE.



CRISTELLE GRIER AND JESSICA RUSH WITH HEAD COACH CLAIRE POLLARD, CENTER.

**THE WILSON SOCIETY
FOR THE ARTS AND SCIENCES
2002-03 MEMBERS**

PARTNERS IN WEINBERG'S MISSION

Thank you for your ongoing support of the Weinberg College of Arts and Sciences. It is the commitment and generosity of alumni, faculty, staff, parents and other friends like you who make it possible for the College to fulfill its mission year after year.

Over ten years ago, the Wilson Society for the Arts and Sciences was formed to recognize donors giving \$1,000 or more annually to the College and to promote consistent philanthropic support of the arts and sciences at Northwestern University.

Annual gifts to the Wilson Society for the Arts and Sciences provide Dean Daniel Linzer with the funds he needs to make strategic investments in resources and faculty that directly impact the College's achievements in research and education. Through generous contributions, alumni and friends are facilitating the College's dedication to scholarship and teaching.

The benefits associated with being a member of the Wilson Society extend beyond the intrinsic satisfaction of helping Northwestern's students. Throughout the year, members have opportunities to meet the dean and other key faculty members at events on campus and around the country. Society-sponsored lectures and discussions provide opportunities for members to reconnect with the intellectual vitality of the College as well as to network with fel-

low alumni and friends of the University. Wilson Society members are recognized in various University publications for their generosity and their role in sustaining the high quality of education within the College.

We are grateful for Wilson Society members' support of the arts and sciences at Northwestern. Thank you. We hope you will renew your partnership with the College's faculty and staff by continuing your annual gifts to the Wilson Society. To those who are not currently members, we wish to invite you to join your fellow alumni as Wilson Society members. We look forward to seeing you soon

Sincerely,



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



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

BECOMING A MEMBER

Becoming a Wilson Society member means making an annual personal gift for the general support of the College at one of the levels listed below. Unless otherwise specified, the funds will be used as directed by the dean of the College, when and where the need is greatest.

MEMBERSHIP LEVELS

Current students and 2003 graduates any gift to WCAS

2000-2002 graduates

\$100

1995-1999 graduates

\$500

Member

\$1,000-2,499

Fellow

\$2,500-4999

Benefactor

\$5,000-9,999

Leadership Circle

\$10,000-24,999

Dean's Circle

\$25,000+

As a member you will be invited to attend special lectures and events on campus, in Chicago, or in other metropolitan areas each year, and you will receive regular news from the College.

Additionally, contributors each year will receive a brochure containing a list of active members and other items of interest to the Wilson Society.

The alumni and friends whose names appear below made gifts to Weinberg College during fiscal year 2003 (September 1, 2002-August 31, 2003). Undergraduate alumni are indicated by the year in which the bachelor's degree was awarded. Other Northwestern degrees are noted by the degree or program and year. An asterisk (*) marks donors who were also members of the Wilson Society in its first year (1991-92).

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TODAY'S SATS MAY BE CONSIDERED CHALLENGING, BUT THE EARLIEST CANDIDATES FOR ADMISSION FACED THEIR OWN HURDLES. THEY WERE TESTED ON A READING KNOWLEDGE OF LATIN AND GREEK, MATHEMATICS THROUGH ALGEBRA, AND ADVANCED ENGLISH GRAMMAR.

ADMISSIONS REQUIREMENTS

1856

2003

ADMISSION.

Candidates for admission to the Freshman class in the Classical Department will be examined in the following studies, viz :

- Mathematics.*—Arithmetic—Thompson's Higher.
Algebra (to Quadr. Eq.)—Loomis.
- Greek.* First Book—McClintock and Crooks.
Grammar—Sophocles, or Anthon.
Anabasis—Owen.
- Latin.* First Book—McClintock and Crooks.
Grammar—Andrews and Stoddard.
Cornelius Nepos—Arnold.
Ciceronis Orationes, in Catilinam et pro Archia Poeta.
Cæsar, (4 books.)
Virgillii Bucolica, et Æneis, (4 books.)
- English.* Grammar— — — — Greene's Analysis.
Geography.
History, U. S.

Requisites for admission in the Scientific Course, the same as above—omitting the classics and adding Cutter's Physiology, Johnston's Natural Philosophy, and the History of England.

EXAMINATION.—For the next term, candidates will be examined at University Hall, on Wednesday, September 17th, beginning at 9 o'clock, A. M.

ADVANCED STANDING.—Those who desire advanced standing will be examined in the previous studies of the course.

AGE.—No one can be admitted to the Freshman class who has not completed his *fourteenth year*, nor to an advanced standing without a proportional increase of age.

TESTIMONIALS.—Applicants for admission will be required to furnish satisfactory testimonials of good moral character, and, if from another College, a certificate of regular dismissal.

MATRICULATION.—Students will be admitted to matriculation after a residence of *one term*, and previous to matriculation will be *on probation*.

ADMISSIONS REQUIREMENTS: Weinberg College, as well as Medill and the Schools of Education and Social Policy, Music, and Communication, recommend that entering students complete courses in the following academic areas, plus four or more additional academic courses:

ENGLISH: 4 full-year courses, with as much composition as the curriculum allows 2-4 full-year courses of one foreign language

HISTORY AND SOCIAL SCIENCE: 2-4 full-year courses

LABORATORY SCIENCE: 2 full-year courses

MATHEMATICS: 3-4 full-year courses

ADDITIONAL SUBJECTS: 1-3 full-year courses in the academic areas listed above

OTHER ADMISSION FACTORS: Each application is reviewed carefully by several members of our admission committee. Seeking information beyond school transcripts and test scores, we take into account your involvement outside of class, as profiled in an activity chart, and read your essays to get a better sense of your interests, thought processes, and writing ability. Recommendations from secondary school teachers and counselors add perspective to your achievements. The qualities we look for in each candidate are independent thinking, a sense of humor, self-confidence, energy, enthusiasm, and an interest in activities, people and ideas.



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