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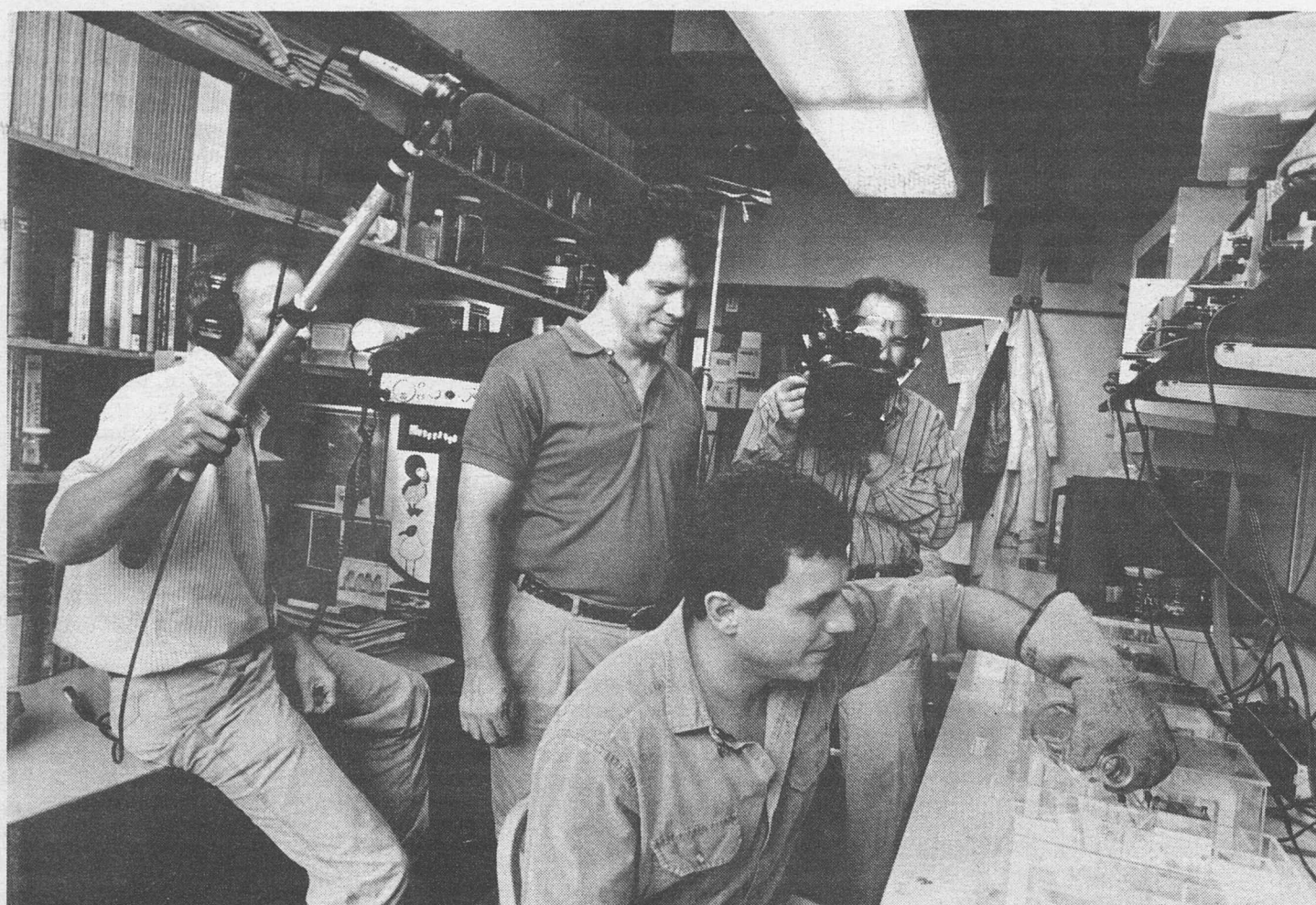
Washington University Record, May 17, 1990

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Tracking the trail: A film crew from NOVA, the award-winning science feature show on the Public Broadcasting Service, was on campus last week shooting laboratory and campus scenes for an upcoming piece on the demise of the African elephant. The focus of the show will be on the work of John Patton, Ph.D., (standing) research associate in biology, and his collaborator Nicholas Georgiadis, Ph.D., (seated) a conservationist with Wildlife International. Georgiadis is filmed pouring minigels for a quick look at elephant DNA samples. Patton is the first scientist in the world to begin a genetic database of elephant DNA for the purpose of tracking the trail of poached ivory.

University to acquire Famous-Barr Clayton property

Washington University will acquire from May Department Stores Co. the Famous-Barr Clayton property located near the Hilltop Campus, Chancellor William H. Danforth announced.

The 11.4 acre tract includes the Famous-Barr store, parking deck with ground floor retail space (including Boyd's), and three other commercial buildings on the site, which is situated both in Clayton and in University City. The site is .7 mile from the Hilltop Campus. Famous-Barr will continue to occupy the property until the fall of 1991, when Famous-Barr will open its new store at the St. Louis Galleria.

Under the terms of agreement, May will combine a sale and a charitable donation of the property to Washington University. The property is valued in excess of \$30 million, for which May will receive \$17.5 million.

The University views the acquisition as meeting both long- and short-term needs. The long-term need is for more land. Washington University has grown slowly but steadily for more than 80 years, and it now occupies most of the land that was part of the original Hilltop Campus purchase at the turn of the century. The newly acquired property should provide additional space for the decades ahead. In the short term the land and buildings will be used as follows:

- The ground floor of the Famous-Barr store will be used for the storage and on-line retrieval of library holdings, thereby freeing up badly needed space in Olin Library, which will be renovated for study and work space. An extension of regular shuttle service will provide for transportation of people and book delivery. Study space will be included in the new location.

- The central computer operations will be shifted to the new site, thereby freeing essential space for the School of Engineering.

- The 900-car parking deck on the Famous-Barr lot will be used for shuttle parking. A shuttle bus will connect this deck with other parts of the Hilltop Campus.

- The University plans to encourage commercial retailers to continue operation, so that rental income can help offset the purchase price.

"We are very grateful to our friends and supporters at Famous-Barr and the May Company," Danforth said. "This land will provide for the long-term needs of Washington University. Fortunately, we are able to acquire the property because the out-of-pocket costs are almost the same as the costs of providing a new parking deck, an extension of Olin Library and additional space for the School of Engineering. I am very pleased.

"As the history of Washington University has shown, the need for additional space will undoubtedly continue. Solving the Hilltop's land shortage is made more difficult by the limitations on both the height of individual buildings and the total number of buildings that can be constructed without diminishing two of Washington University's great assets — our wonderful architecture and the beauty of our green space," Danforth noted.

After it takes possession of the site, the University intends to initially utilize only the parking deck and the Famous-Barr store, and hopes to maintain rental arrangements with the other businesses presently operating on the site, including Boyd's, the UNICEF Shop, Goodyear and the Vic Tanny Health Club.

129th Commencement

Family and friends to gather as some 2,490 students graduate

Approximately 2,490 students are degree candidates for Washington University's 129th Commencement ceremony on Friday, May 18. Of the candidates, approximately 1,250 are graduate students and 1,240 are undergraduate students.

Candidates for the doctoral level degrees number 107 for the doctor of philosophy degree in the Graduate School of Arts and Sciences; 33 for the doctor of science degree in engineering; 203 for the doctor of law degree; 46 for the doctor of dental medicine degree; and 110 for the doctor of medicine degree.

The 280 graduates who received degrees in August 1989 and the 411 December 1989 graduates have been invited to participate in the Commencement exercises. Alumni of the class of 1940, who will celebrate their 50th-year reunion May 17-19, also have been invited to march in the procession.

The academic procession will start at 8:30 a.m. in Brookings Quadrangle. In case of rain, the ceremony will begin at 10 a.m. at The Arena, 5700 Oakland Ave.

Burton Wheeler, Ph.D., chair of the Commencement committee and professor of English and chair of religious studies, will serve as grand marshal of the ceremonies. John H. Kautsky, Ph.D., professor emeritus of political science, will be honorary grand marshal. Student marshals from

each school will accept symbolic diploma covers for their classes.

Poet Mona Van Duyn, a winner of the National Book Award in poetry in 1971 for her book of poems *To See, To Take*, will be the Commencement speaker. Van Duyn, who will read from her work, is a chancellor of the Academy of American Poets and a member of the prestigious American Academy and Institute of Arts and Letters.

Chancellor William H. Danforth, assisted by members of the Board of Trustees, will confer seven honorary degrees. The seven honorary degree recipients are as follows: Former trustee Zane E. Barnes, retired chairman of the board and chief executive officer of Southwestern Bell Corp., will receive a doctor of laws degree. Bernard Becker, M.D., Washington University professor of ophthalmology and emeritus head of the ophthalmology department and internationally recognized pioneer in the treatment of

glaucoma, will receive a doctor of science degree.

Frankie Muse Freeman, J.D., partner in the St. Louis law firm of Freeman, Whitfield, Montgomery, and Staples, and former member of the U.S. Commission on Civil Rights under Presidents Johnson, Nixon, Ford and Carter, will receive a doctor of humanities degree. Alumnus and life trustee W. L. Hadley Griffin, LL.B., retired president and chief executive officer of Brown Group Inc. and now chairman of the executive committee and a director of Brown Group, will receive a doctor of laws degree.

Alumnus Walter E. Massey, Ph.D., professor of physics and vice president for research at the University of Chicago and for Argonne National Laboratory, will receive a doctor of science degree. Robert Maxwell, British publisher whose Maxwell Communications has become one of the top 10 integrated

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American Indian studies center established at social work school

The George Warren Brown School of Social Work has received a gift from an anonymous St. Louis donor to fund a three-year program for the establishment of the Center for American Indian Studies in Social Services, Chancellor William H. Danforth has announced.

The center will make it possible for academically qualified Native Americans to receive advanced professional education in social work. Upon graduation, these individuals will be able to assume key positions in educational institutions or in social service and governmental agencies dedicated to improving the lives of Native Americans.

The gift will annually provide six scholarships and stipends for Native

American graduate students, plus funds for the yearly operation of the center.

The new center will have a full-time director whose responsibilities will include recruiting qualified Native American students, teaching and advising, and conducting related research.

According to Shanti K. Khinduka, Ph.D., dean of the George Warren Brown School of Social Work, the curriculum will include elective courses in Native American heritage, cultural assimilation, health and mental health issues, minority families, governmental policies toward Native Americans, community organization approaches, and program development and evaluation strategies. The

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Graphic arts students in the School of Fine Arts liven up an interior wall of Jefferson Printing in St. Louis.

Professional projects

Art students' work graces office walls, bookshelves

Senior Ed Kastner, dressed in his best pair of blue jeans, docksiders and madras shirt, clears his throat and begins to address the two men in business suits about his design ideas for their company. The businessmen give Kastner their full attention.

Robert Havrilla Jr. and Ron Parker, executive vice-presidents of Jefferson Printing in St. Louis, have once again come to students in Washington University's School of Fine Arts for help in solving a design problem.

The first time was two years ago, when the executives decided to liven up one of the plant's interior bare walls with a large mural.

Robert Havrilla Sr., president of Jefferson Printing, had approached Bob Smith, a Washington University graphic design professor, who assigned the project to his senior class. The students' assignment was to create an image that would be aesthetically pleasing to the employees working in the area, as well as reflect the company's product, complete with Jefferson's logo somewhere in the design. The project was so successful that a second mural was created for the plant by this year's senior design class.

In exchange for their work, students received 6"x8" self-promotional cards professionally printed with color and black-and-white reproductions of their work. These cards are crucial tools in helping young illustrators attract clients.

The Jefferson Printing project is an example of one of the more important aspects of the graphic arts program at Washington University — students gaining valuable experience working with professional clients, trying to interpret their needs and tastes. Students are "hired" by local firms to create everything from annual reports and corporate logos to murals and in-house publications. "Clients" range from large corporations to individuals.

Thanks to three illustration students, members of a Civil War history class in St. Louis County will see that even in black and white, the war's true colors extend beyond just blue and gray.

Neil Schechter, a 1964 Washington University graduate, is a Civil War

buff who wanted to convey his enthusiasm to students in his adult education course at Parkway North High School. He approached Jeffrey Pike, an illustration professor at the University, about "hiring" students to help him depict elements of the war that were not available in photos or paintings.

Pike shared Schechter's enthusiasm and assigned the project to some of his students. Schechter presented numerous historical events from which the three students involved in the project — Aleta Bryant, Jane Kley and Cathy Nolan — could choose. They have produced more than 20 images, many of which have never been depicted in artwork or photography. The project required historical research as well as imagination.

Kley and Nolan concentrated on Stonewall Jackson's Shenandoah Valley campaign in Virginia, where an outnumbered Confederate Army drove forces from a Union-occupied town. Bryant worked on emotional scenes involving abolitionists.

"Our students do extremely well professionally because they get full instruction in theory as well as practice."
— Jeffrey Pike

While Nolan focused on Jackson himself, Kley's scenes include one of a group of Irish Confederate volunteers, dancing in between battles with their arms around each other's waists, while astonished Protestant Virginia troops look on.

Schechter is thrilled with the final product. "You can almost hear the music," Schechter said about the drawing.

"I never tried to do a historical work before, and I like the Civil War," Bryant said. "It also was an education in what it will be like as a professional illustrator dealing with the specifics of clients."

"Graphic communications is about solving real problems," says Gène

Hoefel, an advertising professor in the School of Fine Arts. "All the professors in the program also are practicing professionals, so we can offer valuable insights, but we are here just to set things up. It's up to the students to solve the problems their own way."

This method has been very successful. Works by Washington University graphic arts students grace office walls and corporate bookshelves throughout St. Louis. For instance, graphic design students created the corporate identity for the Clayton Chamber of Commerce as well as designed the 1988/89 annual report of the American Red Cross St. Louis Bi-State Chapter. An acknowledgement, appearing in the annual report, of the students' contribution, says: "It was truly a unique experience for everyone involved, and Red Cross was quite in awe of the talent exhibited by these young people."

The first of many professional experiences for Washington's graphic arts students began in 1971 with what was thought to be only a class assignment — the Hammermill Papers Co. calendar project. Each student was required to create a 17"x22" calendar page depicting a different month. After the project was completed, it was shown to Hammermill executives who liked the designs so much that they bought the calendars. Since then, Hammermill has had Washington students design their calendars every year. Past calendars, which are only available to Hammermill customers, are now collectors' items.

That experience led to many other projects in which local businesses collaborated with students. The businesses receive creative, exciting solutions and the students are able to fill their portfolios with professional-quality work before they graduate.

But Pike stresses that this is not a vocational or training program. "Our students do extremely well professionally because they get full instruction in theory as well as practice. The professional projects are in addition to a thorough education in concepts and critical analysis, not to mention an outstanding liberal arts education."

Debby Aronson

Reading, exhibit to mark Nemerov's poet laureate term

Howard Nemerov gave his last reading as poet laureate of the United States on May 3 at the Library of Congress in Washington, D.C. In celebration of his two years as poet laureate, distinguished colleagues and friends will give a public reading of Nemerov's verse at 7 p.m. May 29 in Steinberg Hall Auditorium.

Poets Mona Van Duyn, Ben Belitt and John Morris, and Pulitzer Prize-winning author Maxine Kumin will read from Nemerov's works during "A Celebration of Howard Nemerov's Verse." Helen Vendler, a leading critic of English and American poetry, will serve as moderator for the event.

Nemerov, who is Edward Mallinckrodt Distinguished University Professor of English, has taught at the University since 1969. The event also will mark his University appointments as Distinguished Poet in Residence and as Edward Mallinckrodt Professor Emeritus.

As part of the celebration, Olin Library will exhibit books, manuscripts, broadsides and other items that document Nemerov's career as a man of letters. The exhibit will be on display from May 15 to July 31 in Special Collections, level 5, which is the official repository of Nemerov's literary papers.

"I had a very splendid term as poet laureate and feel as much honored at the end of it as I was at the beginning," he says. "I'm grateful to the Librarian of Congress, James Billington, for his kindly care of me and the office, and to my associates and friends in the poetry office, Nancy Galbraith and Jennifer Rutland."

Nemerov was named the nation's third poet laureate in May 1988. He succeeded Robert Penn Warren and Richard Wilbur, who celebrated his friend Nemerov as "a writer of unmatched intelligence, and a master poet equally at home in the wisecrack and in the noble voice."

In 1978 Nemerov won both the Pulitzer Prize for poetry and the National Book Award for *The Collected Poems of Howard Nemerov*. In 1987 he was one of 12 recipients of the National Medal of Arts, presented by President Ronald Reagan, and was the first recipient of the Aiken/Taylor Prize in Poetry, presented by the

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Around the globe

Anthropology students pursue research

From the national parks of Africa to the rolling hills of Kentucky, Washington University anthropology students are exploring, setting up camp and digging in for trips in the field that can last from a few weeks to several years.

"At first, it was extremely hard to find the lemurs," says Ben Freed, a doctoral candidate conducting research on the island of Madagascar. "They aren't like a needle in a haystack — they are more like a hair on a Jackson Pollock mural." Locating his subjects was among the first of his many challenges when Freed went into the field to study the behavior of two interacting species of lemurs for his dissertation in anthropology.

To study how the lemurs use and share their habitats, Freed, working overseas for the first time, also had to tackle organizing a field site and making maps of the rain forest area where he would live and study for more than a year. During that time, Freed observed some 40 groups of up to 15 individual lemurs. He says that every five minutes he would record activities such as "eating, traveling and investigating."

Freed is one of 16 Washington University graduate students in anthropology who are conducting or have recently completed fieldwork in various locales around the globe. Despite the intense work and frequent isolation — for Freed, the nearest signs of civilization were five miles away — students working in the field find that their experiences are not only exciting and challenging, but also allow them to apply what they have learned in classroom lectures.

"Anthropologists study what it means to be human, through time and place," says Patty Jo Watson, Ph.D., professor of anthropology and adviser each year to several students working in the field. Almost all anthropologists use field situations rather than the controlled, experimental settings used by other scientists, she says. "It can be quite a challenge to go to some other part of the world, usually a society that is not industrialized. There are all sorts of adjustments one has to make."

Watson notes that all types of anthropological studies — archaeological, physical and cultural — prove more informative when data can be gathered from its original, natural location. An anthropologist also gains a clearer understanding of what he or she is studying by experiencing the subject's environment firsthand.

For many anthropologists, fieldwork also is a race for time: artifacts need to be excavated and studied before they are destroyed by weather, construction or looters. Animals, such as lemurs, must be studied while they are still thriving in their original, natural habitats.

Anthropology students who go into the field work closely with faculty advisers. In Freed's case, Robert Sussman, Ph.D., professor of anthropology and one of the world's most respected experts on lemurs, provided guidance and direction. Sussman also advises Josephine Andrews and Michelle Sauter, who are studying the lemurs of Madagascar as well. Andrews is focusing on lemur ecology and the conservation status of a specific species. Sauter is investigating the animals' feeding behaviors, particularly the females during different stages of reproduction.

Washington's anthropology students have done fieldwork in such exotic locales as China, Central and

South America, Africa, Thailand and India, and as close to home as Cuba, Mo., and southern Illinois. The average length of study is two years, but many students divide their time into multiple visits. The location and length of field study varies greatly depending on student, topic and funds, most of which are provided by grants from the government or from other organizations devoted to the pursuit of scientific knowledge, such as the National Science Foundation.

Valerie Haskins found it "challenging to put together the clues and interpret findings" while she was studying human skeletal remains along the Green River in Kentucky. Haskins is searching for patterns of health and disease in human skeletal remains, which date back 4,000 years.

For Pia Nystrom, her study of baboon interactions in Ethiopia's Awash National Park was "an absolutely fantastic experience of living with and being accepted by a group of wild animals." From July 1988 to December 1989, Nystrom spent 12 hours a day following the primates, noting the behaviors of two different species of baboons and learning how they have managed to live together.

Another primatologist, doctoral candidate Michael Fay, has been in central Africa for 15 months studying lowland gorillas. He is collecting data on the interaction between the gorillas and their environment.

Unlike many of her colleagues who are studying modern-day living species, Carol Diaz-Granados Duncan is documenting the prehistoric rock art left by early peoples throughout the state of Missouri. "I feel a mission in this work," she says, "because the rock graphics are quickly disappearing." Duncan, who notes that Missouri has the largest concentration of rock art in the eastern United States, adds that "the most difficult aspect of my work is scaling 60 to 100 foot bluffs to reach some of the sites."

Kelly Pool is using her knowledge to work for a firm that specializes in contract archaeology. Pool surveys construction sites to ensure that no archaeological remains are damaged. "Anything older than 50 years is considered an archaeological or cultural resource," says Pool. "I am working to preserve historic and prehistoric remains." She says one of her most exciting days on the job was when she found 7,000-year-old relics dating from the early archaic period.

Working locally in Cuba, Mo., Kathleen Cook is studying the political processes involved in the economic revitalization of rural communities. Also nearby, Karli White is currently finishing her master's thesis on bone tools from the Carlston Annis Shell Mound in Illinois. Jian Leng, too, is studying ancient tools; however, her work has taken her abroad to several Asian countries.

A number of other students weren't available to do interviews for this article because — why else? — they are currently in the field. Among them are Niki Clark, who is studying in Nova Scotia; Becky Torstrick, in Israel; Patty Wright, in South America; Cristobal Gnecco, in Colombia; and Kathie Laird, in Pakistan.

"Fieldwork is difficult and often many unexpected things occur," says Sussman. "However, that's what makes fieldwork so enjoyable and exciting; it is what gives anthropology such a romantic aura."

Stephanie Finlay
Carol Mantbey



Bound for glory: Sophomore Dipak (D.P.) Rajhansa of Turnersville, N.J., is one of four Washington University track and field athletes to qualify for the NCAA Division III National Track and Field Championships, being held May 23-26 at North Central College in Naperville, Ill. Rajhansa qualified with a time of 14.5 seconds in the 110-meter hurdles. Also earning a trip to nationals are: junior Tim Walker of Chattanooga, Tenn. (hammer throw), junior Allen Glenn of Atlanta (hammer throw and shot put), junior Dave Watkins, Stilwell, Kan. (10,000-meters), senior Susan Culican, Frederick, Md. (800-meters), and senior Karen Sorensen of Washington, Mich. (3,000-meters, 5,000-meters and 10,000-meters).

English major, renowned alum will deliver talks at Eliot Honors

When John Alan Giroto delivers the Eliot Honors student address on May 17, he will pose the question most seniors are asking themselves at graduation: "What next?" — the title he has chosen for his speech.

"Because we seniors are preoccupied with plans for the future, we



John Alan Giroto

tend to forget that the relationships we've made during four years of college are going to change after graduation. I want to talk about what those changes might be," says Giroto, a senior English major who will speak at the University's 35th Eliot Honors Convocation at 2:30 p.m. in the Field House.

Approximately 430 graduating seniors will be recognized for scholarship and leadership at the Eliot Honors Convocation. The ceremony honors students whose achievements in scholarship and service to the University have been recognized by honor organizations and by the academic divisions of the University.

The convocation is named in honor of the Rev. William Greenleaf

Eliot, a Unitarian minister who was one of the founders of Washington University and chancellor from 1870 to 1887. Alumnus Walter E. Massey, Ph.D., professor of physics and vice president for research at the University of Chicago and for Argonne National Laboratory, will deliver the honors address. Massey, who earned both a master's and a doctorate in physics in 1966 from Washington University, will receive one of the seven honorary degrees to be bestowed by the University at the May 18 Commencement ceremony.

Dubbed "a nuclear power" and "a man of energy" in a 1985 Chicago Tribune article, Massey became the first African-American, in 1988, to be elected president of the largest and most respected science organization in the nation, the American Association for the Advancement of Science.

Giroto, a native of Cedar Rapids, Iowa, has minors in biology and political science. During his junior and senior years, he served as a residential adviser in the Washington Hall dorm.

The Phi Beta Kappa member will enter the School of Medicine this fall. He was a participant in the Scholars Program in Medicine, which is designed to promote a liberal arts education for pre-med students.

Senior class president to give remarks

Senior class president Katie deNourie, who will deliver the student remarks at Commencement on May 18, has based her talk on a quote by the American writer Henry David Thoreau — "Dreams are the touchstones of our characters." DeNourie and the other class officers chose the quote to highlight the class' Commencement Week activities that began May 11.

"College is the first chance we all have to go after our dreams on our own," says deNourie, a psychology major with a minor in business. "I want us to remember to keep going after our dreams in all walks of life."

DeNourie, a native of Omaha, Neb., says her four years at Washington have been "the most educational I've ever had, both academically and personally. I've learned a lot about who I am and what I want to be. I've experienced the University to its fullest capacity. It's given me a lot and I hope, in some ways, I have given a lot back."

In addition to serving as senior class president, her extensive list of extracurricular activities at Washington include holding several offices in her sorority, Kappa Kappa Gamma, working as a tour guide, participating in intramural sports and volunteering for Special Olympics.



Katie deNourie

After graduation, deNourie plans to travel to Europe for a month and then begin work as a travel consultant for Kappa Kappa Gamma. In this one-year position, she will visit approximately 30 sorority chapters at colleges across the country, serving as a liaison between the chapters and the sorority's national office.

Gallery of graduates

As some 2,490 students dressed in black caps and gowns march into Brookings Quadrangle this Friday, all who have contributed to their accomplishments will be looking on with great pride. Family, friends, faculty and the Washington University community will be there to share in their happiness. For some, it also will be a time of sadness, saying goodbye to friends and a place that has been home for the past four years. Some graduating students will be on campus for the last time. Many others, we hope, will return for visits, and still others will stay on to continue their education. Every member of the Class of 1990 has enhanced the University community with his or her own special talents, achievements, interesting backgrounds and experiences. The following stories tell about the remarkable lives of eight graduating students.



Clare Anne Jacobsmeier counsels a homeless man at the St. Patrick Center in downtown St. Louis.

'Remarkable journey': Former welfare mother will receive master's degree

Ten years ago, Clare Anne Jacobsmeier was newly divorced with two daughters to support. She was 35 years old, with only a high school education and no job skills. She sold everything she had of value, including family heirlooms, to avoid going on welfare. But it wasn't enough. She soon ended up in the welfare office.

Just 10 years later, on May 18, Jacobsmeier will be leading her class of 80 social work graduate students into Brookings Quadrangle where she will receive a master's degree. Her two daughters, Debbie, a 1989 college graduate, and Paulette, a sophomore in college, will be on hand to watch their mother carry the George Warren Brown School of Social Work banner as the school's elected marshal. (Her 80-year-old mother and other family members from Iowa will be in the audience as well.)

She refers to the last 10 years of her life as a "remarkable journey." She has gone from wearing her hair over her eyes to avoid looking people in the eye ("I didn't think I had much value, so I didn't want to look at anybody and have them prove it by looking away") to speaking before large crowds as a social work professional about such topics as child abuse, adolescent suicide and self esteem.

These are topics she knows about firsthand. Jacobsmeier had a very difficult childhood and, as she puts it,

was "oppressed" by her husband as an adult. At the age of 29, she came to a critical point in her life. She could no longer cope with her frustrations, anger and depression, and she sought help.

After some six years of counseling, Jacobsmeier found courage and self-esteem, something she had lacked all her life. Once divorced, she was "free" to pursue her dream of going to college. "That dream was always in the back of my mind, but it had been repressed. The people I had admired were educated and there was a burning hunger in me to get an education. It wasn't until I began to heal and found self-esteem that I realized that I could have that dream again."

Jacobsmeier was so grateful for the support and help she had received during her therapy that she decided she wanted to be the one giving instead of receiving. She says she was fortunate to live near the University of Northern Iowa in Cedar Falls, where she enrolled on a government grant in the social work program.

It was at this time, however, that she had to enter the welfare system. She and her daughters remained on welfare for five years.

Jacobsmeier says it was a real struggle being a 35-year-old single mom attending college for the first time and having to worry about how she would feed her two daughters. But she thinks it was her sense of

humor that helped her survive those lean years.

"A lot of times at the end of the month, we didn't have any food for supper, so the three of us would have a popcorn party. We didn't worry about manners; we'd sit on the floor, play some fun music, throw popcorn at each other. An evening would pass and we didn't remember that we hadn't had anything to eat."

Despite the many pressures she was under, Jacobsmeier graduated with honors from the University of Northern Iowa in 1984 with a bachelor's degree in social work. The year before she had been named "Social Work Student of the Year."

Her first job after graduation was as a specialized foster care case-worker in Waterloo, Iowa, and she was soon taken off the welfare rolls.

Her real-life experiences she believes have helped her in the social work profession. "My experiences don't make me any better, but they do give me another level of understanding that others may not have."

Jacobsmeier came to Washington University two years ago on the social

work school's Jane Addams Fellowship. Recipients of this fellowship intend to dedicate their lives to helping minorities and women.

Her first job out of graduate school will be as a Presidential Management Intern (PMI) in Washington, D.C. The PMI program places the "creme de la creme" of graduate school degree recipients in federal agencies for two-year appointments. As a finalist in this prestigious and highly competitive federal government program, she went through hours of pre-selection interviews during trips to Chicago and Washington. Jacobsmeier is awaiting word this week on where she will be placed. She hopes, with a belief her chances are good, that she'll be working with the homeless programs of the Department of Housing and Urban Development.

Wherever she ends up, this dedicated woman who calls herself a survivor, says she'll be helping others become survivors. "I want them to know that there are people out there who have made it against all odds, and that they can make it, too."

Susan Killenberg

Lessons learned in pro football career are passed on to high school players

Former professional football player Larry Station knows that his M.B.A. from the John M. Olin School of Business will help him in his new role as a financial analyst for Xerox in Chicago. But he also hopes to use his business training to expand a program he established in Iowa to help high school athletes steer clear of trouble as they pursue careers in football.

"There's a real lack of knowledge among high school athletes about what to expect when they head off to play college football," Station said. "I always had in my mind that I wanted to pass along to young people some of the lessons I learned in my football career."

A key message of the Larry Station Football Academy is that athletes must excel in the classroom, as well as the playing field — a message that Station's career well illustrates. While serving as captain of the football team at the University of Iowa, Station made the Dean's List four years running and claimed honors as an Academic All Big-10 and two years as an Academic All-American.

Station's hard work earned him a National Collegiate Athletic Association post-graduate scholarship, as well as a berth on the Pittsburgh Steelers professional football club. He played inside linebacker and assisted on special teams during his rookie 1986 season, but had to leave the sport after injuring his back in the following preseason.

"I always looked at it as a football hobby, rather than a career," said Station. "I knew it wasn't going to last too long because that's the nature of the game. The average professional football career lasts less than four years."

Station held his first summer camp program for high school athletes in 1988, drawing about 30 students the first year, and more than 50 students the next year. The four-day training sessions, held at a YMCA camp near Des Moines, includes a full day aimed at improving academic skills.

Station brings in study skills specialists from the University of Iowa to drill the athletes on methods for

improving reading comprehension, note-taking and memory skills. Interspersed with football training are sessions on the dangers of steroids and other drugs, and tips on how to deal with the pressures often heaped on college athletes by coaches and alumni groups.



Larry Station

Station also stresses the importance of being realistic about the odds of making it to the big leagues. Although about 1.5 million students play high school football each year, only about 40,000 will go on to play college ball, and in all of professional football there are only about 1,600 player slots.

"It's estimated that less than one percent of all college football players will ever make it to the pro's," Station said. "If you were a betting person, I don't think you'd want to take those odds. That's why I reinforce how important it is to have an education to back you."

Station intends to use his days off from Xerox to take part in his summer camp training sessions, and in his spare time, he'll be searching for corporate sponsors that can help make the camp experience available to young athletes nationwide.

Gerry Everding



Fashion design major Judi Sapero displays her collection, "Here. by Judi."

Collection launched

Passion for fashion design went beyond course requirements

Fashion design major Judi Sapero had a taste of "real life" last summer while producing and marketing her own line of clothing to local St. Louis boutiques.

The collection, called "Here. by Judi," was born out of boredom over the previous Christmas break. With time on her hands, Sapero began imagining how she could market her fashion ideas for profit.

Sapero, who will receive her bachelor's degree from the School of Fine Arts, had interned in the summer of 1988 at a New York fashion house (run by Washington University alumna Kay Unger, who designs "Gillian") and had worked in Venus Adonis, a Central West End boutique in St. Louis. With that background, she felt she had a good sense of what clothes sold well.

Sapero's plan for launching her collection was enhanced by her friendship with Zack Edmonds, a business major.

"Zack had seen a lot of the things I made and he thought it'd be fun to try and market them. He had always told me 'When you're ready to go bigger with this (plan to market her designs), let me know and we'll talk about it,'" says Sapero.

Over that Christmas vacation Sapero began work on her first project, silk painted ties that were "more on the artsy side." She brought them back to Venus Adonis in January. They didn't exactly sell like hotcakes, says Sapero, but it was a start.

She decided to expand her designs beyond a single item into a whole line of clothing. She chose two complementary batiks from Bali — one in black and white and another in a mustard and black pattern. The

material suited Sapero's designs, which include loosely fitting palazzo pants and flowing tie-tops.

Sapero began marketing her designs to shops in St. Louis. Her former boss at Venus Adonis loved the name, loved the look and placed an order for several pieces in the collection. She also requested some scarves and T-shirts she knew her customers would want. Sapero worked all summer cutting and sewing and delivered that order of 37 pieces in September, just as school was starting again.

In addition to designing and sewing the line for Venus Adonis, Sapero also created painted clothing for the popular local band The Unconscious.

Sapero has a passion for design that goes beyond course requirements and credit hours.

"Why should I wait until I graduate to pursue something like this," she says, explaining her motivation for the time-consuming and exhausting project. "You have to really grab at what you can outside of the school as well as what you can get out of the program while you're here. Being at Washington University is not like being in New York for fashion. In New York you're right in the middle of the fashion district and critics from the industry are constantly coming in. It's more difficult here, so you have to do things a little differently to get feedback."

After graduation Sapero will head to Chicago to hunt for a job in the fashion industry.

With an interest in fashion since she was 12 ("I didn't know how to sew. I just played around with the sewing machine and hand-sewed, but

I didn't have that many skills"), the Baltimore native knew she wanted to go to a university with a design program. "I also applied to Parsons and Rhode Island School of Design, but I liked the diversity of Washington University and the concentration on the liberal arts. I like being at a competitive university. The academic base is important to me. I think it gives me a broader range."

"Now I want to work with someone in the industry. I was originally very Betsy Johnson oriented, very funky, very fun kind of

thing. These days there are specific designers I would love to work for, but I am just not sure the name or company matters so much as what I will do there."

As for the name of her collection, Sapero says, "I had so many people giving me suggestions. One night, Zack and I sat for hours at Schmiez-ing's restaurant scribbling names on napkins. But finally I just said, 'Forget it, we'll just call it 'Here. by Judi,' as in here it is. You can take it or leave it, but here it is.'"

Debby Aronson

Answering a call to medicine

Jerry Freund knew at age 16 that his calling in life was the ministry. Thirty years later, however, he answered another call to combine the ministry with medicine.

On May 18, Freund, who has a doctorate in clinical psychology, is an ordained minister and a former missionary, will be among the 113 students receiving medical degrees from the School of Medicine. At age 50, he is the oldest graduate in this year's class.

Although Freund had no educational background in science, he was not unfamiliar with the medical field when he decided to make it his career six years ago. His father, Harold G. Freund, was a physician who specialized in psychiatry and general surgery. After talking with his wife, Elizabeth, and children, Rob and Natashya, Freund decided to follow in his father's footsteps.

While working full time as a counselor to clergy, he spent one-and-a-half years after hours and during the summers fulfilling the science requirements for entry into medical school. At age 46, he and his family left their Florida home of 12 years and moved to St. Louis where Freund had been accepted at the School of Medicine, the same school where his father received his medical degree in 1933.

"I didn't try to follow in his footsteps, but it's kind of worked out that way," says Freund. His father, who died in 1965, also was a minister and a missionary in India.

Freund admits it was a struggle to keep up during his first two years of medical school, but even more difficult, he says, was uprooting his family from their home in Florida.

"Pulling up stakes from Lakeland was difficult," he says. "You make friends and get embedded in a community. I grew up in Waterloo (Ill.) and have family here (in St. Louis), and that was a great help in bridging over."

Making the transition from self-sufficient working professional to supported student also was difficult.

"I was used to being the boss, being the expert and knowing my field, so it was tough," Freund says of returning to the classroom. "My self-esteem took a hard licking at that point, but I managed to survive."

As a family practice specialist, Freund says he hopes to be able to combine medicine and the ministry to treat the "whole person." In addition to medical ailments, he hopes to attend to the psychological and spiritual needs of his patients as well.

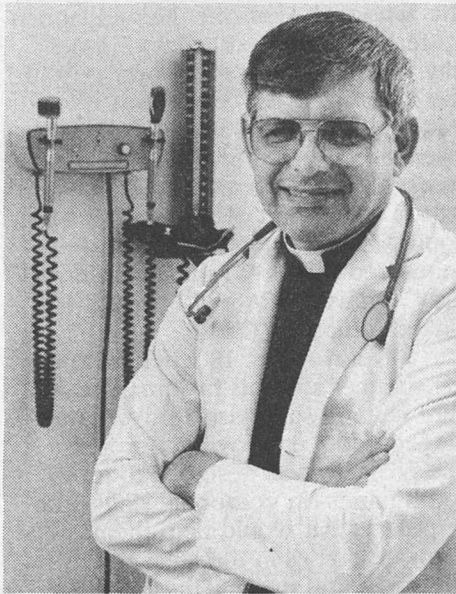
"My goal right now is trying to integrate these three professions into a whole and being able to deal with

all these aspects of the human process," Freund says. "It's bringing everything together about a person and how it bears on their healing that is important to me."

A Fulbright scholar who spent his first year of the seminary at St. Andrew's University in Scotland, Freund says he knew early in life that he was most comfortable providing service for other people. As is customary in the seminary, Freund took a sabbatical after his second year of divinity school and decided to work as a missionary in Africa.

"I've always felt at home doing service for other people," says Freund, who prefers working one-on-one over preaching from a pulpit.

After returning from Africa and graduating from the seminary, he continued his study at the University of Florida at Gainesville, where he received a doctorate in clinical psychology. It was his plan to use his training in the ministry and in clinical psychology to benefit the church, which he did when he joined the Florida Methodist Conference, based in Lakeland.



Jerry Freund combines ministry with medicine

He was responsible for counseling pastors, their families and other church workers throughout the state. Initially, he felt he had found his niche and would make a career of counseling to clergy. Nine years into his work, however, he noticed a trend in conference programming moving away from centralized counseling service. Two years later, the program was phased out and Freund went into private practice. It was then he decided to pursue a career in medicine.

Freund will be 53 when he completes his residency in family practice in Roanoke, Va., and plans to work in an underserved area in Virginia.

Kleila Carlson

Gallery of graduates



Ed Silverman, one of the founders of "Sunday With the Kids," and junior Joy Williams, current co-leader of the program, join some of the "kids" in the Hyde Park neighborhood.

'Sunday With the Kids'

Inner-city kids are enriched thanks to program

After Ed Silverman receives his medical degree May 18, and leaves the sanctuary of St. Louis, his home of 11 years, a part of his industry and insight will continue to thrive in the inner city.

Silverman, who received his biology degree from Washington University and is now graduating from the School of Medicine, helped launch a life enrichment program for inner-city youth 10 years ago. "Sunday With the Kids" is based in St. Louis' Hyde Park neighborhood and continues to operate because of the support of students, like Silverman, who volunteer to spend part of their days with youth from the area. The program is sponsored by the Washington University Campus YMCA and Friedens United Church of Christ.

Silverman was 18 when he spent the summer after his freshman year here helping supervise a government-funded youth employment program. The program was designed to teach youth hands-on vocational skills, like carpentry, that would help them renovate homes in the area. But Silverman and the others involved decided that in addition to the basic skill instruction, they would include a seminar on life and teach courses on college opportunities, resume writing and human sexuality.

Many of the youths were starved for attention and education, Silverman recalls. "What struck me the most is that half of the girls in the program were either pregnant or already had children," Silverman says. "Coming from Altoona (Pa.), a town of about 60,000 people, the realities of inner-city life were a revelation."

"Sunday With the Kids" developed from the summer youth employment program and children from ages 3 to 15 took part. Silverman remembers times when he and the other students went door to door recruiting participants. Today, between 20 and 30 children are active in the program, which is run by 15 student volunteers during the school year on Sunday afternoons. The program is not in session during the summer.

Though the program is still going strong, a demanding medical school

schedule has prevented Silverman from being active the past year. A student in the medical scientist training program, Silverman will receive his medical degree and his Ph.D. in population biology. His interest is in the study of human genetic disease, specifically the role of genetic and environmental factors in common familial disorders.

Silverman will do specialty training in internal medicine, but intends to return to academia. He says his experience in the inner city will benefit him in fieldwork he hopes to do as

part of his research. In addition to medical research, he hopes to provide medical care for inner-city patients.

Silverman takes no credit for the success of "Sunday With the Kids," but says it's rewarding for him to see the program continue.

"It was a love of children and concern for the problems of the inner city that got me involved," Silverman says. "The inner-city experience is an eye-opener for students and gets them away from their pleasant but sheltered campus atmosphere."

Kleila Carlson

Premier long-distance runner is on track after paddling nowhere in the pool

While it is common for undergraduates to change their academic major once or twice throughout their college years, it is not typical for a student to switch varsity sports. Most college-bound athletes specialize in one or two sports at the prep level, and then hone their talents in a single sport at the intercollegiate level.

Not so for Karen Sorensen.

The senior architecture major swam competitively for 12 years — two years with the Bears' swimming team — before shifting gears and turning to long-distance running her junior season. Now, as she winds down her final few weeks of varsity competition, she is being lauded as the school's premier female long-distance runner.

As a sophomore at Eisenhower High in Washington, Mich., Sorensen experimented with running, getting her first taste of racing on land in the 800-meter run. She ran the intermediate distance event, recalling, "I didn't think I could make it around the track more than two times." During her senior season, she ran in just two spring track meets because of an injury.

Sorensen used running as a way of staying in shape for swimming in the off-season. But once she arrived on the Hilltop Campus, she seemed to be paddling nowhere in the pool, and competitively retired from the sport.

"I despise mediocrity," says the 5-foot-4-inch senior. "If I do something, I want to be good at it and enjoy it at the same time. I was going backwards with my swimming. My times were not getting better at the rate I wanted them too. In fact, the times were pretty similar to what I was achieving as a 13-year-old."



Karen Sorensen

Two weeks prior to the start of the 1988 cross-country season, she made up her mind to try out for the squad. During the summer she was running regularly with her brother, a

collegiate runner at the University of Virginia, and resolved she needed the change.

What has transpired since then is phenomenal.

Sorensen started her first cross-country season as the Bears' number-four runner. Toward the end of the season, she became the team's top harrier. She finished sixth in the University Athletic Association meet, thus earning second-team all-conference honors.

The following spring, running her initial season with the Red and Green track team, she qualified for the NCAA Division III National Track and Field Championships in the 3,000-meter run and finished 15th overall. Sorensen burst on to the national track scene at the prestigious SEmotion Relays, shattering the 3,000-meter school record by 22 seconds.

Since that outing, she has continued her remarkable climb in running success. At last fall's UAA Cross Country Championships in New York City's famed Van Cortlandt Park, Sorensen won the 5,000-meter race by 53 seconds over her closest competitor, earning the UAA Runner of the Year award. She then qualified for nationals — the first female to do so at Washington — and ran the course in 18 minutes and 22 seconds, one second off her personal best. She placed 30th out of a field of 135 runners from across the nation.

This spring, Sorensen's running momentum continues. She established school records in the 3,000-, 5,000-, and 10,000-meter races and qualified for nationals in all three events.

Amazingly, she ran the 10-K event for the first time this spring — a total of 25 track laps — and set the school record with a time of 36:50.4.

What's in store at next week's NCAA Division III national championships in Naperville, Ill.?

"I don't know how fast I can go or how far I can go, but I'll give it my all," says Sorensen. "I enjoy a good challenge and I've set a goal of finishing in the top six. Afterwards, I want to continue running on my own to see where it will take me."

Foremost on her list of priorities, however, is her career. She will graduate near the top of her class in architecture, having carried a 3.65 grade point average into her final semester. Sorensen, Washington's "Most Outstanding Sophomore Architect" in 1987-88, is a strong candidate for GTE Academic All-American honors.

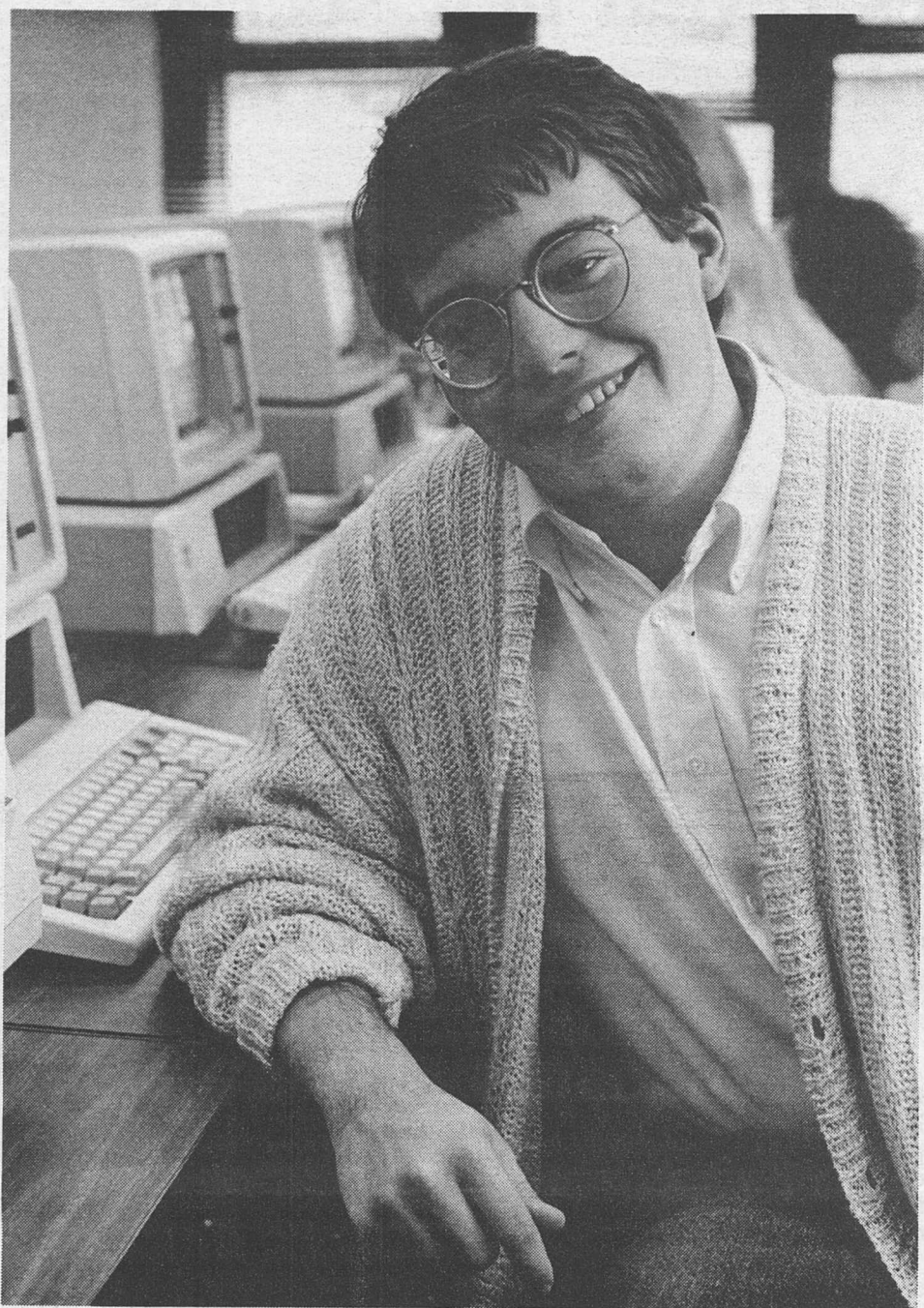
Academically, she made the customary changes in curriculum at Washington, but with a twist — she switched back to her original major, which is architecture. Tired of ink drawings, Sorensen flirted with a career in fashion design. Prior to last summer, she wanted to put together a portfolio and head to New York or California after graduation.

With a career set in fashion, she went to England, interning through Boston University in the London fashion district. But once she saw the likes of Victorian architecture, she realized how much she missed the blueprints and sketches.

"Midway through the summer, I called the fine arts and architecture schools and told them of my desire to switch back to architecture," she said. "Now I'm intent on architecture as a career. I want to go to Charlottesville, Va., and work for an architecture firm and continue my running training. Then, after a year there, go on to graduate school and continue my architecture studies."

"But then, I hate to be too specific ... you know how I can be!"

Michael Wolf



History major Eric Oberle helped design and write computer software used by hundreds on campus.

History major leaves legacy:

Campus computers easier to access

Every morning more than 400 personal computer users on the Washington University campus use a software program senior Eric Oberle helped design and write. Oberle, a history major who will graduate with honors, started programming as a hobby.

"While I was in high school I wanted a computer so I convinced my parents to pay for half if I paid the other half," Oberle says. Even without any formal training, he was soon writing programs. "My friends and I were hackers before anyone knew what that meant," he says. But Oberle views programming as something he does for fun.

"I'm not really interested in programming as a way to make money," says Oberle, who, after taking a year off, plans to attend graduate school at the University of Washington to study with noted historian John Toews. Toews' specialty is European intellectual and cultural history, the area Oberle wants to pursue. Oberle plans to teach history at the college level.

Though designing software is not the career path Oberle will follow, it gives him satisfaction because it offers him a chance to think in a strictly analytical way. "I enjoy being given a problem and finding the solution," says Oberle, who worked as a student specialist for the University's Educational Computing Services' (ECS) Computing Clinic.

For example, the problem personal computer users on campus had in accessing mainframe systems was made easier with the program he helped design.

"Because the University has many different mainframe systems and subsystems, each requiring different

terminal settings and log-on procedures," Oberle explains, "personal computer users found it time-consuming to switch from one mainframe system to another. It gets annoying to go through that routine four or five times a day."

The first autolog program that Oberle helped write, along with ECS student specialist Fabio Giannotti, came out in May 1988. The program lets personal computer users set up custom autolog-on procedures, which allows them to log on to a CMS account, for example, with a simple keystroke. The program took almost five months to design and is given to University personal computers free of charge by ECS.

Oberle, a resident of Davenport, Iowa, is currently collaborating with Giannotti on a program for recovering crashed computer disks. "It will be something like the Norton Utilities software package, only we hope a little more flexible," Oberle says. "The program will help alleviate the most traumatic aspects of using computers — lost data," says Oberle.

Oberle, who wrote his honor thesis on "From Naivete to (Unwanted) Consciousness: The Literary Politics of Thomas Mann, 1901-1924," finds cracking history's code gratifying as well. "A lot of people feel that going to the library is pure drudgery," says Oberle. "I don't feel that way at all."

For Oberle, being a historian is not studying an assortment of facts about events and people from the past in some dusty and long-forgotten university office. "Once you get into the habit of confronting a book on your own, it can be really exhilarat-

ing," says Oberle. "There's a certain hard-earned understanding you get of the thinkers and writers of the past that you can't get from late night television or magazines. You learn a lot about yourself and a lot about patience."

Though being a scholar or a computer programmer means working alone for the most part, Oberle never forgets the human factor. "One

important thing to remember about computers is to know when not to use them; computers should never get in the way. The most innovative program in the world is worthless, if users have to organize their lives around it," Oberle concludes. "A bad program makes you wonder — who is getting programmed here: the computer or me?"

Andrew Cox

South African says education is crucial to ending apartheid

As a black resident of Mafikeng, South Africa, Washington University senior Mogorosi George Leburu has confronted the atrocities of living under an apartheid system firsthand.

During Leburu's last year in high school, while he was walking in a quiet neighborhood, he was shot at by an off-duty policeman. The shot from an automatic rifle barely missed him and toppled a nearby tree. Leburu says he was shot at simply because he was walking in a white neighborhood.

But despite experiences like these, a desire to change his country's system of racial segregation has prompted Leburu to return home after receiving a bachelor's degree in computer science from Washington University May 18.

"I can never reverse the situation in South Africa if I leave," says Leburu, who plans to work as a computer programmer at a Mafikeng university and also teach high school mathematics part time at a night school there. "I have to help out. Whatever I contribute will help. All small things count. Success begins from within."

"Often education has a chain reaction. If you have an education, you are more likely to make decisions that will help you as a person. You are more likely to seek a better job. You are more likely to exert a positive influence in your community."

"Things in South Africa will not get better on their own. We have to correct all the deprivations by educating ourselves and acquiring highly technical skills. This will help us attain positions from which we can influence social change."

"Things in South Africa will not get better on their own. We have to correct all the deprivations by educating ourselves and acquiring highly technical skills."

— George Leburu

"The release of Nelson Mandela does not mean the death of apartheid," he adds. "It only signals a new chapter in the struggle. We have to work together."

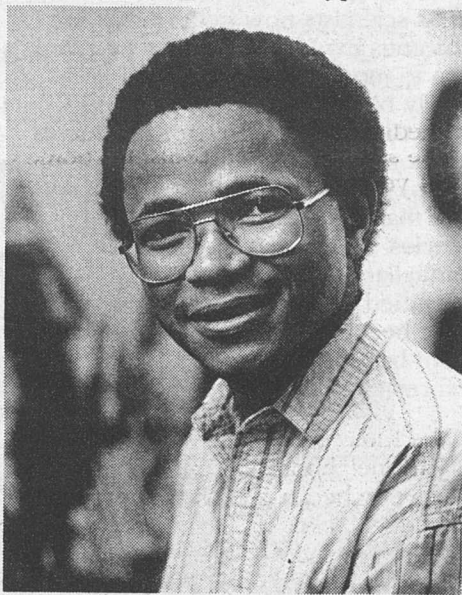
As a participant in Washington's Three-Two Program in Engineering and Applied Science, Leburu also will receive a bachelor's degree in liberal arts from Grinnell College in Iowa on May 21.

The University participates with some 150 colleges and universities in the program that allows students to receive a liberal arts and an engineering degree within a five-year period.

The students typically spend three years studying a liberal arts major at another university and two years enrolled in Washington's engineering school.

Because of his extensive preparation and willingness to attend summer school, Leburu has completed the dual degree program in four years — the first student to ever accomplish this feat, according to Robert W. Ridgway, Ph.D., assistant dean and director of the program. Leburu transferred to Washington this past fall from Grinnell.

"George has done an unusual level of planning," says Ridgway. "He is a methodical, careful person who constantly sees ahead."



George Leburu

Leburu's philosophy of preparing for challenges helped him obtain a college scholarship to study in the United States, despite the lack of qualified teachers and adequate facilities that existed at the segregated high school he attended in Mafikeng.

After his high school graduation, Leburu took correspondence courses for two years at the University of South Africa in Pretoria before applying, and eventually obtaining, a highly competitive college scholarship administered by the Institute of International Education (IIE), which is headquartered in New York.

He received the scholarship through the IIE's South African Education Program, which trains black South Africans in the United States. The program is a cooperative effort among foundations, corporations and U.S. colleges, including Washington, that provide some scholarship assistance to the students. Leburu also has received a Mickleton Scholarship and a Tuition Remission Scholarship from Washington's School of Engineering.

When he returns to South Africa, Leburu hopes that his experiences will help illustrate to the younger members of his community that they, too, can achieve a quality education if they prepare for it. He says, "I will stress to them that no one should run a race before being sure they can win."

Carolyn Sanford

MEDICAL RECORD

Human origins: Old bones reveal new secrets

A 2-million-year-old, fist-sized lump of rock is helping scientists pry open one of the bottlenecks that has restricted a clear interpretation of human origins. The lump — really a stone-filled partial skull from a critically important era of deep prehistory — becomes only the sixth example of a pivotal ancestor in human evolution.

"From somewhere out of those species living about 2 million years ago, early humans emerge," says Glenn C. Conroy, Ph.D., of the School of Medicine. "So we are forced to make big generalizations on small evidence, and every increase in sample size is important."

Applying advanced radiologic techniques, Conroy and his colleagues have made available for study a previously uninterpretable skull that belonged to the species *Australopithecus africanus*, the earliest known fossil hominid from southern Africa. For only the second time, a specially tuned computed tomography (CT) scanner has been used to "see through" the rock that fills a fossil skull, revealing the interior for study. Conroy's team was the first to successfully use CT to probe a fossil skull, originally applying it to the famous Taung child fossil.

Though paleoanthropology is a field charged with controversy, many of its scientists now believe that *A. africanus* may be in a direct ancestral line to modern humans. Small and newly bipedal, *A. africanus* moved from the forest to the hot savannas of Africa not too long (in evolutionary terms) before the explosion in brain size that has since characterized our species. It is therefore a creature of particular interest. But only six skulls identified as belonging to the species have been unearthed, and some of them have been less than ideally informative.

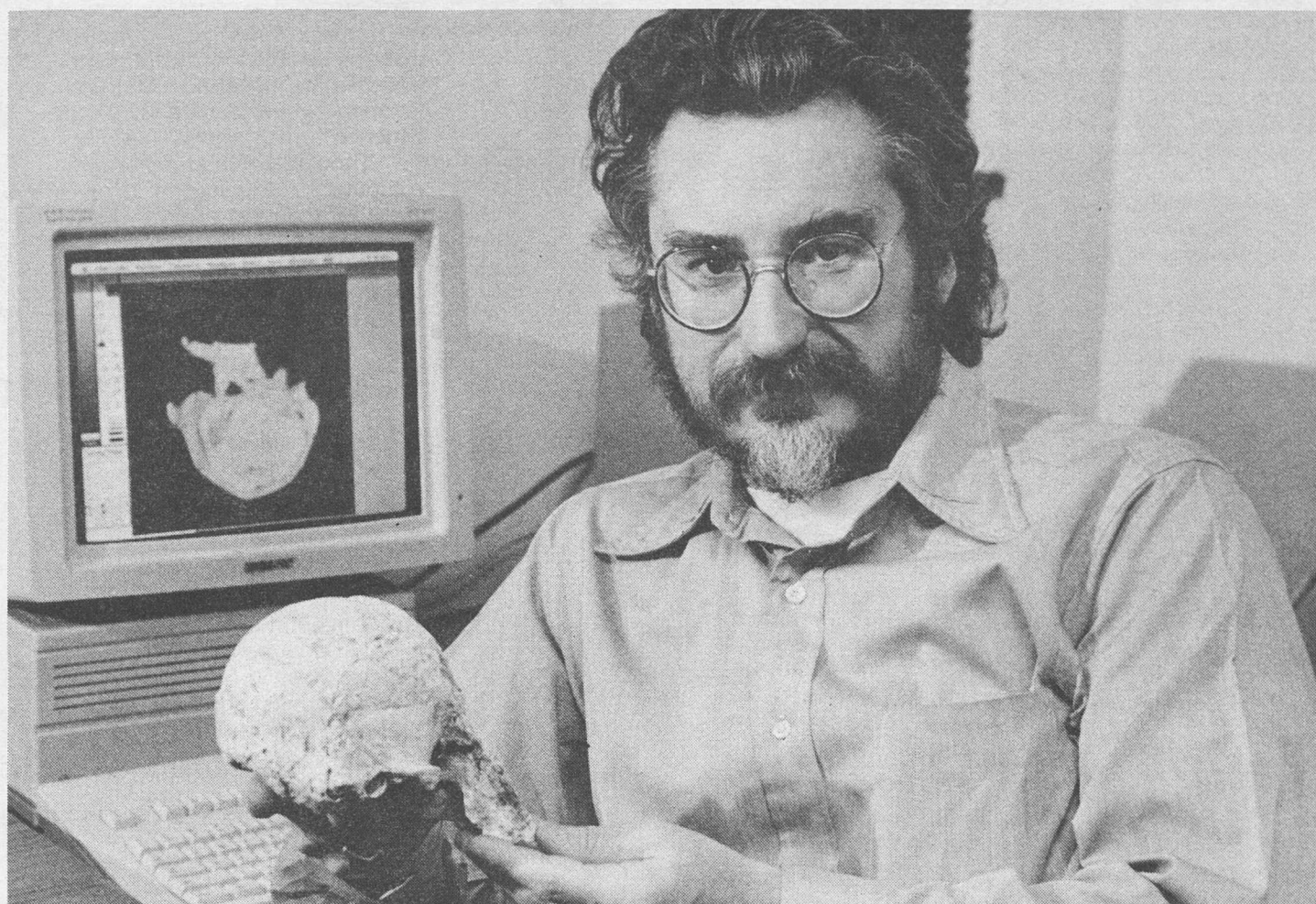
"... we are forced to make big generalizations on small evidence, and every increase in sample size is important."

— Glenn C. Conroy

Least helpful among the six has been the small, partial skull known only by its museum identification number: MLD 37/38. However, in a paper published in the February 16 issue of *Science*, Conroy and his colleagues, Michael W. Vannier and Phillip V. Tobias, report that they have been successful in coaxing that ancient skull to divulge new information.

Cranial capacity

Because MLD 37/38 is only about half of a complete skull, the anterior portion having eroded over the eons, accurate measurement of the cranial capacity has been impossible. In evolutionary studies, cranial capacity is often accepted as a close approximation of brain size, says Conroy, a professor of anthropology and anatomy. And for paleoanthropologists, precise measurement of a specimen's cranial capacity is important: it places a skull on the scale between apes and humans and relates brain size to other information about lifestyle and neurological organization — valuable data for theorizing about



Glenn C. Conroy, Ph.D., holds a replica of the MLD 37/38 skull while the computer in the background displays an image used to help analyze the skull's cranial capacity.

evolutionary trends and timetables.

Estimates of the capacity of MLD 37/38 by experts using external skull measurements have varied by about 10 percent, from 435 to 482 cubic centimeters. Such estimates are troublesome, Conroy says, because the fossil in question "has neither a modern human- nor modern pongid (ape)-shaped skull," and those are the two large models on which such estimates are based. Because the skull is completely filled in with solid limestone, even measuring the thickness of the skull's bone has been impossible.

Using computer programs written for the task, Conroy and Vannier, a professor of radiology, achieved a precise value for the skull's capacity, putting to rest the controversy. Vannier adjusted the scanner to "see" through the rock that fills the cavity, enabling the investigators to make two-millimeter-thick image slices of the intact portion of the skull. The endocranial volumes were then computed.

The researchers also developed a new technique to reconstruct the missing parts of the skull, first computer-generating a slice that formed a symmetrical fit with the previous slice, then another on top of that one and so on. The generated slices were rendered opaque on the computer screen and added to the stack. Half of the complete image's 46 slices were created in that way.

By adding the volume of the preserved portion to the volume of the reconstructed portion, they determined a total capacity for the skull. The result was a reliable figure of 425 cubic centimeters, at the low end of all previous estimates and, Conroy says, "the lowest endocranial capacity for any adult specimen of *A. africanus* to date."

As a result of the MLD 37/38 data, the mean cranial capacity for all known *A. africanus* examples drops to 440.3 centimeters, about one-third of a modern human's and roughly half that of our more recent ancestor, *Homo erectus*.

Blood flow

The CT scanner, fine-tuned to

differentiate between bone and limestone infill, also revealed imprinted grooves on the interior surface of the skull. Those grooves are a fossilized record of the veins that drained blood from the brain.

Conroy theorizes that evolutionary pressure caused the venous system to adapt to an emerging upright posture that changed the circulatory system from what had been a horizontal column of blood to a vertical column. Two different patterns of venous drainage evolved among the various australopithecine species, he says. In *A. africanus*, what he calls a "webwork" of veins developed in a pattern similar to that seen in modern humans, though the system apparently continued to evolve during the intervening eons.

That early drainage pattern consists of enlarged veins running down the temporal bone, along with many smaller veins coming together at the foramen magnum, the opening through which they and the spinal cord exit the skull. In other australopithecine species, especially *A. robustus* and *A. boisei*, enlarged grooves run straight down the inside of the head to the foramen magnum, with no evidence for the many branching veins.

The CT examination of MLD 37/38's internal anatomy puts it squarely in line with other examples of its species and is evidence for its place in man's evolutionary heritage. The uncommon pattern seen in the other australopithecine species is consistent with the view that those lines died out about one million years ago.

Fueling a theory

This information obtained from the previously impenetrable skull "changes the numbers in important physical measurements and has an impact on thinking about who among our ancestors gave rise to whom," says noted anthropologist, Dean Falk, professor of anthropology at State University of New York/Albany. Falk has used Conroy and Vannier's new data in formulating what she calls the "radiator" theory of early hominid evolution.

According to a simplified version

of that theory, man's ancestors expanded their range from the forest into the hot savanna walking upright. The venous patterns that evolved to compensate for the increased pressure of a vertical column of blood had their own powerful evolutionary effects.

Falk hypothesizes that in addition to carrying blood away effectively, the network of veins seen in *A. africanus* provided an efficient cooling system for the brain. Superior cooling might be advantageous in a tropical climate, particularly during strenuous, heat-generating activity such as chasing prey. More importantly, Falk points out, larger brains also generate more heat than small ones, and she suggests that the evolving web of veins "removed thermal constraints," laying the groundwork for a dramatic expansion of brain size. Those species to which the cooling effect of a network of veins was not available probably remained small-brained, a distinct evolutionary disadvantage.

Conroy is not fully convinced of all aspects of Falk's theory, but he says it is the proper role of newly developed anatomical information to give rise to such thinking. "We look for new anatomical features, and we infer their functional implications," he says.

"Just 20 years ago, anthropologists believed large brains evolved before we began walking upright, probably because we like to think of our brain size as that which distinguishes us from other animals," Conroy says. "By precisely defining derived features, we can accurately link living and fossil groups to say more clearly who is related to whom and how." In the case of the newly determined internal anatomy of the MLD 37/38 *Australopithecus africanus* skull, Conroy says "Whatever this distinctive anatomy means in functional terms, it clearly distinguishes the two groups."

Steve Kobler

Note: The research reported here was supported by the National Science Foundation, the Council for International Exchange of Scholars, and the L.S.B. Leakey Foundation.

Touted Parkinson's studies are flawed, says neurologist

Animal and human studies of neural tissue transplants for treatment of Parkinson's Disease were poorly conducted and controlled and failed to consider an alternate explanation for their perceived benefits, according to a review article published in the May issue of the journal *Neurology* by William Landau, M.D., who heads the neurology department at the School of Medicine.

Brain tissue transplant work began about 10 years ago in primates. Recently human trials have been conducted based on results from animal studies. Landau, however, says the flaws in these primate studies are manifold.

"There is simply no evidence to prove that either clinical or experimental parkinsonism in primates is specifically cured by transplantation of tissue into the brain," writes Landau.

The major flaw that he cites is the lack of "sham" surgeries in which the experimental animals undergo the surgical procedure but do not actually receive the neural tissue transplant. Landau claims that without this control it is impossible to separate the potential effects of the new neural tissue making connections to the animal brain from the effects due to the trauma to the recipient brain.

There are documented cases dating back to physician James Parkinson's original descriptions of the illness demonstrating that brain trauma can cause temporary, and in many cases long-lasting, disappearance of some Parkinson's symptoms. Landau claims that the immediate improvements in symptoms often reported in these primate studies are more characteristic of improvements that would follow a trauma rather than the slow-to-start neurochemical

production of new tissue.

Landau cites work done by surgeon Irving S. Cooper, who in a 1956 paper made the proclamation: "The neurologist can consider the fact that neurosurgery has produced complete reversal of the stigmata of parkinsonism." In 1969 Cooper wrote, "In good-risk candidates it is possible to relieve tremor and rigidity at the time of operation in at least 93 percent of the cases. Moreover, since such candidates tolerate the second operation without difficulty, in case the first lesion is not large enough to produce lasting relief of tremor and rigidity, in at least 90 percent of the patients in this group... Tremor and rigidity when totally abolished for more than one month is [sic] likely to remain absent indefinitely."

"Although purposeful lesion-making went out of style in the face of the potency and decreased risk of levodopa treatment," Landau says in his report, "many clinicians may still concur that the possibility of a therapeutic thalamic lesion should be entertained when a major disability is due to a vigorous unilateral tremor that is [unresponsive] to medication."

Landau points out that Ignacio Madrazo, M.D., and colleagues (La Raza Hospital, Mexico City) in their paper "Open Microsurgical Autograft of Adrenal Medulla to the Right Caudate Nucleus" failed adequately to consider that their results may have been caused by the surgery itself rather than the transplanted neural tissue. "No human transplant reports have offered any control for the possible therapeutic effect either of immediate surgical trauma or post-surgical progressive reactive tissue damage," Landau reports.

Herweg retiring

Post to be shared by Cole, Dodson

Patricia L. Cole, M.D., and W. Edwin Dodson, M.D., have been named associate dean for student affairs and associate dean for admissions, respectively, at the School of Medicine.

The two will assume joint responsibility for the position held by John C. Herweg, M.D., who retires June 30, after 25 years of service to the University. By sharing responsibilities, Cole and Dodson will be able to continue their research and clinical activities.

The appointments were announced by William A. Peck, M.D., vice chancellor for medical affairs and dean of the School of Medicine. This is a continuation in a series of appointments being made as part of an administrative reorganization at the School of Medicine.

"Drs. Cole and Dodson are outstanding faculty members, known for their dedication to our students, our educational mission and our institution," Peck says. "They will perpetuate the fine tradition of excellence exemplified by Dr. John C. Herweg."

Herweg, professor of pediatrics, has been on the faculty of the School of Medicine since 1951. He was named associate dean in 1965, and at the same time assumed responsibility for student affairs.

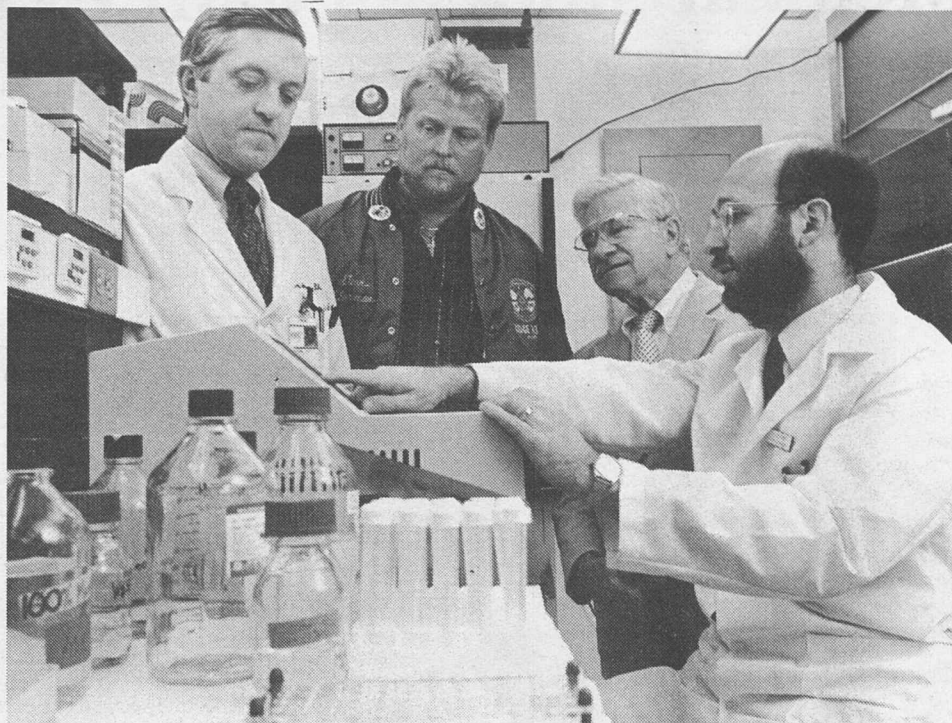
Cole has been on the medical school faculty four years and this year was named an assistant professor of medicine. Last year she was appointed director of invasive cardiology training at Jewish Hospital, where her clinical emphasis is cardiac catheterization and balloon angioplasty. She is a

diplomat of the American Board of Internal Medicine, board certified in cardiology and a member of the American Federation for Clinical Research.

In 1988, she was named Teacher of the Year in the Department of Medicine at Jewish Hospital, a sponsoring institution of the Washington University Medical Center. In her new role as associate dean, she will be responsible for dealing with students' academic affairs, assisting them with financial aid, reviewing clerkship reports and supervising operation of Olin Residence Hall.

Dodson has been on the medical school staff since 1971 and for the last four years has been a professor of pediatrics and neurology. As associate dean for admissions, his primary role will be to plan and manage the admissions program at the School of Medicine, establishing recruitment and retention goals for the M.D., M.D./M.S. and M.D./Ph.D. programs. He is involved in the research of severe epilepsy and its treatment and also has an active interest in the prevention of child abuse.

He is a Fellow of the American Academy of Neurology and the American Academy of Pediatrics, and co-chaired the 1989 symposium on learning behavior in childhood epilepsy at the 18th International Epilepsy Congress in Delhi, India. He serves on the boards of numerous state and national child abuse prevention organizations and is chairman-elect of the professional advisory board of the Epilepsy Foundation of America.



Max Arens, Ph.D. (left), and Lee Ratner, M.D., Ph.D. (right), demonstrate equipment used in their research to Steve McDerman (second from left) and Larry Lieberman, both board members of the McDonnell Douglas employees' community fund.

McDonnell gift launches research to better diagnose AIDS in babies

A \$250,000 grant to the School of Medicine from McDonnell Douglas employees has launched the development of a method to detect acquired immunodeficiency syndrome (AIDS) in newborn children. It is the only research of its kind in the nation.

Currently, the human immunodeficiency virus (HIV), which causes AIDS, cannot be detected in children until they are about eight months old.

The five-year grant will enable researchers at the School of Medicine to study how HIV reproduces and better predict the rate at which the disease progresses in newborns.

Max Arens, Ph.D., research assistant professor in the department of pediatrics, and Lee Ratner, M.D., Ph.D., assistant professor in the department of medicine and molecular microbiology, will supervise the research. Their work will use a newly developed technique, the polymerase chain reaction, to stage the extent of HIV infection among white blood cells.

"The purpose of the research is to be able to more quickly and accurately diagnose HIV-infection in newborns and children," Arens says. "The technique we're using is a newly developed method for in vitro-amplification of DNA and RNA and using it we hope to be able to identify specific messenger RNAs (mRNA) in the lymphocytes of infected children to predict a disease course."

"The employees of McDonnell Douglas are excited to be able to sponsor such vital research," says Larry Lieberman, member of the board for McDonnell Douglas Employees' Community Fund-East. "Because AIDS devastates children more quickly than it does adults, it's critical that the appropriate treatment

begin as soon as possible."

AIDS is a fatal condition that impairs the body's natural ability to fight disease. More than 110,000 cases of AIDS have been reported in the United States, with 1,700 in children under the age of 13. Of the infants born to HIV-infected mothers, it is estimated that about one-third will become infected.

What's more, the incidence of AIDS in children is on the rise. In some northeastern hospitals, up to 5 percent of the women delivering infants are infected with HIV. And in St. Louis, where AIDS has spread more slowly, the number of children born infected with HIV is expected to triple this year to 18.

Arens and Ratner are among the first to apply polymerase chain reaction in the study of HIV. The test tube technique allows researchers to quickly increase the amount of RNA and DNA in an infant's blood sample to the point where the quantity is sufficient for analysis. The method can be used to detect and identify numerous viruses and some bacteria, and allows scientists to significantly magnify specific regions of the RNA. With this capability, scientists can track the low level RNA that acts as a messenger for regulatory proteins which control replication of the virus. By measuring these mRNA levels, scientists hope to learn more about the course of disease and develop appropriate treatments.

McDonnell Douglas has six Employees' Community Funds, which are supported by employee payroll deduction and run by employees. Last year, McDonnell Douglas employees nationwide gave gifts totalling \$9.8 million to support community service programs.

Participants needed for diabetes study

Researchers at the School of Medicine are seeking volunteers to participate in a study of diabetic kidney disease.

The multi-center project, which is being funded by the National Institutes of Health and Bristol-Myers Squibb Co., will attempt to identify a specific treatment that will slow the progression of renal disease in patients with diabetes. Kidney disease is often a complication of diabetes mellitus, a metabolic disorder caused by deficiency of insulin. The three-year study is directed locally by Janet McGill, M.D., an endocrinologist and

diabetes specialist at the School of Medicine.

McGill needs six to eight volunteers who have had insulin-dependent diabetes for more than seven years and are less than 50 years old. Participants must also have tested positive for protein in the urine and diabetic eye changes. Both of these tests can be conducted at the School of Medicine if the other qualifications are met.

For more information about the study, contact McGill or Ruth Hirsch, R.N., weekdays at 362-8681 between 9 a.m. and 3 p.m.

MEDICAL RECORD

Medical students gain experience in South Africa



A baby gets weighed at a clinic in a rural South African village.

The 10,000 miles that separate the United States and South Africa were bridged this spring by a group of medical students hoping to learn another art of healing.

Four seniors from the School of Medicine took part in a medical student exchange with the University of Witwatersrand School of Medicine in Johannesburg, where they practiced medicine in urban and rural hospitals. The students spent from six to 12 weeks in South Africa, dividing their time between Baragwanath Hospital, which provides health care for the people of Soweto and is the largest hospital in the southern hemisphere, and small hospitals in the bush, working with doctors who have perfected the "hands on" art of their craft because technology isn't always within their reach.

The exchange, the first of its kind for the School of Medicine, was part of a mutual agreement between the medical schools to provide students with a challenging professional and personal experience. The School of Medicine, which financed the two-way exchange, was host to four interracial mixed South African medical students late last year.

Glenn Conroy, Ph.D., Washington University professor in the departments of anatomy, neurobiology and anthropology, was instrumental in laying groundwork for the program, which officials say is the beginning of a lasting partnership and exchange program with Witwatersrand University. Conroy, who has been a visiting research professor at Witwatersrand, travels to South Africa regularly for anthropological study. He proposed the idea for the exchange to Chancellor William H. Danforth because he saw it as a way for Washington University to play a positive and constructive role in Witwatersrand's attempt to improve educational opportunities for all South Africans regardless of race.

"My feeling is that health care needs (in South Africa) are very real and that we can make a contribution

there," Conroy observes. "We should try to take every positive step we can in helping the legitimate health care needs of the (South African) population in association with a university that is deserving of our help and compassion."

Students who participated in the exchange were selected from a university-wide committee, chaired by William Landau, M.D., head of the department of neurology and neurological surgery. Selection was based on academic standing and a written essay. Selection for next year's trip is expected to take place in early September.

Those chosen for the program shared many of the same reasons for wanting to experience health care in a Third World country. One participant, Lyree Mikhail, had considered becoming a missionary and saw the program as an opportunity to help needy people and gain experience. Medically, she says she learned a great deal.

"While the essentials of medical education are the same in South Africa and the United States, the training doctors there receive is applicable to what is appropriate in that country," says Mikhail, who plans to specialize in obstetrics. "There's much more hands-on medicine, which enables them to provide quality treatment in rural areas that are without technology."

Though medical technology at the urban hospital was comparable to that found in the United States, students observed that most hospitals do without technological advances because they can't afford them. What some hospitals may have lacked in advancement, they made up for in patients and interesting cases, according to the students, who say the training was invaluable.

For Anita Holtz, the trip confirmed a desire to devote part of her career to providing health care in a Third World country. Like the others, Holtz saw the extremes of medical practice: from the high-tech of urban Baragwanath, a 2800-bed teaching

hospital, to the hands-on medicine at Bethesda, a five-ward bush hospital in Ubombo.

At Bethesda, she says, the 25-bed wards were usually filled to capacity. Burdened by limited technology and limited staff, patients were treated empirically, she says.

"I had the opportunity to see a different way of practicing medicine and as a result, I've come to appreciate what we have in our country a lot more than I would have otherwise," says Holtz, who intends to specialize in family practice. "The cultural exchange was a great experience. You learn there are a lot of different opinions on different subjects around the world. Things aren't always done like they are here, but being exposed to such a variety of ideas makes you think more and challenges your beliefs."

Margaret Poulos, who had done health care work in Haiti and Peru as an undergraduate student, wanted to see the different extremes and types of disease that exist in a Third World country. Poulos, who plans to specialize in ophthalmology, also points out how the legal system in South Africa does not impinge on the practice of medicine.

"It's amazing what effect a litigious society like ours has on the practice of medicine," she says. "Physicians (here) must make sure they've ordered tests necessary to protect themselves. Over there, you practice on a more basic level."

Exchange student Jim Bischoff, who spent eight weeks in the country, describes the exchange program as "very attractive" for the School of Medicine, and says it will give the institution an even greater edge in attracting students.

"The fourth year elective schedule is one of the strengths of any medical school," says Bischoff, who advocates stepping away from the academic/medical environment that students are familiar with in order to better evaluate its strengths or weaknesses. "It could attract a large number of students."

While taking part in a different practice of medicine was the primary reason behind the trip, students say one of the things they'll treasure most is the friends they made while there.

"It's nice to know that half way around the world there are people who consider me their friend," Mikhail says.

Klella Carlson

Cole's lab receives \$6 million

The Lipid Research Center Core Laboratory at the School of Medicine has been awarded a \$6 million contract by Bristol-Myers Squibb Co. to assist with one of the largest drug development studies ever conducted by the company.

The six-year study, being administered by Frank Sacks, M.D., and Eugene Braunwald, M.D., of Brigham and Women's Hospital and Harvard Medical School, involves over 50 clinical research centers throughout the United States and Canada.

The project, known as the Cholesterol and Recurrent Events (CARE) study, will help determine whether taking a cholesterol-lowering medication called Pravastatin will decrease the risk of death and recurrent myocardial infarction among patients who have already had an MI.

The School of Medicine's Core Laboratory, directed by Thomas Cole, Ph.D., has been designated as the central laboratory for the study and will administer all clinical laboratory work associated it, receiving all blood

and urine samples from the participating research centers. The lab will analyze samples for lipids and lipoproteins and has a subcontract with Barnes Clinical Laboratories for other non-lipid related laboratory testing.

The Core Laboratory, which won the contract by competitive bid, will receive shipments for analysis daily. Results will be sent to the data coordinating center in Houston.

The CARE study will screen 4,500 potential subjects and enroll 3,500. So far, 39 U.S. centers and 13 Canadian centers are participating.

In addition to the CARE study, the Core Laboratory is supporting six other multicenter studies. The lab is certified by the College of American Pathologists and is standardized by the Lipid Standardization Program of the Centers for Disease Control. The lab also is a member of the Cholesterol Reference Method Laboratory Network, comprised of nine U.S. labs which evaluate reference and hospital clinical laboratories in the performance of cholesterol measurement.

Cancer cell's response to therapy studied

The National Institute's of Health (NIH) recently awarded the School of Medicine's Mallinckrodt Institute of Radiology a \$3 million program project grant to study how cancer cells respond to therapy.

Principal investigator Joseph L. Roti Roti, Ph.D., professor of cancer biology in radiology and chief of the cancer biology section at Mallinckrodt, will lead his research team in the study of how certain cancer cells are able to survive radiation, chemotherapy and hyperthermia (the use of heat to kill cancer cells). To accomplish this, it will be necessary for Roti Roti and colleagues to define the biological processes of cell death after cancer treatment.

The goal of the five-year study, Roti Roti says, is to understand the mechanism of radiation-induced cell killing at the molecular level.

"Our laboratory is interested in understanding how radiation and heat interact with cells to produce lethal effects," he says. "That's important

because radiation, hyperthermia and chemotherapy are the methods doctors use to kill cancer cells."

Roti Roti and his research team will focus on the cell's nucleus, attempting to measure the presence of a specific protein or other characteristics that might indicate whether a cell would be more or less resistant to certain treatments. Ultimately this work may aid physicians in determining the most appropriate treatment for the various types of cancer.

Roti Roti's research has centered on the mechanisms of cell response to radiation, chemotherapy and hyperthermia with emphasis on cell kinetics and nuclear targets. He is recognized for being the first scientist to measure molecular changes in chromatin proteins as part of the cellular response to heat and for developing mathematical tools to measure the effects of radiation and heat. He is the recipient of numerous research grants and has published more than 50 articles on his work.

NOTABLES

Joshua Coben, a senior majoring in French and English, **Monica Duchowski**, a graduate student in French, and **Michael Pastreich**, a senior majoring in fine arts and minoring in English, have received Fulbright travel scholarships from the Institute of International Education in New York. The grants and stipends are for study and research abroad. Coben and Duchowski will both go to France as teaching assistants. Pastreich will go to Finland to study silversmithing.

Stephen H. Legomsky, J.D., D.Phil., professor of law, has been appointed by Gene McNary, head of the Immigration and Naturalization Service, to chair a committee that will meet with him bimonthly to discuss immigration in its broader social, philosophical, legal, economic and demographic perspectives. He has accepted an invitation to speak at the Yale University law school's annual Allard Lowenstein Symposium on International Human Rights. He will speak on the interdiction of refugees on the high seas.

Charles L. Leven, Ph.D., professor of economics, recently was honored by the Western Regional Science Association at its 1990 annual meeting in Molokai, Hawaii. Two conference sessions were devoted to papers written in his honor by former students and colleagues. A banquet recognizing his contributions to regional science was attended by scholars from some 20 countries. In addition, Leven spent 12 days in Poland at the invitation of the Polish government to consult on the economic foundations of local government with the Polish Council of Ministers Commission on Reorganization of Local Government and with the Polish undersecretary of state for economic development. He also held discussions with the chief architect and deputy mayor of Cracow, with various members of the urban economics faculty at the University of Lodz and with scholars at the Institute of Social and Economic Regional Geography at the Polish Academy of Science.

Daniel R. Mandelker, J.S.D., Howard A. Stamper Professor of Law and director of the law school's Urban Studies Program, has been elected a senior fellow of the Urban Land Institute. He is the only law professor to be elected to this position. He also co-wrote the second edition of *Housing and Community Development*, which has been published by the Carolina Press. The 1989 supplement to Mandelker's book *NEPA Law and Litigation* has been published by Callaghan & Co. In addition, the Transportation Research Board has awarded him a research grant to prepare a paper on the effect of NEPA (National Environmental Protection Act) on the federal highway program.

Rachel McGinnis and **Nora Parkin**, doctoral students in Germanic languages and literatures, and **Eric Ray**, a senior in education, have been awarded travel grants and stipends to study in West Germany during the 1990-91 academic year from the German Academic Exchange Service in New York.

Constantine Michaelides, dean of the School of Architecture, was part of a five-member accreditation team that visited the Southern California Institute of Architecture (SCI-ARC) in March. The group, representing the National Architecture Accreditation Board, spent four days evaluating the institute, which is one of only two U.S. architecture schools not attached to a university. Michaelides also gave a presentation on "Private Universities and Their Role in the Future" at an

international architecture conference last month in Athens, Greece. The conference focused on architecture education from an international perspective. In addition to speaking on private universities, Michaelides gave a lecture on the history and architecture of the island of Hydra. The group then enjoyed a day cruise to the island. The conference was organized by the Association of Collegiate Schools of Architecture and hosted by the National Technical School of Athens, Michaelides' alma mater.

Carolyn Orange, a doctoral student in education, and **Dan Sherburne**, a doctoral student in anthropology, have both won prestigious Woodrow Wilson fellowships. Orange received the Spencer Dissertation-Year Fellowship for Research Related to Education, and Sherburne received the Rural Policy Fellowship. Both awards support a year of dissertation research and writing. Orange will use the grant to work on "Motivation and Vicarious Empowerment of Black Male Adolescents Through Stimulation and Structured Experiences," and Sherburne will use his grant to work on "Drawing the Battle Lines: Land Use Planning and the Representation of Interest in Rural Oregon." Sherburne is the second anthropology doctoral student in two years to win a Rural Policy Fellowship. **Kathleen Cook**, a doctoral student, is currently doing research under that grant.

James A. Purdy, Ph.D., professor of radiology and chief of radiation oncology physics, was appointed to a one-year term as chairman of the American College of Medical Physics (ACMP). Under Purdy's chairmanship, the ACMP will continue to promote licensure and certification programs for medical physics services in areas of radiation oncology, diagnostic imaging and hyperthermia.

Carter Revard, Ph.D., professor of English, recently participated in the Full Spectrum series at New York State University College at Buffalo. During the series, he delivered a lecture titled "Making of Riddles: A Poet Looks at His Craft," a three-hour presentation on medieval English lyric poetry to a graduate seminar and a poetry reading. At Tufts University in March, he gave a public lecture titled "Behind Eden: Looking for America"; participated in a discussion on American Indian texts with the Tufts faculty who teach a World Civilizations course; and gave a presentation on American Indian texts to students and faculty of the World Civilizations class.

Roy D. Simon Jr., J.D., professor of law, recently had his book *Regulation of Lawyers and Standards*, which was co-written with Stephen Gillers of the New York University School of Law, published by Little, Brown & Company. Simon gave a talk titled "Attorney Fees in Federal Court" at a Federal Judicial Center training conference for federal District Court and Court of Appeals judges of the 11th Circuit.

Have you done something noteworthy?

Have you: Presented a paper? Won an award? Been named to a committee or elected an officer of a professional organization? The Washington University Record will help spread the good news. Contributions regarding faculty and staff scholarly or professional activities are gladly accepted and encouraged. Send a brief note with your full name, highest-earned degree, current title and department along with a description of your noteworthy activity to Notables, Campus Box 1070, or by electronic mail to p72245SS at WUVMC. Please include a phone number.

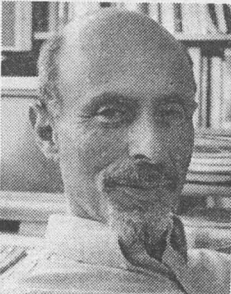
Greenberg, Miller will receive faculty achievement awards

Edward Greenberg, Ph.D., professor of economics, and Gary J. Miller, Ph.D., professor of political economy, will receive awards for teaching excellence from the Burlington Northern Foundation. The \$5,000 awards will be presented May 17 at the Eliot Honors Convocation in the Field House.

The Burlington Northern Foundation Faculty Achievement Awards are given "in recognition of outstanding teaching and exemplary contributions on behalf of undergraduate education." The foundation, based in Seattle, Wash., represents Burlington Northern Inc. and its nine operating companies.

Greenberg, a professor of economics in the College of Arts and Sciences, has been a member of the University faculty since 1963. While active in the graduate program, he is known among undergraduates for his patience and imagination in teaching introduction to economics courses.

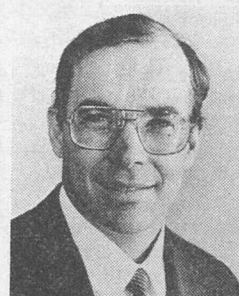
Greenberg received his bachelor's



Edward Greenberg

degree from New York University in 1957, and master's and doctoral degrees in 1959 and 1961, respectively, from the University of Wisconsin. His research interests include applied microeconomics and econometrics.

Miller, a member of the John M. Olin School of Business faculty since 1986, was named the Reuben C.



Gary J. Miller

Taylor Jr. and Anne Carpenter Taylor Professor of Political Economy in 1988. In addition to designing and teaching a new course in organizational behavior for undergraduates, Miller has served as chair of the business school's Undergraduate Curriculum Committee.

Miller received his bachelor's degree from the University of Illinois in 1971 and his doctorate from the University of Texas in 1976. He has taught at the California Institute of Technology and Michigan State University. His research interests include government regulation, urban political economy and organizational theory.

Three biology students win prizes

Two graduating seniors in biology have been named recipients of the Marian Smith Spector Prize in Biology for 1990, and one graduating senior is the recipient of the 1990 Harrison D. Stalker Prize.

Lori Kutka, a native of Topeka, Kan., and Peter Zdankiewicz, from Bowie, Md., are winners of the Spector prize, an annual award for academic excellence and outstanding undergraduate achievement. Susan Culican, who is from Frederick, Md., received the Stalker prize, which is given annually to a graduating senior distinguished for both academic excellence in science and breadth of interest. The three received their awards during a reception on campus hosted by the Department of Biology.

The Spector prize was established in 1974 in memory of Marian Spector, a 1938 graduate of the University. Spector studied zoology here under Viktor Hamburger, Ph.D., who is now Edward Mallinckrodt Distinguished Professor emeritus of biology. She participated in Hamburger's highly acclaimed research in embryology.

Kutka won the award for the quality of her paper "In Vivo Evidence for Target Control of Axon Collateral Formation and Directional Growth in the Mammalian Brain." She worked with Dennis D. M. O'Leary, Ph.D., assistant professor in the Department of Anatomy and Neurobiology.

"I was quite amazed at the

maturity and sound scientific judgment evidenced by this work," said Hamburger, who read Kutka's paper because her research is in an area that he pioneered. "Ms. Kutka has a definite talent for research, and I hope that she will develop this talent in the future. Of course, I am very pleased to see early ideas of mine being explored with modern techniques by a third generation."

Kutka has been accepted at the Washington University School of Medicine for fall 1990.

Zdankiewicz's paper, "Expression of Na/K-ATPase in Insect Cells," reflects research he performed with Robert W. Mercer, Ph.D., assistant professor in the Department of Cell Biology and Physiology.

Zdankiewicz has been accepted to the University of Maryland School of Medicine for fall 1990.

The Stalker award was named for the late Harrison D. Stalker, who was a professor of biology at Washington University for 40 years. The prize was endowed by his colleagues in 1982.

Culican, working with Alan L. Pearlman, M.D., professor of neurology at the School of Medicine, published a paper with him in the February 1990 issue of The Journal of Neuroscience. The paper is on the "Cortical Radial Glia: Identification in Tissue Culture and Evidence for their Transformation to Astrocytes."

Culican has been accepted into the School of Medicine for fall 1990.

Law professor named to advisory council

Michael M. Greenfield, J.D., professor of law, has been appointed to a three-year term on the Federal Reserve Board's Consumer Advisory Council. The council, established by the U.S. Congress in 1976, advises the board on its duties under the Consumer Credit Protection Act and on other consumer-related matters.

Greenfield is one of eight new members appointed to the 30-member council, which meets three times a year. The new members were selected from approximately 400 nominations that the board received this year.

A member of the Washington University law faculty since 1969, Greenfield has authored numerous books and articles on consumer law, including the 1983 casebook *Consumer Transactions*, which is used in law schools across the country. He is at work on a book titled *Consumer Law*, which will be published in 1992. He received a bachelor's degree in history from Grinnell College in Iowa in 1966 and graduated with honors in 1969 from the University of Texas at Austin School of Law.

CALENDAR

May 17-June 7

LECTURES

Thursday, May 17

4 p.m. Division of Neural Sciences Seminar, "Pharmacology of Synaptic Transmission," Richard Miller, U. of Chicago. Cori Aud., McDonnell Medical Sciences Bldg.

4 p.m. Division of Plant Biology Seminar, "Bacteroid Metabolism: N2 Fixation, Substrates and O2," Fraser J. Bergersen, Division of Plant Industry, CSIRO, Canberra, Australia. Room 322 Rebstock Hall.

4 p.m. Dept. of Pathology Seminar, "Function of Class II MHC Molecules in Antigen Processing and Presentation," Clifford Harding, WU instructor of pathology. 3rd Floor Aud., Children's Hospital.

4 p.m. Central Institute for the Deaf Seminar, "Hearing Loss From Intermittent Exposure to Noise," William W. Clark, WU research assoc., Central Institute for the Deaf, 2nd Floor Aud., Clinics and Research Bldg., 909 S. Taylor Ave.

8 p.m. School of Fine Arts Lecture and Panel Discussion, "Free Speech, Government and Arts," keynote lecture by Joyce Fernandes, director of exhibits and events at The School of the Art Institute of Chicago. A panel discussion will follow featuring Fernandes; Jules Gerard, WU professor of law; Alan J. Howard, St. Louis U. professor of law; and Larry Katzenstein, partner in the law firm The Stolar Partnership. Steinberg Hall Aud. For more info., call 889-5490.

Friday, May 18

Noon. Dept. of Cell Biology and Physiology Seminar, "Studies on the Sorting and Transport of Axonal Membranes," Richard Fine, Dept. of Biochemistry and Neurology, Boston U. School of Medicine. Cell Biology Library, Room 4914, South Bldg.

Wednesday, May 23

8:45 a.m.-5 p.m. Fourth WU ENI/Emerson Electric Co. Symposium on Nuclear Magnetic Resonance. Room 458 Louderman Hall.

4 p.m. Dept. of Cell Biology and Physiology Seminar, "Neurotransmitter Modulation of Calcium Channels," Bruce P. Bean, Dept. of Neurobiology, Harvard U. Medical School. Cell Biology Library, Room 4914, South Bldg.

Thursday, May 24

Noon. Dept. of Genetics Seminar, "Insulin Gene Transcription — The Role of Positive and Negative-Acting Factors in Cell Type-Specific Expression," Ronald Stein, Dept. of Molecular Physiology and Biophysics, Vanderbilt U. Medical School. Room 816 McDonnell Medical Sciences Bldg.

Friday, May 25

Noon. Dept. of Cell Biology and Physiology Seminar, "GDP Dependent Phosphorylation in the D-discoidum," Claudette Klein, Dept. of Biochemistry and Molecular Biology, St. Louis U. Cell Biology Library, Room 4914, South Bldg.

Thursday, May 31

4 p.m. Central Institute for the Deaf Seminar, "Explorations of Otic Transplantation," Stephen E. Hughes, WU research assoc., Central Institute for the Deaf, 2nd Floor Aud., Clinics and Research Bldg., 909 S. Taylor Ave.

Friday, June 1

Noon. Dept. of Cell Biology and Physiology Seminar, "Structure-Function Analysis of the Transferrin Receptor and its Relationship to Cell Growth," Ian S. Trowbridge, The Salk Institute, San Diego, Calif. Cell Biology Library, Room 4914, South Bldg.

MUSIC

Saturday, May 19

7:30 p.m. Dept. of Music Presents an Indian Flute Recital, featuring the Hindustani style flutist Ronumajumdar. May Aud., Simon Hall. Cost: \$15 for general public; \$7.50 for students, Channel 9 membership card holders and WU faculty and staff. For more info., call 889-5574.

Monday, June 4

8 p.m. Dept. of Music Presents a Violin and Cello Recital, featuring violinist Manuel Ramos and cellist Stephen Balderston. Steinberg Hall Aud. For more info., call 889-5574.

EXHIBITIONS

"B.F.A. Exhibition," featuring works by seniors in the School of Fine Arts. Through May 20. Gallery of Art, upper gallery, Steinberg Hall. 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Photography Exhibition by R. John Bache."

Show features 28 prints shot with a WideLux camera, which mechanically scans 140 degrees, creating an expansive image. Bache teaches photography at California Institute of Arts. Through May 18. Gallery 721, Lewis Center, 721 Kingsland Ave.

"Core Exhibition," featuring works by freshman and sophomores in the University's School of Fine Arts. Through July 20. Bixby Gallery, Bixby Hall. 10 a.m.-4 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-4643.

"Washington University Fine Arts Collection." Collection includes European and American art from the post-World War II era, as well as ancient Greek vases. Gallery of Art, lower gallery, Steinberg Hall. Through May 31. 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"A Celebration of Howard Nemerov's Verse: Books, Manuscripts and Memorabilia From the Modern Literature Collection." Exhibit will include examples of fiction, criticism and poetry as well as other memorabilia. May 15-July 31. Special Collections, Olin Library, Level 5. 8:30 a.m.-5 p.m. weekdays. For more info., call 889-5487.

MISCELLANY

Thursday, May 17

8 a.m.-5 p.m. School of Engineering and Applied Science Seismic Retrofit Conference, designed to examine how structures can be strengthened to withstand an earthquake. (Also May 16, same time, and May 18, 8 a.m.-noon.) St. Louis Airport Hilton. Cost: \$595. To register, call Donna Skaggs at 889-4556.

Monday, May 21

11 a.m. 15th Annual Chancellor's Staff Day for nonacademic employees. Edison Theatre. Luncheon follows in Bowles Plaza. For info. on other Staff Day activities, call 889-5990.

Tuesday, May 29

7 p.m. College of Arts and Sciences and Dept. of English Host A Celebration of Howard Nemerov's Verse. Steinberg Hall Aud. For more info., call 889-5190.

Calendar Deadline

The deadline to submit items for June 7-July 5 calendar of the Washington University Record is May 29. Items must be typed and state time, date, place, nature of event, sponsor and admission cost. Incomplete items will not be printed. If available, include speaker's name and identification and the title of the event; also include your name and telephone number. Send items to Andrew Cox, calendar editor, Box 1070, or by electronic mail to p72245AC at WUVMC.

Experts in nuclear magnetic resonance will gather here

A symposium featuring the world's foremost experts in nuclear magnetic resonance (NMR), a powerful tool in establishing molecular structure, will be held from 9 a.m. to 5 p.m. May 23 in Room 458 Louderman Hall.

The Fourth Washington University-ENI/Emerson Electric Company Symposium on Nuclear Magnetic Resonance will examine the development of modern techniques that allow scientists to identify and explore the chemistry and structure of molecules for an ever-increasing number of applications.

D. Andre d'Avignon, Ph.D., is conference chair and director of the department's NMR facility.

The symposium will feature invited papers by: Angela M. Gronenborn, Ph.D., of the National Institutes of Health, who will speak on "Protein Structure Determination by 2- and 3D-NMR"; Robert G. Shulman, Ph.D., Yale University, "High Resolution 13 C NMR Studies of Glucose Metabolism in Humans"; Charles P. Slichter, Ph.D., University of Illinois, "NMR Studies of Catalytic Surfaces"; Robert L. Vold, Ph.D., University of California at San Diego, "Solid State Deuterium NMR of Molecular Complexes"; and Gerhard Wagner, Ph.D., University of Michigan, "Use of NMR for Protein Design." For information, call 889-6530.

Commencement calendar

Thursday, May 17

8:30 a.m.-5 p.m. Cap and Gown Pick-up. (Also May 15-16, same time.) Lambert Lounge, Mallinckrodt Center.

10 a.m. Phi Beta Kappa Reception and Initiation Ceremony. Steinberg Hall Aud.

2:30 p.m. Eliot Honors Convocation for honor students, their parents and guests. Honors address by Walter E. Massey, U. of Chicago prof. of physics and vice president for research and for Argonne National Laboratory. Student address: "What Next?" John Alan Grotto, senior English major. Field House.

4-6 p.m. "Bagels and Bach," open-air concert. Mudd Field. (Rain location: Gargoyle.)

5 p.m. School of Engineering and Applied Science Recognition Ceremony. Field House.

8 p.m. College of Arts and Sciences Recognition Ceremony and Reception. Brookings Quadrangle. (Rain location: Field House.)

Friday, May 18

8:30 a.m. Commencement in Brookings Quadrangle. (Rain location: 10 a.m. at The Arena, 5700 Oakland Ave.) Immediately following the Commencement exercises, the deans of the various divisions will hold a series of receptions where diplomas will be individually distributed. Refreshments will be available for members of the graduating class, their

families and friends. Reception locations:

College of Arts and Sciences: north side of Graham Chapel. (Rain location: Holmes Lounge, Ridgley Hall.) **Graduate School of Arts and Sciences:** hooding and recognition ceremony in Edison Theatre; reception in Gallery and Gargoyle, lower level, Mallinckrodt Center.

University College: Women's Bldg. Lounge.

School of Engineering and Applied Science: south side of Lopata Hall. (Rain location: Lopata Gallery.) **School of Technology and Information Management:** south patio of Prince Hall. (Rain location: Umrath Lounge.)

School of Architecture: diploma ceremony at Brookings approach, north of Givens Hall; reception in Givens Hall. **John M. Olin School of Business:** diploma ceremony in Field House; reception in Simon Hall. **School of Fine Arts:** Steinberg Hall Aud.

George Warren Brown School of Social Work: diploma ceremony in Graham Chapel; reception on east lawn of Brown Hall. (Rain location: Brown Hall Lounge.) **School of Law:** diploma ceremony in Graham Chapel; reception in Mudd Law Bldg. informal lounge. **School of Dental Medicine:** Breckenridge Frontenac Hotel. **Program in Occupational Therapy:** Chip Room, Carpenters Union Bldg. **Health Administration Program:** diploma ceremony in Moore Aud.; reception in Olin Hall Penthouse, Medical School Campus.

School of Medicine: Clarion Hotel.

For more information, call 889-5040.

Nemerov — continued from p. 2

Sewanee Review and the University of the South. He has written 25 books, including poetry, short story and essay collections, and three novels.

Maxine Kumin, poet, novelist, children's writer and essayist, was awarded the Pulitzer Prize for poetry in 1973 for *Up the Country: Poems of New England*. Kumin, who served as poetry consultant to the Library of Congress in 1981-82, was the Hurst Professor of Literature at Washington University in 1977.

John Morris has written four volumes of poetry: *Green Business*, 1970; *The Life Beside This One*, 1975; *The Glass Houses*, 1980; and *A Schedule of Benefits*, 1987. Morris is professor of English at Washington University, where he has taught since 1967.

American Indian — continued from p. 1

program will strongly encourage graduates to use their training to improve the lives of Native Americans, particularly the children living on Indian reservations.

Khinduka said the establishment of the center is a significant contribution to the higher education of Native Americans. "I have nothing but the highest praise for the donor and this dedication and concern for the welfare of Native Americans," he said. "The gift will enable us to serve the Native American community in a unique and constructive way — through the provision of first-rate

professional education to altruistic young men and women. Such service to the society, especially to our minorities, is central to the mission of the George Warren Brown School of Social Work."

Danforth said the Center for American Indian Studies at the George Warren Brown School of Social Work will provide an excellent base for the higher education of Native Americans. "The gift will enrich the professional education and skills of Native Americans and will contribute to the values and cultures of those who first occupied this great continent," he said.

Students graduate — continued from p. 1

global communications and information businesses, will receive a doctor of letters degree. Architect Gyo Obata, a Washington University alumnus and co-founder of the Hellmuth, Obata & Kassabaum architecture firm, who designed such prominent buildings as the National Air and Space Museum in Washington, D.C., will receive a doctor of fine arts degree.

Katie Ann deNourie, senior class president, will deliver the student Commencement address, titled "Dreams Are the Touchstones of Our Characters."

The Mighty Mississippi Concert Band of St. Louis will perform under the direction of Daniel R. Presgrave, director of bands in the Department

of Music. Mary Henderson, the music department's artist-in-residence, will sing "America the Beautiful."

Following the Commencement exercises, the deans of the various divisions will hold receptions where diplomas will be distributed. Brunch will be available for the graduates, their families and friends.

Summer schedule

During the summer, the Record will be published monthly. Following May 17, the issues will be dated June 7, July 5 and Aug. 2. The Record will resume weekly publication at the start of the 1990-91 academic year.