Which option would you choose to maximize your retirement income?

The Advantage is Clear

See which option maximizes the retirement income from your appreciated securities.

Assume:
- Current Market value: $50,000
- Stock purchase price: $25,000
- Dividend yield: 2.5%
- Holding period: more than 1 year

1. Keep the stock
   - Income: $1,250

2. Sell the stock and buy bonds
   - Selling Price: $50,000
   - Capital Gain: $25,000
   - Federal Capital Gains Tax (28%): $7,000
   - Amount Remaining to Invest: $43,000
   - Income from 6% bonds: $2,580

3. Washington University-Charitable Trust
   - You benefit four ways
     - Donation to Trust: $50,000
     - Capital Gain: $25,000
     - Tax on Capital Gain: $0
     - Amount for Trust to Invest: $50,000
     - Income from Trust at 6%: $3,000
       - Federal Income Tax Deduction*: $19,096
       - Federal Income Tax Savings: $5,920
       - Total Tax Savings: $12,920
         [tax on gain ($7,000) + saving from deduction ($5,920)]
   *

   *Donors—husband and wife—both age 70 at the 31% bracket. This plan works well for people over age 60. For people at younger ages the Deferred Payment Gift Annuity or a Term Trust is available.

For a booklet or an example of a charitable trust based on your own situation, please complete the attached insert card or call the Washington University Office of Planned Giving at 1-800-835-3503 or 314-935-5848.
ACT NOW

☐ Please send me a booklet about the outstanding income benefits and tax savings from a Washington University Charitable Remainder Trust.

☐ Washington University is in my will.


Name _____________________________________________________________
Address ____________________________________________________________
City/State/Zip ______________________________________________________
Daytime Phone ____________________________

☐ Please send me a personalized, confidential calculation showing the very attractive benefits that I will receive from a Washington University Charitable Remainder Trust. The approximate value of my proposed gift might be: $ ____________ . ☐ Cash ☐ Securities ($ ________ )

First Beneficiary
Birthdate ____________________________ Second Beneficiary
Birthdate ____________________________

Relationship ____________________________ Relationship ____________________________
Comments __________________________________________________________

☐ Please have Phyllis Mootazee, Paul Schoon, or Mike Touhey from the Washington University Planned Giving Office call me to discuss this important option.

(Fold this form and seal edges with tape to mail.)
2 Frontrunners
Short takes about Washington's community of great ideas and great minds.

7 PERSPECTIVES ON THE ENVIRONMENT
The Earth, the Whole Earth, and Nothing But the Earth
A special feature section highlights University perspectives on environmental issues.

10 Engineering Solutions
Finding scientific and technological answers to environmental questions.

14 Keeping the Pig Out of the Parlor
Land use has grown from local zoning laws to national environmental news.

16 World Classes
Environmental Studies Program crosses boundaries to tackle complex global issues.

20 Biodiversity
Preserving the spectrum of species.

23 Thrill of the Case
David Oesting, J.D. '70, leads the plaintiffs' litigation team in the Exxon Valdez oil-spill trial.

26 On the Water Front
Ellen Lee, M.S. '66, D.Sc. '69, works to clean the world's polluted waters.

29 Environmental Sculptor
Tom Torrens, M.F.A. '74, has made a career of making art from recycled materials.

32 Voices of Experience
Alumni and Parents Admission Program gives prospective students a chance for conversations with those who have "been there."

36 ClassMates
The latest on who's moved where, who's married whom, and who's achieved what.

46 My Washington
Robert C. Drews, M.D.: Type A...Plus!

48 Viewpoint
Biological Extinction: Its Scope and Meaning for Us.

Pyramid bronze gong by Tom Torrens. (See page 29.)
Gerald Early shows his photo of baseball great Jackie Robinson.

Gerald Early Is "Baseball" Miniseries Consultant

Award-winning writer Gerald Early, professor of English and director of the African and Afro-American Studies Program, served as the only African-American consultant for film-maker Ken Burns' recent "Baseball" documentary miniseries. Early, an expert on American and African-American culture, helped Burns chronicle America's national pastime in the nine-episode epic that ran more than 18 hours on PBS. He advised Burns on how to portray the Negro Leagues, Jackie Robinson, and other African Americans in the series.

In addition to his role as one of six consultants, Early also served as a baseball expert along with other well-known writers such as columnist George Will, and he was featured in the 30-minute PBS documentary on the making of the series. Early's article "Baseball and African-American Life" is included in Baseball: An Illustrated History, which was published in conjunction with the miniseries' premiere. One of Early's notable quotes from his "Baseball" interviews was his identification of the three things American civilization will be remembered for thousands of years from now: "the Constitution, jazz music, and baseball—the three most beautifully designed things this culture ever produced."

New Continuing Medical Education Center Planned

Washington University Medical Center will build a $10 million, 44,500-square-foot building to serve as a center for continuing medical education. The new building will be a focal point for the continuing education programs offered by the School of Medicine, the Central Institute for the Deaf, and Barnes, Jewish, and St. Louis Children's hospitals.

Called the Eric P. Newman Education Center, the project is being made possible by a $2.2 million gift from the Harry Edison Foundation and Andrew E. Newman, chairman of Edison Brothers Stores Inc. and a Washington University Trustee. The building will house classrooms, a 450-seat auditorium, 15 meeting rooms, and offices. The center will be connected to buildings at the School of Medicine by pedestrian bridges. Construction is expected to be completed in a year.

Princeton Club Opens to Washington Alums

Washington University alumni may now join New York's Princeton Club as affiliate members. The Club is located at 15 West 43rd Street in the heart of Manhattan. Affiliate members are entitled to all club privileges but are not voting members of the club.

The club's facilities make membership attractive to out-of-town alumni as well as those living in the New York area. There are two dining rooms, meeting rooms, a health club, squash courts, a
library, and sleeping rooms. The club is also available to affiliate members for private parties.

Washington alumni membership fees are on a sliding scale and are determined by year of graduation. To request a membership information packet, contact the Alumni Relations Office by mail at Campus Box 1210, One Brookings Drive, St. Louis, MO 63130-4899; by phone (314/935-5200); or e-mail (p72250SL@wuvmd.wustl.edu).

University Hosts Conference on Writers and Religion

"The Writer and Religion" was the topic of an international conference held Oct. 23-26 at Washington University's West Campus Conference Center. Presented by the University's International Writers Center, the conference featured writers from around the world, including Eavan Boland, J.M. Coetzee, William Gaddis, Amitav Ghosh, A.G. Mojtabi, and Hanan al-Shaykh.

Readings and panel discussions focused on religion as a subject for literature, as an influence on a writer, and as an instrument of censorship or of community. "The case of Salman Rushdie is the most prominent, but only one of many examples of state-sponsored censorship of writers," says William H. Gass, David May Distinguished University Professor in the Humanities and director of the center. "Regarding religious faith, ignorance, intolerance, fanaticism, and fear have become epidemic." Gass says that the topic is being explored with "a sense of moral urgency."

Young Scientist Pilot Program Expands

The School of Medicine has received a five-year, $300,000 grant from the Howard Hughes Medical Institute to expand its existing Young Scientist Program, a three-year-old pilot program that addresses the needs of economically disadvantaged high school students from the St. Louis City Public Schools. Through summer laboratory internships, one-on-one tutoring, classroom demonstrations, and a summer program for high school teachers, the program allows students and teachers to work with faculty and students in the School of Medicine.

The Young Scientist Program includes subjects such as human anatomy, neuroscience, chemistry, developmental genetics, and microbiology. The program involves 1,765 high school students and encourages careers in science. Most of the program's components were designed and piloted by a group of Washington University graduate and medical students.

Alcohol Use by Fathers May Affect Offspring

Alcohol and drug use by pregnant women is known to cause problems for a developing fetus. Now, research from the School of Medicine suggests that alcohol use by the father may negatively affect fetal development. Working with rats, researchers led by principal investigator Theodore J. Cicero, professor of neuropharmacology in psychiatry, discovered that when male rats were given a single large dose of alcohol before mating, the number of resulting pregnancies was cut in half. In the resulting litters, fewer pups were born, and they were smaller than those in control groups. Their mortality rate was more than twice that of the controls. The findings were reported in the July 11, 1994, issue of the journal *Life Sciences*. The investigators suggest that further human research should be conducted.

Getting Down to Earthquakes

Douglas A. Wiens, associate professor of earth and planetary sciences, led a team of scientists who, for two summers, have deployed seismographs on South Pacific islands such as Tonga and Fiji. Two-thirds of the world's deep earthquakes, which typically take place hundreds of miles below sea level, occur in this region. Wiens is looking for clues to the physical mechanism of deep earthquakes. He says the Tongans and Fijians are supportive of the research, which is funded by a three-year grant from the National Science Foundation.
Great Dreams Need Great Teachers

Excellent teaching is at the heart of any great university, and the quality of those who teach, inspire, and change lives at Washington University is no exception. So the University wants to showcase those who excel in this important profession.

Toward that end, the next issue of Washington University Magazine and Alumni News will debut an ongoing feature called "Lasting Lessons." In each issue, the one-page feature will highlight the impact that three Washington University faculty members—past or present—have made on the lives of their former students. The page will include "testimonials" by alumni and photos of the faculty members.

Washington University also is pleased to support a new public-service campaign developed by the Council for Advancement and Support of Education (CASE). With the theme "Great Dreams Need Great Teachers: Support Our Colleges and Universities," the program encourages public approval of higher education—most notably the contributions top professors make to individuals and to society. The campaign includes television and radio public service announcements, print advertisements, and bumper stickers (shown above). For more information on "Lasting Lessons," call (314) 935-5248 or fax (314) 935-4259. For more information on the CASE campaign, call (202) 328-5979.

Moving Experience

Fall semester 1994 was no exception to the typical "back-to-school" routine for many of the 10,169 day students enrolled for the 1994-95 academic year. The traditional "move-in" day brought a continuous stream of parents, students, and possessions into Washington U.'s residence halls. Of course, after the boxes of belongings were in the right room came the realization that there was still the matter of unpacking, and further into the future—after completing classes and finals—the matter of reversing the entire process.

School of Medicine Gets New NIH Grants

Two research teams in the Department of Cell Biology and Physiology in the School of Medicine have received grants totaling more than $3 million from the National Institutes of Health (NIH). Professor Philip Stahl, head of the department, received a $1.2 million, four-year grant to study endocytosis and cell trafficking. The grant is a renewal for the project, which began in 1971. Stahl received a second, five-year grant of $964,000 to study how Mycobacterium avium, a close relative of the organism that causes tuberculosis in humans, escapes destruction in human cells. Associate Professor Robert Mercer received a $945,000, four-year grant to study the sodium-potassium pump, a protein that adheres to cell membranes and maintains the proper concentration of sodium and potassium in all animal cells. This grant is a renewal for the program begun in 1988.

Four other teams of investigators in the School of Medicine's Division of Bone and Mineral Diseases will share a $4.4 million program project grant to study the communication between bone cells. The four-year NIH grant will help researchers explore how communication among bone cells leads to new bone formation and how miscommunication may cause bone disorders such as osteoporosis and osteoarthritis.

The overall program is directed by Louis V. Avioli, Shoenberg Professor of Medicine and director of the division. Other investigators include Roberto Civitelli, assistant professor of medicine; Stephen Gluck, associate professor of medicine and assistant professor of cell biology and physiology; Howard G. Welgus, professor of medicine; Keith A. Hruska, Ira Lang Professor of Nephrology and associate professor of cell biology and physiology; Philip Osdoby, professor of biology; and Patricia Collin-Osdoby, research assistant professor of biology.
Washington People in the News

Five new members were elected to the University's Board of Trustees in May: Robin E. Hernreich, A.B. '66, M.B.A. '67, managing partner of Sigma Partners in Vail, Colorado; Louis G. Hutt, Jr., B.S.B.A. '76, managing partner of Bennett, Hutt & Co. in Columbia, Maryland; Barbara Schaps Thomas, A.B. '76, vice president of Home Box Office Sports and Time Warner Sports in New York; Andrew C. Taylor, president and chief executive officer of Enterprise Rent-a-Car Co. in St. Louis; and Ann Rubenstein Tisch, A.B. '76, of New York. The board also re-elected H. Edwin Trusheim, chairman of the board of General American Life Insurance Co. in St. Louis. The alumni representatives to the Board of Trustees are Alumni Board of Governors (ABG) chair Jerome J. Sincoff, B.Arch. '56, and ABG executive vice chair Barbara Feiner, M.B.A. '83. Susan Frelich Appleton, professor of law, was elected to the Council of the American Law Institute (ALI), the governing group for the national organization of about 3,000 leading attorneys, judges, and law professors.

David M. Kipnis, Distinguished University Professor and head of the Department of Medicine from 1973 to 1992, was presented the George M. Kober Medal by the Association of American Physicians (AAP) for his work as a pioneer in endocrinology and metabolism.

Stanley Korsmeyer, professor of medicine and molecular microbiology, and Philip Majerus, professor of biochemistry and vice chairman for financial affairs for the Department of Medicine, are recipients of the 1994 Pasarow Foundation award, given annually for excellence in biomedical research. Korsmeyer was chosen for his oncology research, and Majerus was chosen for his cardiovascular research.

James E. McLeod, dean of the College of Arts and Sciences, was one of five African-American professors from universities throughout the St. Louis area to receive Outstanding Educator awards at The St. Louis American 1994 Salute to Excellence community awards banquet.

Study Links State's Federal Aid, Poverty

The more African-American residents a state has—and the poorer the state's residents are—the less federal money per poor person the state receives to finance health-care services for its poor, aged, and disabled residents. This is the finding of a study by Martha N. Ozawa, Bettie Bofinger Brown Professor of Social Policy at the George Warren Brown School of Social Work. Ozawa's study does not directly address why federal Medicaid falls as a state's African-American population increases.

But, in a study of the Aid to Families with Dependent Children (AFDC) program, Ozawa suggests that racism in predominantly white state legislatures may cause welfare payments to be set at lower levels in states with more African Americans.

FOLLOW-UP

Sondra Stang's Last Ford Madox Ford Book Published

Eye on the Skyline

Kenan Hillard, architecture class of 1998 (left) and his father Charles Hillard (right) chat with Architecture School Dean Cynthia Weese during a downtown Chicago waterfront excursion in August. Weese discussed architectural features of the Chicago skyline with the many Washington U. alumni, students, parents, and friends from the Chicago area who attended.

"Gateway to the Best" Helps High School Student Leaders

In June 1994, about 1,400 high school student leaders from each of the 50 states, Canada, Guam, Bermuda, and Puerto Rico participated in a leadership forum at Washington University as part of the 1994 National Association of Student Councils leadership conference.

The "Gateway to the Best" conference was hosted by the Parkway School District. The University hosted the "Key to the Best: Responsibility" segment of the conference, during which faculty and administrators discussed current events and leadership strategies with the students. Participants discussed AIDS, NAFTA and international trade, multiculturalism, interpersonal communication, and career planning. Most of the students attending were high school student council officers.

Peers Offer Food for Thought for Low-Income African-American Women

Peer-led nutrition education to help low-income African-American women understand health risks associated with obesity appears more effective than standard dietitian consultation, according to a research team led by Wendy Auslander, associate professor of social work at the George Warren Brown School of Social Work.

African-American women are twice as likely as Caucasian women to be overweight and are at higher risk for cardiovascular disease and diabetes. But traditional weight-loss programs have proved largely unsuccessful. In presentations to the Society of Behavioral Medicine in April and the American Diabetes Association in June, the researchers showed that intensive peer counseling helped women better understand nutritional values of food and helped them cut fat from their diets.

The Write Stuff

Distinguished journalist and author Tom Wolfe spoke to the University community August 31 in Graham Chapel as part of the 35th Assembly Series. Wolfe's lecture was titled "The End of the Century and the Spirit of the Age." He discussed the similarities between the end of the 20th century and the end of previous centuries and how pervasive moral tones can be identified with specific eras, including our own. Author of best-sellers *The Bonfire of the Vanities* and *The Right Stuff* (which won the 1979 American Book Award), Wolfe has chronicled and analyzed American mass culture for more than 20 years. He has been dubbed "the father of the new journalism" for his innovative mixing of observational reporting and the techniques of fiction.
Twenty-five years ago, humanity got its first wide-angle view of Earth when NASA catapulted men with cameras into moon orbit. Earth, the vast world that had once seemed unending and infinitely exploitable, suddenly appeared alarmingly small—a finite blue sphere, a speck in the universe, a place not of boundless resources, but of limited dimensions.

by Gloria Shur Bilchik
"What we now mean when we say 'environment' is so vast and complex that it is difficult to know how and where it will respond when something happens."

Christopher I. Byrnes, dean of the School of Engineering and Applied Science

The now-classic image of "Earthrise" has become an icon. We see in it not only the eternity of space and the dream of exploration, but also the inescapable reality of Earth's limitations. Our first look at "Earthrise" was a defining moment, marking the birth, for many, of environmental awareness.

"Seeing the world from outside ourselves galvanized our thinking," says Edward S. Macias, Washington University provost, interim dean of the Faculty of Arts and Sciences, and professor of chemistry.

"Until very recently in human history, we naively thought we could exploit the earth without consequences. Now we know that we can't. So we've taken on the job of not only observing the earth, but of protecting it as well."

In the decades that have followed, humanity has learned, through research and interdisciplinary dialogue, that Earth is a matrix of sensitive, delicately balanced systems. The expanding definition of "environment" no longer simply refers to air and water. Environment is about the safety of the food we eat, the choices we make in household chemicals, the designs we choose for buildings and dwellings—in general, the way we manage the earth's resources.

Research has shown us the interconnected nature of everything we do and experience," says Christopher I. Byrnes, dean of the School of Engineering and Applied Science. "What we now mean when we say 'environment' is so vast and complex that it is difficult to know how and where it will respond when something happens. We've learned, too, that when we no longer want something, and we try to throw it 'away,' there is no such place. 'Away' just doesn't exist."

Another hard-learned lesson has been environmental responsibility. What happens when humanity ignores the impact of civilization on its surroundings? Grim photos of environmental devastation in the former Soviet Union, for example, offer a prophetic, "Christmas-future" look at the results of unregulated development: air unfit to breathe; children born with physical impairments; regional populations victimized by environmentally related disease; polluted and dried-up waterways; land unsafe for human habitation.

Unfortunately, identifying the most glaring problems is the easy part of the equation. Finding viable solutions is a tricky balancing act.

"Often, the economic and the ecological well-being of mankind come into conflict, and resolution can be difficult," says Dorsey D. Ellis, Jr., dean of the School of Law. "Experience has shown that we can't rely solely on market forces to regulate development in an environmentally sound manner. We need laws. Without regulation, nations and companies can external-
ize their costs by throwing smoke into the sky or dumping waste into a river. The challenge is to work out the competing interests to allow humanity to survive on Earth."

The issues are complex, compelling, and increasingly immediate. They are issues not just of health and quality of life, but of survival. And there are no easy answers.

In this complicated nexus of warring interests and evolving knowledge, institutions of higher learning can make a significant contribution. Washington University stands out in its commitment—a recognized leader in environmental knowledge in engineering, earth and planetary sciences, biology, law, business, and the social sciences. In the School of Law, for example, students study subjects such as natural resources law, hazardous-waste law, and property rights law under the direction of Professor Richard Lazarus, who has earned a national reputation for his expertise in environmental law, and Daniel R. Mandelker, Howard A. Stamper Professor of Law, whose contributions to the study of land-use are prodigious. The University's influence also extends to the world's rain forests, with Peter H. Raven, Engelmann Professor of Botany, leading research efforts aimed at preserving resources threatened by economic exploitation.

Grounded in the certainty that protecting and enhancing the environment demands an interdisciplinary approach, the University nurtures learning that crosses traditional boundaries, engendering students and faculty with knowledge not only of how the environment works, but also of what they can do to make a difference. The College of Arts and Sciences' Environmental Studies Program, offered as a major beginning in the 1994-95 school year, connects an understanding of biology, physical sciences, and engineering with the economic, political, and social-policy issues of the environment. In the School of Engineering and Applied Science, students learn from faculty with expertise ranging from engineering skills to environmental law and policy. Students in the School of Law can elect to pursue a joint-degree program in environmental law and management.

"Environmental learning and research are a perfect fit for the University," says Byrnes. "The important thing for us to remember is that learning means communicating—to our students and our colleagues, of course, but it doesn't end there. We need to recognize our responsibility to go beyond the University's walls to improve the environmental literacy of our citizens and to influence policy makers."

In "A University Agenda for the 21st Century," released in 1992, the University enunciated its goals for the future. The report's authors wrote, "It is our aspiration that the research of our faculty and students contribute to the advancement of knowledge and provide new and deeper understandings necessary for our ever-changing society, to solve the problems that plague us and citizens of other lands." This issue of Washington University Magazine and Alumni News focuses on how environmental endeavors by the University and its alumni bring those goals to life.
Finding scientific and technological answers to environmental questions

Engineers have always been environmentalists. Long before the word "environmental" became a descriptive prefix, chemical, civil, mechanical, and sanitary engineers were devising solutions for water and sewage treatment, waste management, and air pollution problems.

More recently, however, that role has expanded dramatically. As research has clarified the interdependence of environmental systems, the scope of engineering has grown to address issues such as hazardous waste disposal, groundwater pollution, and control of airborne and waterborne wastes from industries and utilities. Engineers deal with a wide spectrum of construction, manufacturing, and operating conditions, while maintaining a concern for how their projects impact the environment. And they must be skilled in interpreting and applying environmental laws and regulations.

The tradition of environmental engineering at Washington University is strong. For example, finding ways to clean up industrial processes has been a focus for more than 20 years. Led by Milorad P. Dudukovic, professor of chemical engineering, University researchers have had notable success in reaction engineering—developing technologies that eliminate undesirable by-products from desirable chemical processes. Dudukovic’s achievements have earned him the 1994 R.H. Wilhelm Award in Chemical Reaction of the American Institute of Chemical Engineers.

Similarly, in mechanical engineering, the University has earned a leadership position in studying air quality. A Washington University project in the Center for Air Pollution and Impact Trend Analysis (CAPITA) has collected a renowned data bank of air-quality readings. Led by Rudolf B. Husar, professor of mechanical engineering, the project is about to embark on a study of polluters who may be affecting visibility in the Grand Canyon. (See related story on page 18.) Husar also has developed two important computer tools for analyzing these data: a dispersion model, which tracks pollutants; and a program called “Voyager,” which creates graphic representations of pollution measurements.

Charles Buescher, Jr., B.S. '59, M.S. '61, helped spur the rebirth of environmental engineering at Washington University.

“The environment is not a new field for us,” says Christopher I. Byrnes, dean of the School of Engineering and Applied Science. “What is new is our understanding of how all-encompassing and interrelated the environment is. Many years ago, we thought we could turn loose one group of scientists and engineers to work...
on solving water pollution problems, another group on air pollution, and so on. Now we know that doesn't work very well. Solving a water problem can cause an air problem, for example. We also know it's no longer enough for an engineer to be technically proficient. The challenge is to figure out the cause-and-effect relationships that underlie the processes we see, so we can understand what's going on and take a systematic, comprehensive approach.

Until recently, however, specific skills in environmental engineering were not the norm for Washington University graduates. Industry had to look to other universities for graduates who could, for example, design a water or wastewater treatment plant.

“A civil engineer is not an environmental engineer,” says Charles Buescher, chairman of the board of St. Louis County Water Company. Buescher received a bachelor’s degree in civil engineering in 1959 and then a master’s degree in 1961 from ENVIRSAN, a former Washington University environmental engineering program offered by the civil engineering department. The program closed in the 1970s.

“In civil engineering, you learn about structures and piping,” says Buescher. “To design a treatment plant, you need biology, microbiology, and chemistry, as well as courses in design. You need a master’s degree in environmental engineering. We couldn’t find people from Washington U. with the skills we needed.”

Buescher and other local ENVIRSAN alumni pushed for a rebirth of the environmental program at Washington University, as did faculty members, led by Dudukovic, Husar, and William P. Darby, chair and professor of Engineering and Policy.

Their efforts, combined with a changing focus in the scientific community, and the hiring of Dean Byrnes—who placed environmental engineering high on the academic agenda—created a climate ripe for a renewed program. Also, in the early 1990s, as the Cold War ended, the technical community refocused its attention from military and defense issues to environmental issues. Scientific and governmental organizations began making grants more available, and student demand increased for education in environmental technologies.

“The recession of the 1990s shrank the job market for engineers. Our graduates with a B.S. in engineering were not as readily employable as before,” says Dudukovic. “But those with skill in the environmental area were still being snapped up. Students wanted their resumes to reflect knowledge of environmental issues.”

In 1990, environmental engineering was first offered to undergraduates as an interdisciplinary minor, jointly sponsored by four engineering departments: chemical, civil, mechanical, and engineering and policy. Interest in the minor has steadily increased. In the spring 1993 semester, 16 students declared an environmental engineering minor. One year later, that number had grown to 28, and the relevance of the program has sparked its expansion.
Electro-technology, enviro-challenges

Ozone has a new job. Created by a bolt of artificially generated lightning arcing through a chamber of air or oxygen, ozone is a prime candidate for cleaning both drinking water and wastewater, say researchers at the Community Environmental Center (CEC) of the Electric Power Research Institute (EPRI). EPRI, the research arm of the electric utilities industry, established the CEC at Washington University in 1993 to investigate the use of electro-technologies to meet environmental challenges. EPRI sponsors one other center in New York City.

"We have an annual research budget of $4 million, which funds projects throughout the United States," says Keith Carns, director of the CEC. "Washington University researchers will be among those working on projects."

Research fostered by EPRI develops new technologies and works toward making existing technologies more cost effective. In drinking-water research, EPRI projects include using ozone for disinfection and finding economical ways to remove arsenic. In health care, EPRI researchers are developing ways to destroy medical waste. In wastewater treatment, research includes ozone disinfection and better ways to dispose of bio-solids.

Policy discussion: Third-year law student Michael Ford confers with Maxine Lipeles, professor of environmental policy and regulation. Lipeles recently was appointed interim director of the Environmental Engineering Program.

In 1992, a group of University alumni, including a group from ENVIRSAN, created a $3 million endowment, which funds two endowed chairs and the Jens Environmental Engineering Laboratory, named for Laura and William Jens. The laboratory offers state-of-the-art instrumentation for students working on problems such as identifying and removing toxic metals or hydrocarbons from water. It opened for classes in January 1994, with 22 students completing the first laboratory course on water pollution. This fall, the School of Engineering and Applied Science began offering master's and doctoral degrees in environmental engineering.

Among the graduate program's first students is Kanchana Kumar, who has a master's degree in biology from the University of Madras in India. During the spring 1994 semester, she worked as a teaching assistant for Dudukovic in the Jens Laboratory. As she devised experiments, the relationship between her background and engineering became clear.

"In the lab, I was exposed to several key aspects in the chemical analysis of environmental systems," says Kumar. "I learned how, with proper analysis and control, almost all wastewaters can be treated biologically. I saw how an under-

"An important role for us is to make the results of scientific inquiry accessible to all citizens, so we can have informed public debate about environmental issues."

Christopher I. Byrnes, dean of the School of Engineering and Applied Science
standing of biological processes can ensure environmentally sensitive design. My experience in the Jens Laboratory was instrumental in my decision to change my academic direction—from microbial genetics to environmental engineering."

Within the program, research opportunities for students like Kumar abound. Dudukovic, for example, would like to develop a device for industrial smokestacks that uses a catalytic reaction to remove not only particles but also undesirable chemicals from emissions. John T. Gleaves, professor of chemical engineering, plans to study the catalytic effect of atmospheric dust on airborne pollutants.

The idea is to educate students to be well rounded and able to deal with a variety of problems. The solutions, however, are not always purely technological. Politics is a very pertinent issue, and it is important for engineers to understand the political context of their work, says Dean Byrnes.

To assure this competency, the Environmental Engineering minor includes not only courses in environmental chemistry, waste minimization design processes, and waste control facilities design, but also studies in environmental law and policy, and environmental risk analysis.

Since 1990, environmental law and policy has been taught by Maxine Lipeles, professor of environmental policy and regulation, who is listed in The Best Lawyers in America, 1991–1992 and 1993–1994. Engineering solutions that are technically sound but socially unacceptable or that do not meet environmental regulations are not viable, says Lipeles.

"We have to train engineers to analyze issues from a compliance perspective and to design systems that work within the environmental regulatory context," she says. "In terms of environmental policy, we examine the interplay among science, technology, law, and politics. The environmental engineer cannot function effectively without being able to appreciate and integrate other disciplines."

In fact, the crossover between engineering and law is so strong that in 1990, the University initiated a joint-degree program that offers a Juris Doctor degree from the School of Law and a master's degree from the Engineering and Policy Department of the School of Engineering and Applied Science. Students in the program come from widely varied backgrounds, both technical and non-technical.

Michael Ford, of St. Louis, entered the joint-degree program after receiving a bachelor's degree in economics from Brown University and completing a year of law school. This year, his third in the School of Law, his course schedule reflects a balance designed to prepare him for the special challenges of environmental law.

"I'm taking 'Policy, Politics, and Technology,' 'Regulation of Toxic and Hazardous Materials,' and 'Technology and Environmental Management.' You might call my program 'Engineering for Lawyers,'" he says. "Besides studying the environmental statutes and court opinions, I'm getting exposure to the technological side of environmental management. I think this will enable me to interact with engineers—an important skill for a lawyer working in the environmental arena. This education should give me a competitive edge when it comes time to look for a job."

"Like it or not, living in today's world requires a certain level of technological literacy for all citizens," says Byrnes. "An important role for us is to make the results of scientific inquiry accessible to all citizens, so we can have informed public debate about environmental issues. We also need to develop some level of informed skepticism among the public. Helping to provide and convey that kind of understanding is a role for which we must prepare the engineers and scientists we are educating. There's a lot at stake."
Land-use regulation was once a simple matter. The idea was to protect residential and other areas from incompatible and intrusive uses. In 1926, the Supreme Court, in its first decision declaring zoning constitutional, said zoning was like "keeping the pig out of the parlor and in the barnyard."

That quaintly stated decision legitimized zoning as a governmental role. But zoning remained a local matter, with the state courts the major sources of law. In more recent years, however, the land-use landscape has experienced a seismic shift, growing from a predominantly local concern to a complex national issue, with vast legal and environmental implications, says Daniel R. Mandelker, Howard A. Stamper Professor of Law, a nationally recognized expert on land-use issues.

"Land use came to public attention during the 'Quiet Revolution' of the 1970s, around the time of the first Earth Day. That's when states really became involved," says Mandelker, who has authored several authoritative books on the subject and has served as a consulting land-use expert for state and local governments and national task forces. "Land use now encompasses growth management, preservation of environmental resources, affordable-housing issues, aesthetic concerns, and, of course, property rights."

Growth management became an issue, says Mandelker, when the American public began to realize that the rapid economic growth of the post-World War II era was "chewing up" the countryside. Housing developments began to break out of traditional patterns. The term "urban sprawl" entered the vernacular, and leapfrogging developments began outpacing the supply of support facilities: roads, schools, and public services. The need to get development organized became clear, and the concept of growth management took hold. At the same time, however, the "flip side" of regulation emerged, too. The down side, says Mandelker, was the effect of regulation on the availability of affordable housing: zoning could have exclusionary effects.
“In this context, we began debating whether planning should be mandatory. And the one legacy from that era that has really stuck,” says Mandelker, “is better overall planning. More states are requiring planning, and the results are beginning to show."

Another land-use theme is aesthetics. Billboard regulation is a prime example. Congress first acted to regulate billboards along highways in the 1950s, but the law was weak. Then, in 1968, stronger measures—a Highway Beautification Act championed by First Lady Lady Bird Johnson—was passed to regulate billboards adjacent to federal highways. Mandelker’s 1970 book, Street Graphics, revised in 1988, provided the legal framework for a formula for creating commercial business, industrial, and institutional signs of acceptable proportions and legibility. The book included a model ordinance that has been adopted by many cities. It was challenged in court and upheld in Bridgeton, Missouri.

“Unfortunately, the federal billboard law is not working as well as it was intended to,” says Mandelker. “Non-conforming billboards still stand beside the highways. Congress was supposed to provide money to take them down, but it hasn’t happened. There also are still a lot of loopholes that enable businesses to erect new, non-conforming billboards.”

Another major concern in land use is how growth is to be mitigated or adapted so the environment is not spoiled. The issues are widespread, encompassing projects from apartment and single-family developments to shopping centers, and even theme parks. Projects like the Two Forks Dam in Colorado and the now-cancelled Disney theme park near a historic battlefield in Virginia have made the growth and development issue a front-page story.

“The trouble is, people tend to focus on the big project,” says Mandelker. “We also need to worry about land use one house at a time. The little insults are important. At the individual level, land use is about what an owner can do with his or her piece of property.”

Further complicating the picture is the emerging, grassroots property-rights movement. “How far can government go in taking land before it has to pay compensation to the land owner? Property rights advocates are organizing and insisting on more compensation,” says Mandelker. “They appeal to a very primal instinct. If the property-rights movement succeeds, the extent to which government can use land will be significantly diminished.

“These are complex issues,” he says. “Land use is about public welfare versus private welfare. The challenge is to find the proper balance.”
World Classes

Environmental Studies Program crosses boundaries to tackle complex global issues
by Brenda Murphy

During her sophomore year at Washington University, Rebecca Lloyd took a geology class that changed her life.

"Before that class, anything about science was not going to happen for me. But in geology, when we talked about the world water crisis, I discovered that I wanted to learn more. It came at a time when I was thinking about majors. I wanted to pick something that I really cared about. The environment has always been an overriding issue for me, so I decided to try to focus on environmental issues," says Lloyd, A.B. '93, whose earliest love of the outdoors began with summer visits to her grandparents' cattle farm in East Texas.

"The environment was something I learned to appreciate and wanted to preserve," says Lloyd, 23, of Louisville, Kentucky, a December 1993 graduate of Washington University. "My grandparents had a lake, and I loved to help my grandfather in the garden."

But when Lloyd decided to major in environmental studies, she faced a problem. In 1991, no undergraduate program in environmental studies existed at Washington University. So Lloyd set about creating her own special major—a plan requiring the approval of two faculty advisers and her school's dean.

Lloyd persisted. And she was not alone. At the time, nearly a dozen students were pursuing special majors or minors in environmental studies. It was a signal to the University, which, under the leadership of Provost Edward S. Macias, quickly responded. As a result of the students' efforts, the College of Arts and Sciences began offering a minor program in environmental studies during the 1992 fall semester. This fall, environmental studies has become a major.

"We started this program because students said they were concerned about environmental problems and asked how to learn more about them," says Everett L. Shock, director of the Environmental Studies Program and associate professor of earth and planetary sciences.

"It was the right thing to do," says Barbara A. Schaal, chair and professor of biology. "When there are societal issues, universities should provide the academic background and training necessary for people to address them."

The level of student interest at Washington University parallels general concern for environmental issues in contemporary society, says Shock.

"Big, global, unexpected things, like a hole in the ozone layer, and other problems have been uncovered right in people's own backyards," he says. "People recognize these problems and want to do something about them."

"These are tough problems with no easy answers," says Provost Macias, who chaired the committee that developed the Environmental Studies Program.

Convened at the suggestion of Raymond Arvidson, chair and professor of earth and planetary sciences, the group grew to include Shock, Schaal, William R. Lowry, assistant professor of political science, Linda Salamon, former professor of English and dean of the College of Arts and Sciences, Robert Sussman, professor of anthropology, and representatives from engineering and law.

"I hadn't realized how deeply our faculty was interested in the environment," says Macias. "We found that a lot of people from many disciplines were researching these issues. This is a very interdisciplinary study. My own work involves chemists, engineers, mathematicians, physicists, government agencies, and business people," says Macias, who has researched haze in the Grand Canyon for many years. (See story on next page.) "This is a very broad field. To understand it, you have to bring in experts from each area."
“Universities are the natural place for interdisciplinary work.... Cross-fertilization is what we need to solve the global problems of the environment.”

Richard J. Lazarus, professor of law

The environmental studies major starts with a core curriculum that provides a broad overview of issues. Basic courses include Conservation Biology, Biogeochemistry, Environmental and Energy Issues, and Rich Nations and Poor Nations. Majors then choose one of two tracks—environmental science or environmental social science.

“The idea is to preserve enough options so we don’t force students who are not scientifically inclined to go that route, or force social science on those who are more science-oriented,” says Lowry.

Courses and faculty included in the environmental studies major demonstrate its cross-disciplinary nature. At the advanced level, students can take courses in areas including biology (Ecology), anthropology (Primate Ecology and Social Structure), engineering (Pollution and Environmental Impact, Introduction to Environmental Law and Policy), earth and planetary sciences (Global Hydrology), and economics (Economics of Environment and Resources). Students from both tracks are required to take a senior seminar in communication skills.

“They have to present information in a way that everyone will understand,” says Shock. “This is a very important skill. If you work in environmental policy, you’ll have to be able to explain to a guy in a lab why things need to be done.”

Haze Busters

Imagine haze so thick it sullies the view of one of the United States’ most awe-inspiring natural wonders—the Grand Canyon. Then imagine you find that the haze is caused by migrating air pollution produced nearly 300 miles away in Southern California.

These concerns have inspired the long-term commitment of Washington University researchers Edward S. Macias and Warren H. White to bust the haze.

In the July 1990 issue of Geophysical Research Letters, White and Macias reported finding methylchloroform in the Grand Canyon area. The chemical clearly could be traced to manufacturing operations in Los Angeles aerospace and electronics industries. Chemical trace levels even followed a work-week pattern: Levels were elevated for five days and lower for two. More recently, in the March 1994 issue of Atmospheric Environment, the researchers confirmed that the industrialized, developed southwestern air passage makes the major contribution to dirty air in the Grand Canyon.

Their findings are of particular interest to the Grand Canyon Visibility Transport Commission as it evaluates a concept called the clean-air corridor. The commission was established by the United States Environmental Protection Agency as part of the Clean Air Act Amendments of 1990. In a “clean-air corridor,” future development and pollution would be limited in a specific access corridor to the Grand Canyon.

White is skeptical about the success of such a corridor because haze levels in the Grand Canyon are not only directional but seasonal, worsening in the warm spring and summer months and improving in the fall and winter.

“In the summer visitors season, when the air is haziest, the wind blows most often from the coastal cities near Los Angeles,” says White. “We can’t turn on the northern clean air the way we can turn on an air conditioner.”

The commission is, however, a source of hope for White because it has brought together members of both industry and citizens’ groups from eight states to create a plan acceptable to all parties.

“This is a template for effective environmental action rather than adversary legal action,” says White. Macias adds, “As long as there are molecules causing haze, there will be haze-busters out to fix the problem.”
The program itself reflects the interdisciplinary approach needed to solve environmental problems, says Arvidson, who served as the first director of the Environmental Studies Program.

As an example, Arvidson cites his research into the Missouri flood plain and the “Great Flood of 1993.” Arvidson’s interest in the area is scientific. He wants to know how wind, water, and vegetation can help the ecosystem recover. In contrast, area farmers view flood recovery from an economic standpoint.

“They want to get back into production,” says Arvidson. “One possibility is to have the government buy them out. The first farmer I met moved our discussion into economics, law, and the cultural aspects of the area.”

The environment is being studied in many different forms across the University, says Schaal. “Learning from professors who share their passion for these issues is an excellent educational model,” she says.

The Environmental Studies Program, like the field itself, is still evolving. And continuing input from faculty will help determine the program’s direction.

Shock would like to see the University develop a hands-on, environmental geochemistry teaching laboratory in which students could learn research techniques. This component of the program would require students to go into the field, collect samples, and analyze them in the laboratory. This activity would provide a practical plus, he says.

“With a bachelor’s degree in environmental studies, if you know some geochemistry and can perform lab work, you’re in demand with employers,” says Shock.

Another key component should be an emphasis on the study of people in developing nations and their interactions with the environment, says Robert Sussman.

“What’s missing in most programs is the realization that native and rural peoples are the most important factors in any conservation and development scheme,” says Sussman. “Solutions have to be developed from the bottom up.”

Interdisciplinary interaction puts Washington University’s Environmental Studies Program on the cutting edge of education and in line with the University’s “Agenda for the 21st Century,” which stresses interdisciplinary activity. The recent addition to the faculty of Robert Criss, professor of earth and planetary sciences, whose research focuses on groundwater pollution, further enhances the University’s environmental focus.

“Universities are the natural place for interdisciplinary work. But historically, departments haven’t spoken to each other very much. Cross-fertilization is what we need to solve the global problems of the environment,” says Richard J. Lazarus, professor of law. Lazarus, a nationally recognized leader in the field, teaches Law School courses in natural resources law, hazardous waste law, and environmental law.

“Big, global, unexpected things, like a hole in the ozone layer, have been uncovered right in people’s own backyards. People recognize these problems and want to do something about them.”

Everett L. Shock, director of the Environmental Studies Program

Rebecca Lloyd intends to do all she can. This past spring, she worked on an exotic-plant removal project in Florida’s Everglades National Park. This autumn, her education won her a job with the renowned Audubon Society, working as a naturalist in the Corkscrew Swamp Sanctuary in southern Florida.

“I can’t pretend that I’ll make an incredible impact on the environment,” says Lloyd. “But for me, it’s enough to know that I’m doing something.”

Brenda Murphy is a St. Louis-based free-lance writer.
Preserving biodiversity—the lavish spectrum of life—is an imperative that has captured the public imagination. But the hard work of conservation goes beyond mere sentiment and slogans and tackles tough questions:

What environmental factors foster population decline? How long does an endangered species have before it is extinct? How big does a species population need to be to qualify as viable? Can we save a species by altering its habitat? Or can the species thrive in a new setting, with different climate conditions and food sources?

An emerging discipline called conservation biology is attempting to answer questions such as these, so vital to the thin green skin of earth.

“Conservation biology looks at the basic science that impinges on biodiversity,” says Barbara A. Schaal, professor and chair of biology and associate professor of genetics at the School of Medicine. “The processes that generate, maintain, and cause the loss of biodiversity—that’s what we study.”

Alan R. Templeton, professor of biology and genetics, calls conservation biology a crisis discipline.

“You don’t have the luxury of taking your time,” says Templeton, a founding
member of the Society for Conservation Biology, a nine-year-old organization that has helped usher in the field. "If you wait a decade to do your research, the species in question may be extinct."

Conservation biologists epitomize diversity themselves, hailing from fields such as molecular genetics, botany, zoology, atmospheric science, and agricultural economics. The science they practice is both pure and applied—and more inclusive than the non-scientist would imagine it to be. They not only study high-profile species like cheetahs, or exploitable species like beavers, but also seemingly obnoxious or innocuous ones, says Richard W. Coles, adjunct professor of biology and director of the Tyson Research Center. "We pay attention to salamanders and collared lizards, too."

Coles studies neotropical songbirds that migrate back and forth from Tyson to the shrinking rain forests of Central and South America. Some species, he reports, are faring better than others.

Thanks to conservation biology, the notion of biodiversity itself has expanded to include not only the range of different species, but also the range of bio-communities—species A, B, and C living together here, species X, Y, and Z living there.

A third—and most critical—level of diversity is genetic diversity within a species. If the total genetic material of a species—its gene pool—is large enough, a species can adapt to a hotter climate, a new disease, or a new predator. If the gene pool is too small, the species spirals toward extinction.

Barbara Schaal has genetic diversity in mind as she studies Mead's milkweed, an 18-inch-high plant that formerly thrived in the Midwest's once-ubiquitous prairies. Conservation agencies are cultivating the threatened plant in protected fields, some of which are periodically mowed, others burned off. In both types of fields, Mead's milkweed is high and thick. By using sophisticated genetic techniques such as polymerase chain reaction (PCR), Schaal knows that some of these seemingly healthy populations are teetering on the edge of disaster.

"When the fields are mowed, the milkweed can't produce seeds," says Schaal, whose academic focus is evolutionary genetics. "The plants get bigger and bigger, and the population looks like it's doing well. But some milkweed fields are down to one genetic variant, making it possible for a single disease to wipe them out. In the fields that are burned, however, there's a tremendous amount of genetic variation."

Researchers also are studying how to design havens for endangered species. Owen J. Sexton, professor of biology, specializes in vertebrate ecology. Recently, he studied how the massive floods of 1993 affected the snake population of a state-protected marsh in St. Charles County, Missouri, just outside St. Louis. When the water rose, many snakes fled the marsh to higher ground, only to be run over on roads. The lesson? Low-lying or riparian

"You don't have the luxury of taking your time... If you wait a decade to do your research, the species in question may be extinct."

Alan R. Templeton, professor of biology and genetics

Taking stock: Above left, Professor Owen Sexton inventories wildlife populations in the Marais Temps Clair Conservation Area in St. Charles, Missouri.

Tiny but important: Above, Professor Alan Templeton examines a juvenile collared lizard at Victoria Glade, a Nature Conservancy preserve in Hillsboro, Missouri.
higher ground, only to be run over on roads. The lesson? Low-lying or riparian preserves need a fringe of hospitable high ground.

Sanctuary design reflects changes in the philosophy undergirding the conservation movement. Traditional conservation-ism views nature as a closed, self-maintaining system. You put nature under a glass jar to exclude humans and let it run its course. Typically, the goal is to safeguard a particular species. Conservation biologists favor a new paradigm—nature as an open system in flux. Instead of operating on the species level, this brand of conservation preserves the processes that govern the system. Active human management is not considered unnatural.

Sexton and Templeton see the new model at work as they study efforts to revitalize the population of collared lizards in Jefferson County, Missouri. A green reptile with yellow spots that grows up to a foot long, the collared lizard lives in dry, rocky, thin-soiled glades that resemble deserts. For centuries, natural fires have prevented trees such as the juniper from invading the glades and taking over. But European settlers doused these fires to save their homes and farms. As a result, junipers proliferated in the glades, creating an unfriendly environment for the lizards, which, in turn, virtually disappeared.

Lately, though, the Missouri Department of Conservation and a private group called the Nature Conservancy have been burning the glades under controlled conditions. "After several burns, we found the collared lizards were able to recolonize these glades," says Templeton. The fires also have cleared off thatch that hindered glade plants from germinating. "Man needs to do things to duplicate these natural processes," says Sexton.

Not only do conservation biologists apply their science to promote biodiversity, but they also assume an advocacy role in the political arena—a role that doesn't ordinarily suit the temperament of the typical scientist, notes Coles.

"A lot of us are basically shy and focused on narrow interests," says Coles, "but it's difficult for the profession to sit back and watch what's going on. We're like the nuclear scientists who have spoken up on nuclear testing and waste disposal. You cannot know what they know without having concerns about societal follies."

Conservation biologists command more respect than they did 20 years ago, when some scientists considered the new field faddish or merely managerial. The field has its own professional society, journal, textbooks, and presence at universities like Washington. Templeton, Schaal, and Sexton, for example, have taught undergraduate courses on the subject for non-biology majors. In addition, conservation biology is a component of the University's environmental studies major. Templeton calls the future of conservation biology bright, but only because the destruction of ecosystems and the loss of biodiversity around the world continues virtually unchecked.

"The field is absolutely wide open. There are so many problems to be tackled, so many questions to be answered," he says. "This is research that can't be delayed."

Robert Lowes, A.B. '75, is a St. Louis-based free-lance writer.
David Oestling leads the plaintiffs' litigation team in the Exxon Valdez oil-spill trial.

by Susan Mowris
David Oesting, J.D. '70, is legal counsel for 40,000 plaintiffs. As managing partner of the Anchorage, Alaska office of Davis Wright Tremaine, Oesting was selected from 17 top lawyers as lead counsel for Alaska Natives, commercial fishermen, cannery workers, and land owners, after the Exxon Valdez oil tanker ran aground in March 1989 on Bligh Reef in Prince William Sound, spilling 11.8 million gallons of oil into the pristine waters.

“The lawsuits began the next day,” says Oesting.

The crude oil devastated the clear waters of the inland sound system, one of the richest marine fisheries in the world. The sound also was home to a diverse ecosystem of waterfowl, marine and shore animals, and plant life. So pervasive was the spill that it threatened the traditional subsistence practices of the Alaska Natives and the livelihood of everyone who worked in the fishing and cannery industries for thousands of square miles.

While litigation began five years ago, the intense trial aspect of the case began in May 1994. The first three phases of the trial cover liability for punitive damages, the amount of punitive damages, and the amount of compensatory damages. In September, the jury returned a verdict of $5 billion in damages against Exxon. It was the largest punitive damage verdict in U.S. history. A fourth phase will entail mini-trials for individual damage claims, which could last three years.

“You’d better believe in a case like this one before you start. I love designing, implementing, and executing a war plan. I love the thrill of the chase,” says Oesting, whose take-no-prisoners attitude has earned him other high-profile cases and a listing in The Best Lawyers in America for each of the past five years.

Oesting’s passion for the preservation of nature and his trial expertise prompted him to compete for the court-appointed position of lead counsel. He coordinates 120 law firms that individually represent the plaintiffs.

“Twelve thousand commercial fishermen are counting on me,” he says.

Born in Chicago, Illinois, Oesting was raised in the country north of Milwaukee, Wisconsin.

“I can’t remember a time when I didn’t hunt and fish,” he says.

His love for the Alaska wilds is obvious in his work and in his hobbies, which include hunting, fishing, and flying a single-engine airplane. Winter sports include cross-country and downhill skiing. One of his favorite activities is skiing a slope with a 3,000-foot vertical drop in an ice-laden area just 30 minutes from town.

“I have an orthopedic surgeon on retainer,” he quips.

Oesting’s family also shares his love of outdoor activities, particularly fishing. His youngest daughter began accompanying him on fishing trips at the age of two months. He is especially proud of a photograph of his son, Aaron, with a caribou “bagged” in the wilderness.

Oesting’s earliest influence was his father. “He was a biochemist. From him I developed a natural curiosity for the physical sciences and math,” says Oesting, who received a bachelor’s degree in chemistry from Earlham University. “I discovered that I didn’t really want to be a chemist. There wasn’t enough human interaction for me in the physical sciences, though I still enjoy the intellectual aspects, and I read science bulletins from cover to cover—especially those that deal with the study of trees.”
David Desteling, J.D. ’76, is legal counsel for 32,000 plaintiffs. He has managed partner of the Anchorage, Alaska office of Davis Wright Tremaine. Desteling was elected from 17 top lawyers as lead counsel for Alaska Native commercial fishing, community health, and land owners, after the Exxon Valdez oil spill action, obtained a $5 billion settlement, in 2019.

“Time will only bring to the near future,” says Desteling.

Meanwhile, the United Nations agrees on the United Nations. United Nations will start its 75th anniversary, appearing for the first time since 1990.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations, a collection of 193 countries, is the world’s most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.

The United Nations is said to be the world’s largest and most powerful organization.
Washington University Emblem Use Authorization

Make your check payable to Washington University. Amount of gift enclosed ($25 minimum): __________________________

Please direct my gift to: ____________________________________________________________________________ (Specify the School: Athletics, Edison Theatre, Friends of Music, Gallery of Art, Olin Library, Performing Arts, or Tyson Research Center)

Name (Please type or print) ____________________________________________________________

Address ____________________________________________________________

City __________________________ State __________ Zip Code ____________

Mail to: License to Learn, Washington University, Campus Box 1210, One Brookings Drive, St. Louis, MO 63130-4899. We will complete the back portion and then return the completed form to you. For more information, call (314) 935-4281.
The state of Missouri limits the letters, numbers, or combination of letters and numbers on collegiate license plates to five characters. collegiate license plates expire in October of each year in Missouri. If your "Emblem Use Authorization" form is dated after July 1, your collegiate license plate is valid through October of the following year. However, if your form is dated prior to July 1, your collegiate license plate is only valid through this coming October. Collegiate license plates may be issued only to passenger motor vehicles subject to the registration fee according to taxable horsepower and to beyond-local commercial motor vehicles licensed for a gross weight of 6,000 or 12,000 pounds. This restriction still includes virtually all passenger cars and pickup trucks.

Renewal of your special license plate will require the same three steps: a special gift to Washington University, an "Emblem Use Authorization" form, and filing with the Missouri Department of Revenue.

Previous gifts, pledges, or contributions to the University do not apply toward this special program.

To Be Completed by Washington University

Date of Payment __________________ Institution Statement Number __________________

Authorized Signature __________________

Contact Person: Jill Edwards, Annual Giving Programs (314) 935-4281

Trade Your Missouri Plates for a Washington State of Mind — Get a License to Learn
At Washington, Oesting distinguished himself as editor-in-chief of the Washington University Law Quarterly and graduated with honors and the Order of the Coif.

"I thought studying law would equip me to do anything I wanted to do later," he says. "But I have to admit that I went to Washington because they offered the best scholarship, and I was flat broke.

Washington University was blessed with a number of superlative teachers. To this day, Gray L. Dorsey and David M. Becker stand out in my mind. I thoroughly enjoyed law school. I found it relatively easy. My physical science background taught me logical problem-solving skills identical to those used in law."

Oesting counsels undergraduates interested in law school to major in the physical sciences for the symmetrical logic and mental discipline they require, and to minor in English or history to gain mastery of language.

"Anyone who aspires to be a leader needs to communicate meaningfully and effectively," he says. "Along with technical knowledge, communication is the essence of law."

After graduation, Oesting signed on with Davis Wright Tremaine. From 1970 to 1980, he specialized in litigation, bankruptcy, commercial transactions, maritime liens, and mortgages.

"Back then, there was more flexibility and freedom to allow the individual to experiment and to learn more about the practice of law," he says.

A restless spirit, Oesting then explored other types of law work, including real estate, creditors' and debtors' rights, and tax law, but found the most appeal in litigation and trial work.

"Never shut a door until you look behind it and see what is there," he says.

Then he was offered the chance to open the firm's Anchorage office. After a "three-sentence" discussion with his wife, he decided to try Alaska for two years. "It was a golden opportunity to develop a practice with a large firm behind me," he says. "The setting—the unspoiled Alaska wilderness—also played a role in our decision."

For the past five years, Oesting's focus has been on Native law, trial work, and admiralty law. His long history of trial work in Native law began when the law firm helped the Alaska Federation of Natives receive a million acres and $900 million in the Alaska Native Claims Settlement Act of 1972.

A dedicated community activist, Oesting is a member of the Anchorage Chamber of Commerce and participates in community councils and educational programs.

With the Exxon Valdez trial in full swing, Oesting describes his outdoor activities as limited to mowing the lawn. But even that endeavor has its rewards. The town is surrounded by the Chugach Mountains, and Oesting's home is on the outskirts, adjacent to a national forest.

"The trial has been exhausting, and I have been a grizzly bear all summer, but I asked for it," he says. "As much as I love trial work, I will be delighted when it's over."

At the end of the case, Oesting says, he may retire from law and go back to school to study wildlife management. "Alaska is so unsettled. It is a marvelous opportunity to take an area in its original state and control the impact of human activity," he says. "Today, we have a chance to look at development first and make it compatible with the resources."

Susan Mowris is a St. Louis-based free-lance writer.
Ellen Lee’s personal and business commitment is to end pollution on the planet. And, while most people recognize industrial waste as a worldwide ecological problem, Ellen L. Lee, M.S. ’66, D.Sc. ’69, sees something else: an engineering challenge.

“Heavy metal and other toxic waste pollution have become very common during the past 20 years. Industrial manufacturers generate chemicals and heavy metals that need to be removed from wastewater prior to discharge or re-use,” says Lee.

“Assessing the pollutants in water, then designing equipment and systems to treat or remove it is a technical challenge. It’s an opportunity to express technical ingenuity.”

Working as a research and teaching assistant during her master’s and doctorate programs in civil engineering at Washington University, Lee was trained as an environmental engineer. She calls her first opportunity as a staff consultant for 12 sewage treatment plants in Sacramento County, California, a thrilling experience.

“It was like being a kid in a huge toy store,” she says. “Working as the operation and process consultant for plants with processes ranging from very small to very large capacity was such an exciting opportunity. Working with plant operators also presented a challenge very different from the working environment in school.”

At her next job, in the San Jose, California office of Consoer, Townsend and Associates, a national consulting engineering firm, she expanded her skill in engineering and process design.

In 1976, she left that job to found an engineering firm—a daring endeavor with no promise of success.

“In the beginning, we looked for any projects we could do, including civil site design, land development,
and industrial waste treatment," she says. "At the time, the engineering field was definitely unfriendly to a small, minority- or woman-owned engineering firm. We survived by providing highly technical, good quality, and diversified services. We found a special area that no other firms, small or large, dared to tackle at the time."

Lee’s firm was the only company in the San Francisco Bay Area providing turnkey services (design, build, and follow-up consulting) for industrial treatment systems. "We had to be able to develop workable treatment processes and verify them through laboratory or pilot-scale tests. We had to select, design, and manufacture equipment, and construct and install the entire system, including civil, structural, mechanical, and electrical. This is how we developed our construction capability. For our first 10 years, nobody was doing similar work."

In the mid 1970s and early 1980s, as high-technology industries sprang up in the Silicon Valley of California, waste treatment technology and equipment for this kind of waste were very limited, says Lee. "This is where my four years of work at Washington University paid off again. I had worked hour after hour under Dr. Rick Ryckman, Dr. H.D. Tomlinson, Dr. Edward Edgerley, and Dr. N.C. Burbank. These professors were committed to education and probably were the best teachers you could find anywhere, any time. I was constantly moved by their commitment to their students. By the time I received my doctorate, I was very well taught. The basic physical, chemical, and biological properties, and the
reaction of pollution elements became part of my natural way of thinking."

Lee's company received another boost in the early 1980s, when participation in public works programs opened up to minority- and women-owned businesses. "There is a lot of extraordinary technical and business talent in minority- and women-owned businesses," she says. "Our ability to participate in public-works projects in the States gives us a public-project record, which enables us to get work overseas."

To date, Lee's company has completed more than 100 industrial wastewater treatment facilities for high-technology related industries, including manufacturers of semiconductors and printed circuit boards. She has also completed projects for automobile manufacturers, slaughterhouse/meat-packing companies, canning operations, and food-processing and agricultural firms. In addition, Lee's firm has installed 16 wastewater treatment systems in Taiwan, and is actively marketing in other Asian and South American countries. She does her projects through three companies: Lee Incorporated for engineering; Lee Engineering Enterprises, for construction; and Lee International, for all overseas work.

"In environmental projects, teamwork is essential," she says. "An end to world-wide pollution takes every one of us."

Her next project in Taiwan will encompass designing wastewater collection and treatment systems for a new city with a future population of 400,000.

"In Asia, I try to get countries lagging behind in pollution prevention or abatement to take action," she says. "Any action taken by any government in Asia will be an improvement, because very little has been done. Taiwan has begun to pay attention to the serious pollution problems it is generating."

Lee doesn't turn down any environmental projects, regardless of the location or type of project. "We have to take action right now," she says. "I am very concerned about the condition of the planet that I, or we as a generation, leave behind for future generations. Our planet and the human race have faced several catastrophes, but we have survived. This time, with pollution, depletion of natural resources, and overpopulation, we may not be so lucky. But the essence of human existence is beyond survival. As a species, we are intelligent and powerful enough to take care of ourselves and our planet, to clean up after ourselves, and to design our own future."
Tom Torrens has created a successful business and a second career out of turning junk into art. The president and founder of Tom Torrens Sculpture Design, Inc., in Gig Harbor, Washington, Torrens believes he has been "in the right place at the right time" for attracting an audience for his found object sculptures, made primarily from formed steel, hand-spun copper, and other recycled and industrial materials.

"Now that recycling is so critical," he says, "it ties in with the found objects in my sculpture. I became an environmental artist before it was trendy."

Today his company markets bells, gongs, birdbaths, fountains, tables, and other functional objects through catalogs and retail outlets ranging from The Nature Company and Neiman Marcus to nurseries and garden shops. His works also are sold in France, Japan, the United Kingdom, Hong Kong, Singapore, Canada, and Mexico.

Torrens began working with found objects as an undergraduate student and continued to do so at Washington University, where he earned a Master of Fine Arts degree in 1974. At the time, the School of Art's graduate sculpture studios were located at Tyson Research Center, where World War II bunkers proved an ideal hunting ground for the bits and pieces of metal that became part of Torrens' sculptures.

He likes to work with found objects, he says, because they are economical, and, "as an artist, I have always liked to have a starting point." He searches among the scrap and junkyards in the Pacific Northwest for items with inter-
But he quickly decided that forestry was not for him and returned home after one semester to attend Indiana State University (ISU) at Terre Haute, where Donna was already enrolled. “So much for high school counselors,” he quips.

But while at the University of Georgia, he had taken an art class that sparked his interest in three-dimensional work. It seemed a natural direction since his mother was an art instructor, his uncle a graphic designer, and his sister an illustrator of wildflowers.

At ISU, Torrens found a mentor in art professor Jim Sampson. “My instructor was into found objects and had a very informal, hands-on teaching style,” Torrens recalls.

Sampson had such an influence on Torrens’ life and career that the Torrenses named their son J.W. (James Weston), 17, after what Tom calls “the two Jims in my life.” The other Jim is Washington University art professor Jim Sterritt, who heads the sculpture program in the School of Art.

In fact, without Jim Sterritt, Tom Torrens might never have come to Washington University. When he and Donna were completing their studies, Tom began looking at graduate programs. “I read catalogs, went to see schools,” he says. Washington University was on the list because “it was well known.”

He arranged a visit to see the art school and to meet Professor Sterritt. “Even as a prospective student and someone he didn’t know, he brought us to his house,” Torrens says. “We went swimming in the Meramec [River].”

The visit made a lasting impression, and Torrens applied to Washington’s graduate sculpture program. However, he was not offered any financial support, so after their ISU graduation in 1972, he and Donna headed to Tampa where he planned to attend the University of South Florida. From Tampa, Tom called Sterritt to say he would not be coming to Washington University. As Tom tells the story, “He called me back in a couple of days and offered me a full scholarship.” So the Torrenses packed their household again and headed for St. Louis.

Not only did Sterritt arrange for scholarship assistance, he arranged for hous-
ing as well. They spent their Missouri years living at the Reuter farm in Eureka, which had electricity and indoor plumbing but not much more. Mrs. Sterritt helped Donna find a teaching job in nearby Weldon Spring. “It was kind of one-stop shopping,” Torrens says.

But he learned much more from Jim Sterritt. “He was a model for how to do sculpture and how to live as an artist,” Torrens says. “He and his wife were very open about letting his students be involved in their personal lives. We stayed at his home; we had dinner there.

“He had an informal style of teaching—unstructured. We learned by doing.”
Sterritt also encouraged his students to teach. Toward the end of his graduate program, Tom Torrens spotted a bulletin board notice for a visiting artist to teach at Pacific Lutheran University. Thus began his 15-year “first career” as a teacher and artist.

At first, he showed and sold his art at street fairs. Soon he began receiving commissions, especially from corporations. Today, nearly 99 percent of the art his company produces is sold wholesale.

In the mid-1980s, Tom and Donna Torrens made the risky decision to give up their teaching jobs and spend full time with their company. “We took a chance on a Baltimore crafts show and were pleasantly surprised with many orders,” Tom says. It was still unnerving. “Donna and I have a background as teachers; we’re not business people,” he says. Donna remembers going to a bank for a loan when sales had reached $50,000 and being turned down. But the company has since proved itself by exceeding $1 million in sales for several years running.

Managing the company is very much a partnership for the two of them. As vice president, Donna is in charge of business and marketing with assistance from four employees. Son J.W. sometimes helps out, too. Tom oversees the 10 craftspeople working in production. “I usually come up with the concepts and basic format [for the pieces],” he says. “We work out the basic forms and determine such and such a size, this amount of money, how it will be shipped.” He frequently has college students working with him.

Torrens believes he has been “in the right place at the right time” for attracting an audience for his found object sculptures, made primarily from formed steel, hand-spun copper, and other recycled and industrial materials.

Tom sees a continuum between running his company and teaching. “I teach every day,” he says. “I have to set up assignments, make sure materials are available, see that everyone has their tasks.”

Tom and Donna Torrens are seeking new markets in Pacific-Rim countries that are just beginning to recycle. The Torrens sculptures have a strong Asian influence, partly because of art history courses Tom took at Washington University and partly from the company’s location on the West Coast, which looks toward the Pacific Rim. In 1992, the Torrenses went to the Tokyo Gift Show, where Tom’s pieces were on exhibit among American handmade crafts. “We work with a Japanese company that supplies Buddhist monasteries throughout Japan with incense holders,” Tom says. “They are our bird baths filled with sand!”

Because his art pieces are functional, Torrens believes they find a wider audience than if they were sold only through museums and galleries. They are also interactive.

In a 1991 video, “Symphony of Sculptures: The Art of Tom Torrens,” made in Seattle by Pal Productions, Inc., he says: “Adults are usually quite inhibited. They come up to a column of bells, and they’ll stand there—they’re under some kind of stress all of a sudden. They want to touch [the bell] and ring it, but we’re always told not to. So once they do ring it, a great big smile comes over their faces.”

Mary Ellen Benson is senior director of publications at Washington University.
Alumni and Parents Admission Program gives prospective Washington students a chance for conversations with those who have "been there."

by Jim Russell

For many high school juniors and seniors exploring college options, the mountains of admission literature they receive may put them on a first-name basis with their mail carrier. However, for the last two years at Washington University, the Alumni and Parents Admission Program (A.P.A.P.) has put many prospective students on a first-name basis with alumni who welcome—and challenge—students to find out more about the University.

"One of Chancellor William H. Danforth’s highest priorities has been to develop a strong network of alumni and parent volunteers to allow personal interviews with the University’s prospective students,” says David T. Blasingame, A.B. ’69, M.B.A. ’71, vice chancellor for Alumni and Development Programs. "A.P.A.P was started in 1992 upon the recommendation of a committee appointed by Chancellor Danforth, and it is a real team effort involving both Admission and Alumni Relations. The director of the program, Deb Wingood, who reports to me, works closely with the Admission office.”

Wingood says the program embraces a notion put forth by James McLeod, dean of the College of Arts and Sciences, who sees the application process as a “series of conversations.” By involving alumni volunteers in one-on-one conversations with prospective students, A.P.A.P. yields valuable information and insights about the students.

“I am delighted with our new A.P.A.P. program,” says Chancellor Danforth. “Sarah Wallace (A.B. ’59, member of the Board of Trustees, and A.P.A.P.’s national chairperson) has given outstanding voluntary leadership to the program. She works with a wonderful group of alumni. Prospec-
tive students benefit from getting to know a knowledgeable representative of the University. The alumni enjoy meeting the young people. I look forward to seeing this important program continue to grow."

According to Harold Wingood, dean of undergraduate admission, A.P.A.P.'s ongoing efforts with alumni and applicants already have improved recruitment of high-caliber students.

"The more informed we are, the better decisions we're able to make for the University in the selection process," he says. "An equally important benefit is the visibility the University receives because our alumni volunteers are active in communities across the country and, increasingly, around the world. By volunteering, our alumni are saying that they care enough about Washington U. to devote time to work with us. That is a very powerful message."

Martin Sneider, A.B. '64, agrees. "The more selective schools have a process like this," says Sneider, the 1993-94 Alumni Board of Governors (A.B.G.) chair who participates in A.P.A.P. as an interviewer. "It puts us in the big leagues. It's been a tremendous success in familiarizing prospective students with Washington University and giving alumni like me an opportunity not only to talk to bright young people but also to renew our acquaintanceship with the University."

The program's network reaches across the country and worldwide, with volunteers in such places as Hong Kong, Singapore, Taiwan, and Hawaii. It has a national chairperson and approximately 45 committees in numerous cities; each committee in turn has its own chair.

"Our part of [the program] is conversational and informational," says Hawaii's committee chairperson, Mendel Sato, A.B. '76, D.M.D. '79. "Alumni remember the good experiences, and we don't mind passing them on to prospective students. We're 4,000 miles away from Washington U., so students here may get information through the mail from the Midwest and East Coast schools, and if they're not familiar with the school they may pass it by. The more we get the name of [Washington U.] around, the more they may consider looking at the material."

Robert L. Scharff, Jr., B.S.B.A. '65, who was chair of the Alumni Board of Governors when A.P.A.P. began, believes the program will have a positive effect on the admission "yield rate," which measures how many admitted applicants actually enroll at Washington U. Scharff now volunteers as an A.P.A.P. interviewer and committee chairperson and credits the enthusiasm of participating alumni for much of A.P.A.P.'s success.

"A.P.A.P. uses talented, interested people who go through an extensive training program," he says. "Everyone feels great satisfaction and feels very tightly connected to the University."

"I definitely think A.P.A.P. is a valuable way to promote the school because it involves so much more than just filling out an impersonal form ... because no matter what you read in all the promotional material, you still don't know exactly what it's like to be a student there."

— Maria Schlafly, Class of 1997
"Alumni remember the good experiences, and we don't mind passing them on to prospective students. We're 4,000 miles away from Washington U., so students here may get information through the mail from the Midwest and East Coast schools, and if they're not familiar with the school they may pass it by."

—Mendel Sato, A.B. '76, D.M.D. '79, A.P.A.P Hawaii Committee Chair

student this University strives to attract," says Scharff. "The competition with the other schools to which she had been accepted was fierce. In the interview, one of the things that was uncovered was Maria's interest in continuing with the St. Louis Symphony Youth Orchestra."

"I play the violin, and I had been involved in the St. Louis Symphony Youth Orchestra and other music groups," says Schlafly. "I remember including that on my application, but it was just one activity on the list." After more clearly defining that interest during the interview, Scharff was able to direct Schlafly to the University's music department, which ultimately became a major component of her decision to attend.

"It's the personal contact and letting the student know that the University cares about them and wants them here that is so important," says Sarah Wallace. Wallace points to the insightful and often soul-searching questions put forth by alumni during interviews as the key to gleaning revealing information. Questions such as "How do your parents see you?" "What has been your greatest failure?" and "What do you expect to get out of college?" can evoke telling responses that shed new light on the prospective student's desire or fitness to attend Washington. Wallace also says A.P.A.P. continues to question itself, monitoring its effectiveness and giving equal time to compliments and concerns.

"The first Chairperson's Conference was held in April, and it was a real learning experience," says Wallace. "The deans of the five [undergraduate] schools gave presentations describing their needs and why the admissions process is so important to them."

"It was great to have the chairpersons on campus," adds Chancellor Danforth. "Their enthusiasm was wonderful, and these leaders helped enhance our program with their ideas and feedback."

"Also, a student panel talked about the students' experiences with interviewers and with the University," Wallace says. "They're very motivated students—they're extremely bright, and most of them have done some community service."

According to lawyer Pam Tremayne, A.B. '64, who interviews prospective students in Atlanta, evidence of community service or excellence in non-academic areas can add luster to any prospective student's profile. "When I interview a student, I look for those who are bright, curious, and desirous of earning a good education. It is a plus when they're intellectually open—it takes a more confident person to have an open mind. It is important also for the school to have students who are not just 'brains,'" says Tremayne. "It makes for a more interesting University community. If they are Eagle Scouts or have started some kind of program in their high schools, then they have taken some leadership and are more interesting."

Why do alumni such as Tremayne, Sneider, Scharff, Wallace, and Sato make time for A.P.A.P.? The answer has many facets, but everyone seems to agree that—in addition to giving something back to the University—A.P.A.P. is a way for alumni to offer support to the young people on the verge of making decisions that will affect the rest of their lives.

"The alum's opinion is a much-valued component," says Martin Sneider, "and there's some excitement in following the progress of the young people you've talked to. You find yourself really identifying talent, and that's gratifying."
“It’s fun,” says Pam Tremayne. “It’s invigorating to have a little input in the decisions [students] make, and it’s fascinating to see the future. The students are the future.”

“When you’re a student here,” says Mendel Sato, “you don’t see the whole picture. It’s difficult to step out of the bubble and look inside. So when I spoke with the students, I tried to relay to them that the school is here to help them reach their goals. They’re not going to do your homework for you, but the resources are there. Someone did tell me once, ‘Your degree is written out already; all you have to do is keep up.’ I never will forget that.”

Maria Schlafly knows what Sato means. “I think some people miss that aspect of Washington U.—that it’s really so personal even though it’s a big university. I think getting involved with A.P.A.P. later will be a good chance for me to give something back to the school.”

Alumni participants experience firsthand how satisfying their involvement can be, but program director Debra Wingood says it is important to convey their satisfaction to other alumni not yet familiar with the young program. Word of mouth among alumni has become a sure means of attracting new volunteers.

“The program out of which A.P.A.P. grew didn’t include alumni interviews as one of its cornerstones. As a result, this program presents a new mechanism for alumni involvement,” says Debra Wingood. “However, the program is really catching on. Alumni love to participate, and the number of volunteers is increasing significantly.” She also says that the prospect of involving parents will further strengthen the growing program.

“When parents are happy with the Washington experience, they are also some of our best spokespeople,” she says. “In the future, we will actually bring on board hundreds of parent volunteers as part of A.P.A.P. They will be matched to parents of applicants, who are central to the whole college selection process, in a system similar to the one in place now.”

As Harold Wingood surveys the scope of A.P.A.P., he is aware that as the number of willing participants grows, so grows the University in quality and reputation.

“Our biggest challenge is to grow to the point where every applicant for admission has the opportunity to interview with a member of the A.P.A.P.,” he says. “As the network matures, A.P.A.P. will help us be sensitive to the salient concerns and issues with which students and families are struggling as they consider the prospects and challenges of going to college.”

“I firmly believe we are building one of the best programs—if not the best program—in the country,” says David Blasingame. “Our volunteers provide a real service to our applicants. The University is deeply committed, and we have great leadership in Sarah Wallace and Deb Wingood, plus an excellent group of volunteers and staff to work with them. We have an outstanding University to represent; there is great momentum, and this bodes well for the future.”

Jim Russell is assistant editor of Washington University Magazine and Alumni News.

Looking ahead: National Chair Sarah Wallace (center) discusses 1994-95 plans with Jane Schoenfeld (right), associate dean of undergraduate admission, and A.P.A.P. director Debra Wingood.
1920s
Ruth Hartung Van Wormer, LA 25, lives with her son George and family in Simsbury, Connecticut. She is 93 years old and has four grandchildren and six great-grandchildren.

Sanford J. Spitzer, BU 51, was elected chairman of the board of the American Diabetes Association, Missouri Affiliate, Inc. He is senior vice president of Mark Twain Bank, Creve Coeur, Missouri.

1940s
Dorothy Schneider, UC 42, GR 52, was selected area director of the Women's Overseas Service League. She served with the American Red Cross during and after World War II in Pearl Harbor, Iwo Jima, Saipan, Occupied Germany, French Morocco, and France.

Hugh E. Stephenson, Jr., MD 45, is retiring chief of staff of the University of Missouri Hospitals and Clinics and was elected chair of the American Medical Association's Council on Medical Education at the AMA's Annual Meeting in Chicago.

Michael W. Cramer, BU 47, received the 1994 Tom Fitzgerald Award as St. Louis "Life Underwriter of the Year" by St. Louis life underwriters.

1950s
Frank W. White, LA 50, after retiring in 1988 from Ingersoll-Kund Company, purchased a four-acre flower farm in 1989 at the 4,000-foot elevation on Mt. Haleakela, Maui. He continues management consulting in personnel and industrial relations for clients in Hawaii and in the mainland United States.

Frank J. Burgert, EN 51, and wife Lori represented the 10th Fighter Squadron of the 9th Air Force aboard the ship Queen Elizabeth II and at the ceremonies at the Normandy Beach D-Day 50th anniversary observance. He was the squadron operations officer, flying P-47 Thunderbolts in combat in the European Theatre of Operations. He also visited the airstrip at Lyminston, England, and the advanced landing ground in France to which they moved after D-Day; both locations are returned to farmland.


Irby Cooper, LA 51, is president of Cooper Companies in Memphis, Tennessee, and was appointed to the Tennessee Bicentennial Commission by Gov. Ned McWherter; the commission will oversee the bicentennial celebration in 1996.

1960s
Eugene J. Mackey III, AR 60, AR 62, was named one of five new trustees overseeing the Whitaker Foundation, a $25 million trust that contributes to St. Louis charities and not-for-profit organizations.

Gloria Becker Marchick, LA 60, GR 65, was granted a Fulbright Fellowship for spring semester 1995 to teach in the English department of the University of Mateja Bella, Slovak Republic. She is an instructor in the certificate program for teaching English as a foreign second language at the University of California-Berkeley Extension. She also is director of the English-as-a-second-language program at Acalanes Adult School in Walnut Creek, California.

1970s
Barbara D. Newmark, LA 60, received the 1994 American Jewish Committee service award at its 45th annual meeting in April.

Richard A. Block, LA 61, LW 63, was selected for inclusion in the 1994 Who's Who in Executives and Professionals. He is a certified real estate specialist with expertise in real estate and business.

Stanley R. Frager, BU 61, is the winner of the 1993 American Cancer Society's Media Award for radio features. He is a psychologist in Louisville, Kentucky, and host of a Louisville radio talk show.

1980s
Bruce C. Rinker, EN 61, was elected to a two-year term as chairperson of the technical information division of the American Defense Preparedness Association. He is a senior analyst of configuration data management for Modern Technologies Corporation in Dayton, Ohio.

Madeline Longstreet, FA 62, and her son Robert Longstreet, FA 90, have collaborated on a botanical silk-screen fern series that is the subject of a 10-page article in subscribers' copies of the May 1994 issue of Better Homes & Gardens.

Fred Shectman, LA 62, GR 67, was appointed director of the adult outpatient department of the Menninger Clinic in Topeka, Kansas.

Dennis C. Hirschfelder, LA 64, is executive director of the National Hemophilia Foundation, overseeing all programs and services including fund raising, advocacy, and strategic planning activities.

Reba Neukom Page, LA 64, received the 1994 Outstanding Recent Graduate Award from the School of Education at the University of Wisconsin-Madison. She earned her Ph.D. from the school in 1984 and is associate professor of education at the University of California-Riverside.

Martin Sneider, LA 64, was elected to the board of directors of Angelica Corp; he is president of Edison Brothers Stores of St. Louis.

Elizabeth Berger, GR 65, is retiring from the University of Central Oklahoma after 26 years of teaching.

Tom Ebenhoh, FA 65, had two paintings accepted in the Salon International Exhibit in Jackson, Mississippi.

Art Wegweiser, GR 66, is married to Marilyn Kressel of Erie, Pennsylvania. He is in his 59th semester as professor of geology at Edinboro University of Pennsylvania.

Sharon E. Kahn, LA 68, was appointed associate vice president, Equity, by the University of British Columbia in Vancouver, Canada, where she is also professor of counseling psychology.

Cynthia S. Kuhn, LA 68, GB 73, is chief financial officer, vice president, and treasurer of Atlanta Life Insurance Company.

Eleanor W. McCluskey, GR 68, has taught at Broward Community College for seven years. Five years ago she started the first college-level Holocaust course at the college and also at Nova College, where she teaches the class every year. In April, the Jewish Community Relations Council conferred the Holocaust Public Education Award upon her at the community-wide Yom Hashoah Commemoration. She also runs a small cat-boarding facility.

Richard H. Zehring, LA 68, was elected chair of the Metropolitan State University Foundation Board.

Maury B. Poscover, LW 69, received the Anti-Defamation League's 1994 Jurisprudence Award for his service and dedication to civil and human rights. He is a partner in the St. Louis office of Husch and Eppenberger and chair of the firm's management committee.
Richard Rabicoff, LA 69, published a collection of his short fiction, Tough Customers: Stories by Richard Rabicoff (Potpourri Publications Company). Most of the stories are set in the Kansas City and St. Louis areas.

1970s

T.H. Holloway, Jr., HA 70, was appointed a trustee of the Texas Hospital Association. He is president of High Plains Baptist Health Systems in Amarillo, Texas.

Jeff Mantel, LA 70, was a member of the Weber Malakhov North Pole Light Expedition. The joint Canadian-Russian expedition, airlifted in April to the polar ice cap from base camp on the Novy Severnaya Islands off the Arctic Coast of Siberia, traveled on foot without sled dogs or resupply and reached the North Pole May 1.

Barbara Levy Landes, LA 71, is vice president and chief financial officer of the Wyatt Company, based in Washington, D.C.

Nolan E. Jones, GR 72, GR 75, is director of justice and public safety at the National Governors' Association in Washington, D.C.

Thomas Rosteck, LA 73, is assistant professor of communication at the University of Arkansas and author of See It Now Confronts McCarthyism: Television Documentary and the Politics of Representation, published by the University of Alabama Press.

Richard A. Simon, LA 73, received a fellowship for independent studies in the humanities from the Council for Basic Education to study law and literature.

Larry Bernstein, LA 74, transferred to PNC Bank-Philadelphia in 1992 and was promoted to vice president of the investment management and research division in January 1994. He lives in Cherry Hill, New Jersey with his wife Bobbi and four-year-old son David.

Roger C. Gutmann, SW 74, is president and CEO of Lutheran Social Service of Iowa.

Melvin L. Oliver, GR 74, GR 77, was made an honorary member of the U.C.L.A. chapter of the Golden Key National Honor Society. He also was awarded one of five Charles and Harriet Luckman Distinguished Teaching Awards given this year at U.C.L.A.

Fostering a Greener America

Back in 1979, before environmental responsibility was a front-page story, Norman Foster, EN 60, GB 64, founded a company that would become a leader in toxic-waste recycling. The St. Louis native's business processed or distilled hazardous organic materials, providing a cost-effective alternative to landfill dumping. That concept seems relatively simple is due largely to the technological advances Foster and his company pioneered.

"I always felt that recycling was long overdue, and that the United States had a throw-away mentality," says Foster, who founded Nortru Inc. in 1979. "At the time, I was working with a company that had excess material, and I saw a business opportunity. I was in the right place at the right time with a good idea.

"We were the new guys with the new technology in 1979," he recalls. "We started basically with no money by brokering — taking manufacturing waste and turning it over to someone who could process it, then selling the resulting product."

Nortru soon took over processing and began its remarkable growth. When Foster sold it to Canadian firm Philip Environmental, Inc. in December 1993, he oversaw five divisions with nearly 300 employees and $55 million in sales.

A list of Nortru's technological "firsts" testifies to the company's environmental stewardship. Among them: Nortru's PetroChem Processing Group was the country's first producer of liquid and solid fuels derived from hazardous wastes. Its Resources L.P. division developed the first process to completely treat and shred steel drums into high-grade scrap metal, thus completely avoiding landfills. Nortru has attracted major industrial clients like Ford, GM, DuPont, Sherwin Williams, and PPG.

"Our byline is 'innovative recycling,' and that's literally what we do," says Foster.

During its 15 years, Nortru has faced opposition from both sides of the environmental battle. Foster notes that, despite Nortru's cost-effective services, it was difficult to convince manufacturers to recycle their wastes. On the other hand, Nortru had to be sensitive to environmental activist groups that targeted both the company and its clients.

"Environmentalists frequently challenge companies involved in burning or using waste materials, because they feel regulations aren't strong enough," Foster says. "But we've never been bothered by environmental activists. We maintain good relationships with local environmental groups. They know our sincerity and professionalism."

The 56-year-old Foster has adeptly combined his chemical engineering and business management degrees throughout his career. Foster remained heavily involved with the engineering side of Nortru's operations until 1990. With Nortru's sale last year, he is now president of Philip Environmental's U.S. chemical operations, supervising eight locations with 600 employees.

Foster, who sponsors an annual scholarship named for his parents in Washington University's School of Engineering, is an occasional visiting lecturer in the Department of Engineering and Policy. "Most companies give lip service to being green—it's not an environmental consciousness that drives them," says Foster. "But if you can give them a cost-effective equivalent to the alternatives, such as landfills, they'll be environmentally responsible."

-Bryn M. Mooth
John Prout, HA 74, was named president and chief executive officer of St. Joseph Hospital in Towson, Maryland.

Donald R. Pujol, LA 74, was appointed director of technical support at the Defense Accounting Office in Philadelphia. He holds two master's degrees from Temple University and earned the designation "certified management accountant" in 1993.


Bruce S. Gartner, LA 76, is assistant professor of Spanish at the University of North Carolina-Charlotte.

Terence A. Gross, LA 76, has four children: Kiel, 8, Rhett, 7, Taylor, 5, and Haley, 2. He specializes in personal injury law and enjoys fishing.

William Homer, EN 76, SI 80, is manager of technical operations for Motorola Telephone Cellular Communications Ltd. in Tel Aviv, Israel.

Michael Shindler, LW 76, was promoted to senior vice president of development for Hyatt Hotels Corporation.

Walter F. Boron, MD 77, GM 77, is professor and chairman of cellular and molecular physiology at Yale University School of Medicine. He and his colleagues had articles published in the March and April issues of the American Journal of Physiology and Nature that describe a new technique that allows researchers to observe the first time a single gastric gland under a microscope as various solutions flow through the gland.

Amy Chaiklin, FA 77, is in her second year as an artist-in-residence at Stiftung Starker in Berlin, Germany.

Allyn P. Hebner, GB 77, was named vice president and controller for Washington Energy Company and its subsidiary, Washington Natural Gas Company, in Seattle.

Ida Kugelman Bergson, FA 78, and husband Howard have a daughter, Esther Kayna, born March 14; joins Jacob Benjamin, 6, and Max Solomon, 3; residents of Cleveland Heights, Ohio.

Karen Gold Holt, LA 78, and husband Jonathan have a daughter, Sarian Virginia, born May 8; joins three-year-old brother Alexander; residents of Slingerlands, New York.

Mark A. Wallace, HA 78, was elected to a three-year term on the board of directors of the Texas Hospital Association. He is executive director/chief executive officer of Texas Children's Hospital in Houston.

Ruth Christian Cohen, SW 79, was featured on an NBC Nightly News segment in May on private gynecatic care management and aging in America. She was installed as president of the National Association of Professional Gynecatic Care Managers in October. She is owner of Creative Care Consultants, Inc.

Loren R. Ginsburg, LA 79, and wife Kathy have a son, Jonathan Neil, born March 25; residents of Denver.

Jim Hollman, MD 79, was appointed to associate professor of surgery/emergency medicine at Penn State University, appointed director of the Center for International Emergency Medicine, appointed publications editor, and also elected to the board of directors of the Pennsylvania Chapter of the American College of Emergency Physicians. He is developing standardized international training in emergency medicine.

Joy Green Jacobs, LA 79, and husband Edward have a son, Zachary Paul, born February 8; joins 5-year-old brother Sean.

Paul Steven Sams, UC 79, HA 84, moved to Indianapolis with his wife Cindy and three daughters, Jackie, 14, Andrea, 12, and Krista, 2. Steve is vice president of Central Indiana Regional Blood Center and a law student at Indiana University.

Neal Siegel, LA 79, and Debbie Siegel, LA 81, have a son, Joel Franklin, born April 21; joins sisters Elizabeth, 8, and Anna, 4; residents of Deerfield, Illinois.

Linnie E. Thompson, LW 79, was named volunteer lawyer of the year in Rock Island County by the Volunteer Lawyer Project and Prairie State Legal Services.

1980s

Daniel Chudnow, LA 80, and wife Brigitte have a son, Simon Reuben, born May 21; residents of Milwaukee.

Jeremy Devine, LA 80, and wife Nancy have a son, Samuel Ryan, born March 15; joins three-year-old brother Alex; residents of Dallas. Jeremy's book, Vietnam at 24 Frames a Second, which is a critical and thematic analysis of films about the war, is to be published by McFarland and Company.

Micaela Elcheidiak, LA 80, and husband James H. Statthis, LA 80, have a daughter, Kelly Anne, born June 5; residents of Poughquag, New York.

Richard Leaf, LA 80, GA 83, and wife Carolyn bought and renovated an 1850s Victorian house in Winchester, Massachusetts, in 1992-93. It serves as both home and office for their architectural firm, Leaf Design Associates, which specializes in residential projects.

Linda S. Maier, LA 80, was appointed assistant professor of Spanish in fall 1993 at the University of Alabama in Huntsville.

Rebecca Gay (Bryan) Rauola, BU 80, and husband Gary have a daughter, Rachel Susu, born July 1; joins nine-year-old Louey; residents of Glendale, Missouri.

Denise M. Woltering, LA 80, joined Paradigm Financial Group as a financial planner. Her professional specialties are retirement planning, business insurance planning, insurance tax planning, and advanced estate analysis.

Randal J. Brotherhood, LW 81, was elected to the executive board of the American Heart Association of Wisconsin in May. He is an attorney with the law firm of Meissner and Tierney.

Thomas J. DeZarn, EN 81, his wife Bobbi, and their daughters Emily and Anna live in Amsterdam, Holland, where Tom begins a two-year assignment at Unilever's research laboratory outside Rotterdam.

Else (Axelbaum) Goldberg, LA 81, and husband Daniel have a daughter, Jessica Ariel, born April 3; joins sister Anna; residents of St. Louis.

Steve Katz, LW 81, has opened his own law practice in Seattle, Washington, after 10 years as house counsel to a real estate investment firm. He lives in Seattle with his wife Lynn and 4-year-old son Ryan.

Nancy Jordan Silverstein, LA 81, and husband Howard have a son, Scott Jordan, born March 24; joins 2-year-old Emily Beth; residents of Rochester, New York.

Cait Flynn Breeze, LA 82, married Eugene Idol Breeze in 1992. They have a son, Eric Idol, born May 3; residents of Orlando, Florida.

Janis R. Hirohama, LA 82, and husband James E. Pollard June 26; residents of Manhattan Beach, California. She is a 1985 graduate of the New York University School of Law and is a staff attorney for the Los Angeles County Municipal Courts' Planning and Research Unit.

Karen S. Hogg, GB 82, received the Texas Tech University College of Engineering 1994 Distinguished Engineer award.

Richard J. Lapidus, FA 82, and wife Ann have two sons, Joshua and Joey. He is working as a computer animation specialist and founded Video Production Marketing Incorporated. He produces three-dimensional computer animation for litigation, architectural walk-throughs, and new product development.

Preston Lurie, LA 82, married Sarah Weinsel in 1989. Their son, Adam Saul, was born June 15. Preston is in private practice of medicine in Westchester City, New York.

Juergen Ploehn, GR 82, is assistant professor of political science at Martin Luther University in Halle, Germany. He

<table>
<thead>
<tr>
<th>Alumni Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR Architecture</td>
</tr>
<tr>
<td>BU Business</td>
</tr>
<tr>
<td>DE Dentistry</td>
</tr>
<tr>
<td>EN Engineering</td>
</tr>
<tr>
<td>FA Fine Arts</td>
</tr>
<tr>
<td>GA Graduate Architecture</td>
</tr>
<tr>
<td>GB Graduate Business</td>
</tr>
<tr>
<td>GD Graduate Dentistry</td>
</tr>
<tr>
<td>GF Graduate Fine Arts</td>
</tr>
<tr>
<td>GL Graduate Law</td>
</tr>
<tr>
<td>GM Graduate Medical</td>
</tr>
<tr>
<td>GN Graduate Nursing</td>
</tr>
<tr>
<td>GR Graduate Arts &amp; Sciences</td>
</tr>
<tr>
<td>HA Health Care Administration</td>
</tr>
<tr>
<td>HS House Staff</td>
</tr>
<tr>
<td>LA Arts &amp; Sciences</td>
</tr>
<tr>
<td>LW Lawness</td>
</tr>
<tr>
<td>MD Medicine</td>
</tr>
<tr>
<td>MT Manual Training</td>
</tr>
<tr>
<td>NU Nursing</td>
</tr>
<tr>
<td>OT Occupational Therapy</td>
</tr>
<tr>
<td>PT Physical Therapy</td>
</tr>
<tr>
<td>SI Sever Institute</td>
</tr>
<tr>
<td>SU Sever Institute</td>
</tr>
<tr>
<td>SW Social Work</td>
</tr>
<tr>
<td>TI Technology and Information Management</td>
</tr>
<tr>
<td>UC University College</td>
</tr>
</tbody>
</table>
was awarded a research fellowship by the German Marshall Fund of the United States in support of a research project in Washington, D.C.

David A. Runnels, LA 82, GA 85, GB 85, and wife Carole Jeanne live in St. Louis's Central West End. David has his own architecture and interior design firm, Interior Dimension, Inc., in St. Louis County.

Paul R. Ruppert, LA 82, was elected to the Board of Directors of Paul Mitchell Systems, Inc., a Beverly Hills hair-care company.

Elizabeth Emily (Jones) Seebach, LA 82, and husband Bradley have a daughter, Rachel Emily, born February 14; residents of Coram, New York. She is a clinical psychologist in private practice.

Robert Brown, LA 83, opened his personal law practice, with an emphasis in real estate, in Brooklyn.

Elizabeth Eber, LA 83, and husband Scott Beardsley have a son, Adam David, born March 26; residents of Marietta, Georgia. Liz works as a clinical psychologist for the Colou County Health Department and in private practice.

Eduardo J. Jaramillo, GR 83, GR 86, was promoted to associate professor and granted tenure at Denison University in Granville, Ohio. He is a member of the modern languages department.

Stuart Kriegel, LA 83, is serving as chief of the psychiatry department at El Camino Hospital in Mountain View, California. He has a private practice in psychiatry in San Jose, California.

Gordon B. Kuttner, LA 83, completed a fellowship in reproductive endocrinology and fertility at Brigham and Women's Hospital at Harvard Medical School. He is now the associate medical director of the Pacific Fertility Medical Center in San Francisco.

Peter Miller, EN 83, SI 83, and Elisabeth Garber-Miller, LA 83, have a daughter, Sarah Jeannette, born April 4; joined brother Maxwell; residents of Mansfield, Massachusetts.

Maj. Michael E. Mullins, LA 83, completed the emergency medicine residency at Darnall Army Community Hospital in Fort Hood, Texas. He is staff emergency physician at Tripler Army Medical Center in Honolulu, Hawaii. He is married to the former Josie Healy of Toronto, Canada.

**Island Adventure**

Judith A. Ross, DE 84, GD 86, is the only dentist in a small town in the South Pacific, that is.

She lives on Johnston Atoll, an island 750 miles southwest of Hawaii, where the residents work together toward a common goal: to destroy munitions from World War II and the Cold War.

"I didn't know a lot about that mission when I took the job," she says. "I knew I would have a gas mask. I knew there was a plant out here. But I didn't know that it was a prototype for destroying munitions, and I didn't realize that mustard gas and nerve agent were stored in bunkers on the island."

After more than four years, Ross has gotten used to the mission and the ever-present possibility of catastrophe. "I know all the safeguards that have been put into the system," she says. "The people who work with the munitions know that if something goes wrong at the plant, we could all be wiped out."

Ross moved to Johnston Atoll in 1990, after teaching at the School of Dental Medicine at the University of Tennessee. Ross was well-prepared for adventure as the child of a pilot for Pan American Airlines, she had lived all over the world.

"I loved teaching, but I was feeling the rut of being stateside," she says. "I just wanted to do something different before I had to settle down. I wanted an adventure in a new and exciting place."

So when the University of Tennessee's graduate placement office posted a job on Johnston Atoll for a dentist for 1,100 military and civilian personnel, Ross sent her resume. Then she checked her atlas.

Six months later, she began adjusting to a new career and new surroundings and to a new way of life—on an island that is part small town and part military base.

The residents live in assigned quarters and eat in a communal dining hall. The base exchange is the only store on the island.

Anything that cannot be purchased there must be requisitioned, approved by the logistics department, and brought from Hawaii by airplane or barge. The island is "single status," meaning that spouses are not permitted unless they work on the island, and no children are allowed. Soon after arriving, Ross met and married Casey Baxter, an electrician at the plant.

"I like the island because it's like a small town," she says. Like most small-town doctors, Ross is sometimes interrupted by her patients. "One night when we were playing bingo, 12 people stopped me to talk about teeth. But that's all part of small-town life," she says.

Ross' only other complaint is the lack of spontaneity in her life. "I sometimes miss going to a different restaurant or taking off for the weekend," she says. "You just can't do that here. You're 'island-locked.' But it's not all that bad. We have movies every night at an outdoor theater, and once a month they bring in a band for a dance. Not to mention the exquisite sunsets, snorkeling, and scuba diving around coral reefs in clear, turquoise water."

Ross has enjoyed her time on Johnston Atoll, but she doesn't plan to stay forever. In a few years, she and Baxter hope to move to Mississippi, where they plan to build a home overlooking a lake on 35 wooded acres.

"It'll be a small town again," she says. "But if we need something from the store, we'll be able to jump in the car and go get it. And I want to return to teaching—my first love."

—Susan Kapp
Gabriel C. Spalding, LA 83, has accepted a position in the physics department of Haverford College in Haverford, Pennsylvania.

Karen Blue Weiss Tuckman, BU 88, and husband Craig have a son, Kyle Owen, born May 1; residents of Scarsdale, New York.

Julie Neuman Friedlander, LA 84, and husband Neil have a son, Alex David, born May 13, 1993; residents of Brooklyn. She is vice president of Lipper Analytical Securities.

Kathryn M. Koch, LW 84, and Mark G. Arnold, LW 77, have a son, Philip Cody, born December 20, 1993; joins five-year-old brother James Olmstead; residents of St. Louis. They are partners in the law firm of Husch & Eppenberger.

Tim Livengood, LA 84, and Gwyn Fireman have a daughter, Rachel Eschelle, born March 11; residents of Columbia, Maryland. Tim holds a National Research Council postdoctoral fellowship at the Goddard Space Flight Center, studying planetary atmospheres.

Scott McCullough, EN 84, and wife Becky have adopted a son, Zachary Ian, born January 18 and placed with them February 8. Scot continues his work as a project manager on new technologies with I-NET Inc. for NASA in Houston.

Theodore A. Nukes, LA 84, completed a fellowship in clinical neurophysiology at West Virginia University in Morgantown, West Virginia. He has started a private practice as a neurologist in suburban Indianapolis.

Grace Schwane Poertner, SW 84, GR 91, is president of Wellness Research, a Missouri corporation studying what makes a healthy child.

Lisa Cohen Quay, LA 84, and Stephen Thomas Quay, EN 83, have a daughter, Amanda Nicole, born January 4; joins sister Rachel. Lisa was elected in May to serve a four-year term as a director of the Brushy Creek Municipal Utility District, which fulfills most duties of local government for the unincorporated community in Texas.

Miriam (Rosen) Blake, EN 85, and David Blake, LA 84, have a son, Benjamin Samuel, born April 30, 1993; residents of San Antonio. Miriam is now an adjunct faculty member at the University of Texas-San Antonio after earning her M.S.C.E. David is a surgery resident at Wilford Hall Air Force Medical Center.

Gary R. Collin, MD 85, finished a two-year fellowship in transplantation and critical care at Jackson Memorial Hospital/University of Miami and is the associate director of trauma at Roanoke Memorial Hospital in Roanoke, Virginia. He also is board-certified in surgery and surgical critical care.

Dean A. Eldenkamp, EN 85, completed his M.B.A. at Lake Forest Graduate School of Management. He is product integrity manager with ECO Water Commercial Industrial Systems in Naperville, Illinois.

Brad Gregg, LA 85, is attending Washington University School of Medicine. He was chief keyboard instructor and clinician for nine years at McMurray Music Co. in St. Louis. "Going along for the ride will be my wife Laura and our two cats Mac and Roo," he says.

Tammy (Muegler) Medier, LA 85, LW 88, and husband John have a son, Cody, born April 27; joins brothers Ryan, 4, and Kevin, 2. Tammy says she and her husband would "really appreciate your prayers for Ryan, who was diagnosed with a form of childhood cancer called Wilms' tumor. His treatment is progressing very well, but additional prayers wouldn't hurt!"

Beverly Mize, OT 85, has been a certified hand therapist since 1991. In November 1993, she opened a private practice, Brevard Hand Clinic, in Merritt Island, Florida, specializing in hand and upper extremity therapy.

John G. Nordling, GR 85, became assistant professor of classical languages at Valparaiso University after four years in parish ministry. His areas of research are rhetorical devices in the writings of Julius Caesar and Paul's letter to Philonem in the New Testament.

Stanley Scism, GR 85, founded a college in India, and a branch is forming this year in northeast India, where he teaches seminars. He also established new churches in India, Burma, and Nepal and has begun music and art classes there. He is planning to add medical courses and another branch in Scotland.

Margaret A. Watters, LA 85, and Wallace Womley have a son, Mark, born May 5; joins three-year-old brother David; residents of London, England.

Kevin M. Curran, TI 86, was named vice president of Decision Sciences Corp. Founded in St. Louis in 1968, the corporation provides high-tech consulting services and related computer software in North America, Europe, Africa, and Australia.

Thomas Hesse, LA 86, and wife Lisa Rupell Hesse, LA 86, GR 86, have a son, Jacob Thomas, born May 23; residents of Kettering, Ohio.

Robert Soriano, LA 86, is a research associate in the department of neurosciences at Genentech, a biotechnology company. He lives in San Francisco.

Erin Elizabeth White, LA 86, graduated from the University of New Mexico School of Law in 1990. She is an attorney in the U.S. Army Judge Advocate General's Corps, stationed at Fort Wainwright, Alaska.

John C. Witt, LA 86, HS 94, and Mary A. (Gaska) Witt, LA 88, moved to Las Vegas in August, when John entered active duty as a neuropathologist at Nellis Air Force Base.

Howard Blais, LA 87, and Ronit Simantov have a daughter, Abigail Tova, born March 20; joins brother Daniel Ephraim. Howard received his master's degree in social work and special education and is working as an "at-home Dad." Ronit is a fellow in hematologic oncology at New York Hospital/Cornell Medical Center.

Connie Kral Craigmile, PT 87, and husband Todd have a son, Phillip Adam, born February 17; joins three-year-old sister Monica; residents of East Brunswick, New Jersey.

Leah D. Hackleman, LA 87, was awarded a predoctoral American fellowship by the American Association of University Women to continue her dissertation research into the cultural construction of gender in the year 1968. She is completing the dissertation in the Culture Studies Program at Bowling Green State University.

Her article "Plastic Man Versus the Sweet Assassin" appeared in a 1994 volume of Genders, an interdisciplinary feminist journal.

Michaela Kiernan, LA 87, graduated from Yale University with a Ph.D. in social/health psychology in 1993. She is a postdoctoral fellow at the Stanford Center for Research in Disease Prevention.

Bill Osbourn, Jr., BU 87, and Enid Rivera Osbourn, BU 87, have a son, Ryan William, born May 22; residents of Grover, Missouri.

Melissa Fogelman Redleaf, LA 87, MD 91, and husband Eric Redleaf, EN 87, have a son, Adam Barry, born February 17; residents of Pittsford, New York.

Danielle Rozewski, LA 87, received her master's degree in public and international affairs from the University of Pittsburgh. She is working as a management analyst for the U.S. Agency for International Development in the Office of Workforce Planning, Recruitment and Personnel Systems.

Lori Siegrist Saurborn, SW 87, and husband Henry have a son, Tyler Lee, born April 11; residents of West New York, New Jersey.

Deborah (Budish) Scheiner, LA 87, joined Bayada Nurses, a home health aid company, as a staff supervisor at its new office in Upper Darby, Pennsylvania. Deborah and husband Gary Scheiner, LA 88, have moved to Philadelphia from Chicago.

Dean Thomas Yamamoto, EN 87, LW 90, joined the Honolulu law firm of Cades, Schutte, Fleming, and Wright, one of the oldest and largest law firms in the State of Hawaii; he will continue his practice in the areas of real estate law, real estate development law, and affordable housing development law.

David B. Altman, LA 88, and wife Jill have a son, Jesse, born May 26; residents of Chicago. David is an associate at Katten, Muchin, and Zavis.

Jose O. Calderon, BU 88, is a medical sales representative with Wallace Laboratories in Miami, Florida. He was named the top representative in the southern region for fiscal year 1994 and awarded the President's Honor Club, including an all-expenses-paid cruise of Italy.

Debbie G. (Hunger) DaSilva, LW 88, and husband Raymond have a son, Nicholas Roy, born May 24; residents of Union, New Jersey.

Dayna J. Hollander, LA 88, married Turgut Caglar, born January 15; residents of Summit, New Jersey. She is employed by the
A Tree Grows in Maryland

John A. Rogers, LA 57, SW 62, credits his sons, Brett and Ethan, with making him an environmentalist. His first project involved planting 300 trees along a stream that feeds into the Chesapeake Bay. His motivation was to help Brett earn the Boy Scouts’ Eagle Scout award. Today, that initial project has turned into a way of life.

A Baltimore investment planner, Rogers has volunteered for 10 years to help groups such as the Boy Scouts, the Girl Scouts, international youth exchanges, and disabled children take on environmental projects.

Rogers was an environmental consultant to the national “Global Cities” conference in Los Angeles in 1990 and to Legacy International, a Washington, D.C., international youth exchange. At one time, he consulted with officials of the former Soviet Union to develop a master environmental plan.

But his greatest enjoyment is in helping his sons tackle environmental projects. At Kendigs Mill Park, whose Gwynn Falls Stream runs into the Chesapeake Bay, Brett led the Boy Scouts in picking up tons of trash, building trails, and planting an arboretum where the public can learn about the historic trees of Maryland and the United States.

In 1990, Brett, with Rogers’ help, proposed an environmental education and action program that was adopted by the Baltimore public school system. Students cleaned streams, planted trees, recycled waste, and planted grass beds along the Chesapeake.

The same year, Rogers initiated an international environmental exchange with the Baltimore’s Sister City program. The program fostered projects between students from Baltimore’s sister cities in nine countries. In one, 25 students from Odessa, Russia, came to Baltimore and worked in an all-day environmental project.

“They planted 750 tree seedlings as a pollution buffer and learned to monitor the health of streams,” says Rogers.

One of his favorite projects has been his work with high-school students from the Hannah Moore School in Owings Mills, Maryland. The school educates children with emotional problems. Rogers helped the students begin an above-ground nursery for rare and endangered trees. Each spring and fall for several years, the Maryland Department of Natural Resources donated seeds and seedlings. Students tended seedlings from Wye oaks, chestnuts, and Liberty elms. The students planted many of the trees and donated others to community parks.

“You could see significant, positive changes in the students regarding their feelings about themselves and their environment,” says Rogers.

Rogers’ interest in preserving historic trees also has led him to work with the American Forestry Association. He helped establish nurseries to cultivate seedlings from trees such as the White Plains sycamore, under which George Washington is said to have planned the Battle of York.

Rogers’ work in improving the quality of streams in Maryland and reforesting trees along the state’s streams earned him the Governor’s Salute to Excellence in 1989. His sons shared the award with him.

‘Everybody has the responsibility to influence the environment, and each child can make a big difference—much more than you can possibly imagine,” he says.

—Barbara Yount
the NR COMUSNAVCENT 108 unit drilling at the Naval Reserve Center in St. Petersburg, Florida. This unit supports the Commander U.S. Naval Forces Central Command located at MacDill Air Force Base in Tampa.

Mitch Garbow, LA 89, and wife Beth (Samperlid), LA 89, have a daughter, Chana Sara, born April 27; joins sister Esther Belle, born February 9, 1993; residents of Brooklyn, New York.

J'Laine Krueger, LA 89, is assistant registrar with the Nelson Atkins Museum of Art in Kansas City, Missouri.

David A. Levine, LA 89, was recognized by the Florida Department of Citrus as one of the nation's "up-and-coming" chefs in May. He competed in the department's "Great Chef Challenge" in Tampa, which was shown nationally on cable television. He graduated in October from the Culinary Institute in Hyde Park, New York.

Sharon L. Ostrov, LA 89, received her M.B.A. in international marketing from the University of Illinois at Chicago and is living in London, where she works for Research International as an international marketing research executive.

Janet Ebdling Schaefer, LA 89, and husband Alan have a daughter, Rachel Ann, born December 6, 1993; joins 2-year-old sister Hannah; residents of Bloomington, Indiana.

Allan Edward Schweitzer, BU 89, received this year's University of Chicago Graduate School of Business Dean's Award for Distinction.

Laurie Day Senol, TI 89, SI 89, married Evren Senol, EN 86, SI 89, on May 22, 1993. She graduated from the University of Missouri-Columbia School of Medicine in May 1994 and started her residency in internal medicine at St. John's Mercy Medical Center in St. Louis in July. Evren is pursuing his doctor of science degree in electrical engineering at Washington University.

David Tidye, LA 89, spent four months in Osaka, Japan, and received his master's degree in architecture from the University of Pennsylvania.

Richard Wolf, LW 89, and Kelly (Byrnes) Wolf, SW 88, have a son, Evan Thomas, born April 14. Kelly is director of the gerontology assessment program at St. Joseph's Hospital in Patterson, New Jersey. Rick is practicing corporate and general commercial litigation at Pitney, Hardin, Kipp, and Szuch in Florham Park, New Jersey.

1990s

Frederick Huang, LA 90, received his M.D. from Baylor College of Medicine in Houston and has been accepted into the pediatrics residency program at Baylor.

Thomas L. Irvin, SW 90, and wife Linda L. Bixler have a son, Conor Alexander, born April 18; residents of St. Louis. Thomas has been accepted into the doctoral program at Adler School of Professional Psychology in Chicago.

Doug Isenberg, LA 90, was named the 1994-95 national student editor of Student Lawyer magazine, the American Bar Association's periodical for law students. He is enrolled at Georgia State University College of Law.

Andy Knudsen, GB 90, and wife Vicki Little have a son, Maxwell Lewis, born June 14; residents of St. Louis. Andy started his own business, Knudsen Consulting, Inc., a firm specializing in business process re-engineering, workflow automation, and sales force automation.

Patrick M. Len, LA 90, is lecturing in first-year physics as an associate-in-teaching while pursuing his Ph.D. in physics at the University of California-Davis.

Sandra Lin, LA 90, graduated from Northwestern University Medical School and is starting a residency in otolaryngology and head and neck surgery in Milwaukee, Wisconsin.

Suzanne Boyko Strothkamp, HA 90, married Robert Strothkamp May 29 in Nashville, Tennessee. She is director of planning and managed care at Parkview Medical Center in Atlanta, Georgia.

Alexander Wiseman, LA 90, MD 94, married Michele Higgins, OT 92, on May 21 in St. Louis, Alexander graduated from Washington University School of Medicine in May and has begun his residency in internal medicine in San Francisco.

David K. Bosses, LA 91, is at Villanova Law School as a candidate for a joint J.D.-M.B.A. degree. He was elected to the Honor Board and is treasurer of the Jewish Law Students Association. This summer, he worked for Philadelphia Mayor Ed Rendell in the office of Policy and Planning.

Rachelle E. Brandt, LA 91, married Andrew Roe June 25; residents of Brookline, Massachusetts. Both hold master's degrees from Boston University School for the Arts.

Louis B. Goldman, LA 91, is a sales associate at the Ladue (St. Louis) office of The Prudential Metro Group Realtors.

Barbara Greenstein-Rodriguez, BU 91, and husband Francisco have a son, Jesus Andrew, born March 2; residents of York, Pennsylvania.

Jeffrey D. Grunt, BU 91, is a bond broker for Halpert & Co. in Millburn, New Jersey.

Diana Harris, LA 91, graduated with an M.S. from the department of tropical public health at the Harvard School of Public Health. She spent part of the

ClassMates:

We want to hear about recent promotions, honors, appointments, travels, marriages (please report marriages after the fact), and births so we can keep your classmates informed about important changes in your life. Please send news about yourself to: ClassMates, Alumni News, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63110-1099. (Deadline for Spring 1995 issue is November 1. Deadline for Summer 1995 issue is January 15.)

Name:

Address:

Class Year: ______ School or College: ______ Phone:

☐ Check here if this is a new address.

Please tell my classmates (use an additional sheet of paper if necessary):

Good News Travels Fast!

The ClassMates Editor can be reached not only by mailing the adjacent form, but also by fax machine and electronic (computer) mail as well. We look forward to receiving your "Fax-mates" and "E-mates." Please address entries to the ClassMates Editor:

By fax: (314) 935-4259
By E-mail: p72245jr@wuvumc.wustl.edu
summer in Nigeria doing clinical research on infertility and sexually transmitted diseases. She is working in San Francisco in the field of reproductive infectious diseases and plans to apply to medical school next fall.

Tracy Renee Hazlewood, PT 91, has a son, Austin Michael, born June 4; residents of Martin, Tennessee.

Barnaby W. Horton, LA 91, was elected by students to the Board of Trustees of the University of Connecticut. He worked this summer for a law firm in Hartford and is looking forward to his final year in law school.

Doug Rains, LA 91, spent two years working on the Human Genome Project and is now in his second year of a graduate fellowship in English literature at the University of South Carolina. He also serves part-time as a Spanish teacher through the university’s Upward Bound program.

David Resnic, LA 91, is account executive at Cone/Coughlin Communications, a leading marketing public relations firm.

S.P.C. Timothy Rose, LA 91, married Stephanie Botsford, LA 90, on June 13, 1992. He is an airborne combat engineer in the U.S. Army and is stationed at Fort Bragg, North Carolina. Stephanie is a graduate student in educational psychology at the University of North Carolina-Chapel Hill.

Sheila Rosenbaum, FA 91, was promoted to producer at the “Jerry Springer Show,” a nationally syndicated talk show.


Laurie R. Tenenbaum, LA 91, married David Rosenfeld on May 29; residents of Cleveland, Ohio. Laurie is a third-year law student at the Cleveland-Marshall College of Law at Cleveland State University.

Thomas G. Velek, GR 91, LW 91, was selected to create and design the curriculum of a new course for the Centre for Continuing Education at the University of Edinburgh. He will also teach the

---

**Minimum Waste**

One man’s trash is another man’s treasure.” That adage is especially true for Pam Fleischer. As owner of Nature’s Rubbish, Fleischer, LA 81, provides yard-waste pickup for more than 3,500 customers in suburban Kansas City. Her company takes the debris to a private lawn-care company, which composts it and re-uses all of it, some as fertilizer and some for potting soil.

Fleischer’s interest in urban environmental issues dates to her junior and senior years at Washington when she took urban studies courses. After graduating, she worked in marketing financial services. Then she entered the University of Missouri–Kansas City law school, where she studied urban law with a concentration in environmental law.

“When I finished law school, I wanted to find a career that would combine my practical experience in marketing with my interest in environmental and urban issues,” says Fleischer.

When she couldn’t find a position leveraging her interests and experience, Fleischer went to work for environmental action groups, working on projects such as fighting landfills. At the same time, she was a volunteer for the Waste Minimization Commission, serving as a co-chair of the Yard Waste Committee.

“All of the meetings were open to the public. During one, I was approached by a gentleman who said that he liked the volunteer work I was doing. He asked me if I wanted to form a new company with him that would haul yard waste,” she says. A Missouri law banning yard waste from landfills had recently gone into effect. The ban was part of a federal mandate that requires states to reduce landfills by 40 percent by 1998.

As a result of the state’s ban, and because Kansas City did not have its own municipal composting facility, the city decided to stop providing yard-waste pick-up. Fleischer saw the potential for business and agreed to the partnership.

Grass and Leaf Disposal Company began operations in January 1992. By October, however, Fleischer’s partner had bought her interest in the company. With the buyout money, Fleischer started her own company, Nature’s Rubbish.

Competing head-to-head with her former firm in three of seven zip codes, Nature’s Rubbish was serving 2,100 customers after only 18 months. On July 27, 1994, Fleischer purchased Grass and Leaf’s customer base in her three zip codes, giving Nature’s Rubbish more than 3,500 customers. As a result, she’ll probably have to buy another truck and add two workers, giving her a total of two trucks and five employees.

Fleischer’s goal is to serve 5,000 customers by 1997.

“I told my staff that when we get to 5,000, we’ll have to decide if we want to grow or if we want to coast. We’ll have to ask ourselves, ‘Do we want to pursue other interests in our lives and work from 8:00 to 5:00? The way things are now, we’re doing a lot of overtime.’

Whatever her company decides, Fleischer has already helped minimize waste in Kansas City. In doing so, she has helped the environment that she so treasures.

— Terri A. Nappier
course on the history of American popular culture in spring 1995. He is a seminar instructor in American history at the university.

Bridget Watts, LA 91, married Jeff Lewis October 31, 1993; residents of Tucson, Arizona.

Karyn Weinberg, LA 91, graduated cum laude from Boston University School of Law in May. She works in international business law for Rogers and Wells, a law firm in New York City. She also had an article on international arbitration published in the *Business International Law Journal* in July 1994.

Alan Aaron, BU 92, joined the Equity Information Services Group at Standard and Poor's as an assistant analyst in February 1994.

Jeffrey A. Gherardini, LA 92, is coordinator of a Peace Corps African Food Systems Initiative team based in Gforthye, Niger, West Africa. He directs team projects, including well digging, erosion control, and the construction of woodless houses.

Beth T. Hendler, BU 92, is an account executive for AT&T Global Business Communications Systems in Basking Ridge, New Jersey.

Christine Lange, LA 92, has completed a two-year contract with Teach for America as a bilingual second-grade teacher at McNair Elementary in Compton, California. She lives in Long Beach.


Susan Schatten, LA 92, is serving as a VISTA volunteer leader and is assigned to Health Care for the Homeless in Washington, D.C., as part of the D.C. Homeless Initiative.

Donald A. Walters, LW 92, is director of planned giving for ECHO/St. Louis Christian Home, assisting donors in selecting the method of giving that best fits their individual estate-planning goals.


Jonathan Wolf, BU 92, was named to the board of directors of The Zero Co., where he is vice president in charge of sales.

Steven Collins, LA 93, was hired as a special assistant to Illinois Senator Carol Mosley-Braun.

Lee Ferry, EN 93, married Janet Fletcher, OT 93, on February 5. Lee is pursuing a Ph.D. at Washington University in mechanical engineering. Janet is an occupational therapist with Pinnacle Rehabilitation; residents of St. Louis.

Christopher J. Gibson, EN 93, is a Peace Corps volunteer this summer teaching French-speaking natives mathematics, science, and English in Guinea, West Africa.

Jodi Hirschfeld, LA 93, is returning to Washington University for law school after working in the law firm of Kirkland and Ellis in Chicago for a year.

Dianne Hutchings, FA 93, is a fashion design room assistant for Lita Samii in San Francisco.

Tony Kircher, GR 93, is manager of Asian operations for Fellowes Manufacturing of Chicago, Illinois.

Elizabeth L. Radford, LA 93, is an account coordinator with Marketing Results, Inc., a St. Louis marketing communications agency specializing in public relations and direct marketing.

Grady W. Ray Jr., UC 93, was accepted to the full-time law program at Indiana University.

Tama Senn, LA 93, was accepted to the 1993-94 Fellows Program in Public Affairs at the Coro Midwestern Center. She is attending Columbia University in New York to earn a master's degree in public administration.

In Memoriam

1920s

Mrs. T.L. (Charlotte Mikulas) Hodges, LA 22; 2/94.

Merrill Martin Crowe, EN 23; 6/94.

Mrs. Florence Louise (Walters) Hagee, LA 23; 2/94.

Roland W. Stuebner, MD 23; 6/94.

Mrs. Jane E. (Treadway) Parker, LA 24; 5/94.

Sam Levin, LW 25; 7/94.

Mrs. Roy (Irene T. Kuhn) McFarlan, LA 25; 1/94.

Charles K. Berger, LW 26; 7/94.

Rose L. Evertz, LA 26; 1/94.

1930s

Agnes Booth, FA 30; 6/94.

Mrs. N.B. (Harriet Dodd Spencer) Lacy, GR 30; 1/94.

Joseph F. Eros Jr., LA 31; 6/93.

Alfred F. Frager, BU 31; 5/94.

Edward R. Murphy, AR 31; 7/94.

John H. Schneider, EN 31, GR 33; 4/94.

Mrs. Charles K. (Carol Kalish) Berger, SW 32; 12/93.

Fred W. Drosten, EN 32; 5/94.

Faith C. Greiner, OT 32, UC 38; 10/93.

Richard B. Fulks, MD 33; 4/94.

Morrison Schroeder, MD 33; 5/94.

John T. Stephan, EN 34, GR 39; 5/94.

Robert C. Wahlert, BU 34; 5/94.

Lester F. Allison, MD 35; 1/94.

Orlando H. Wilkening, JR, BU 35; 5/94.

Ralph Bentzinger, BU 36; 4/94.

Robert C. Dunn, MD 36; 5/94.

Olin W. Kriege, EN 36; 4/94.

Mrs. Gas (Thelma B. Marcus) Abrams, LA 37; 6/94.

Gilbert Rosch, LW 37; 5/94.

James E. Risk, EN 38; 4/94.

Mary E. Murdoch Snider, DE 38; 5/94.

Patrick M. Cockett, Jr., MD 39; 5/94.

1940s

Robert L. Garrett, MD 40; 4/94.

John M. Gillette, Jr., DE 40; 7/94.

Myron Gollub, LA 40, LW 46; 5/94.

Joe D. Kelly, BU 40; 5/94.

Wallace O. Stephenson, DE 40; 5/93.

Mrs. Solbert (Ruth Alice Atkinson) Wassermüt, LA 40; 1/94.

Charles G. Gulledge, EN 41; 5/94.

George E. Roulhac, HS 41; 6/94.

Edwin M. Bender, AR 42; 5/94.

Dora A. Bonacker, LA 42; 3/94.

Bennett E. Frelich, BU 42; 5/94.

Mrs. June Cameron Hall, LA 42; 7/94.

Eileen King, NU 42; 12/93.

Mary I. Humphreys, NU 43; 6/94.

Jan J. Oliver, BU 43; 1/94.

Jerome F. Schwier, LW 44; 6/94.

Nancy J. Holmes, DE 45; 7/94.

Mrs. Thomas (Marion Rust) Bullfinch, LA 47; 9/93.

James H. Judson, LA 47; 4/94.

David Rabinowitz, SW 47; 7/94.

Gerald A. Rimmel, LW 47; 5/94.

Mrs. Robert K. (Virginia Gant Sites) Royce, NU 47; 6/94.

Jerry Gentry Gambill, LA 48; 5/94.

Wilson Mays, BU 48; 6/94.

William K. Metcalfe, UC 48, GR 48; 6/94.


Cecil E. Barber, LA 49, UC 57; 5/94.

Stanley H. Boednick, LA 49; 5/93.

Mrs. Marilyn M. (Miller) Czulin, LA 49; 6/94.

Marvin G. Fingerhood, MD 49; 7/94.

Nelson E. Lurken Jr., LA 49; 7/93.

Mrs. Curtis H. (Ada Leona Davis) Poeppeelmeyer, UC 49; 1/94.

1950s

John A. Fraser, LA 50, LW 52; 7/94.

Mrs. Arlyn Ruth (Austin) Katims, UC 50; 5/94.
In Remembrance

William Lawrence (Bill) Bedard, UC 51, LW 52, judge of Dallas County Probate Court No. 3, died June 30 of non-Hodgkin's lymphoma. He was 66. Bedard was a partner in the law firm of Storey, Armstrong, Steger, and Martin for more than 20 years. He had served two terms as Dallas County Probate Court judge and had been elected in the 1994 Republican Primary without opposition.

William Glasgow Bowling, LA 24, GR 25, a retired professor and dean, died July 1 from complications of pneumonia. He was 92. He retired from Washington University in 1970 as professor emeritus of English, having joined the faculty in 1925 after receiving his master's degree. He served as dean of University College from 1929 to 1942, dean of the College of Liberal Arts from 1942 to 1946, and dean of students from 1942 to 1944. In 1946, he became the University's first dean of admissions, serving as such until retirement. From 1946 to 1957, he also served as motion picture photographer for the athletics department, filming football and basketball games. He received the distinguished alumni award from the University in 1960.

James Leigh Brown II, LA 84, a St. Louis attorney, died June 4 of a heart ailment. He was 31. He was a partner with his brother, Joel Ehrgott Brown, in the law firm of Brown and Brown. He was born and raised in Peoria, Illinois, and received his undergraduate degree in economics from Washington in 1984 and his law degree in 1989 from St. Louis University Law School. Memorial contributions may be made to the Washington University Development Fund for arts and sciences general scholarships, Campus Box 1082, One Brookings Drive, St. Louis, Missouri, 63130-4899.

Marilyn Jean Conroy, UC 51, a retired teacher and amateur golfer, died June 9 after suffering a heart attack. She was 64. She taught elementary and middle school for 20 years. In the 1960s, she became one of the first women to be inducted into the St. Louis Sports Hall of Fame, having learned to play golf as a child from her father, professional golfer Homer Herpel.

Robert Elkington, AR 38, an architect and design consultant in St. Louis, died June 17 after a brief illness. He was 79. In the 1940s and 1950s, he taught night classes in architectural drawing at Washington U. and served as a visiting critic. Some of his St. Louis design projects included Schneithorst's Hofamberg Inn in Ladue, Brith Sholom Kneseth Israel Synagogue in Richmond Heights, Delmar Gardens Nursing Homes, and other commercial and industrial sites.

Terry Gail Guernsey, GR 71, a noted Canadian art historian, died in Ottawa, Canada, in July. She was 47. She held degrees in art history from the University of Victoria and Washington U. She was assistant curator at the Vancouver Art Gallery for two years and taught briefly at Carleton University. Guernsey wrote two art books: Sculpture Walks of the National Capital and Statues of Parliament Hill.

Ralph Shriner, EN 21, a well-known organic chemist and author of a widely used chemistry textbook, died June 7. He was 94. He was one of the scientists who helped lay the foundation of modern organic chemistry in the 1920s. He was a specialist in determining how to synthesize structures of organic compounds, including drugs. His textbook The Systematic Identification of Organic Compounds was first published in 1935 and went through six editions and three foreign language translations.

Armand C. Stalnaker, a St. Louis civic leader and businessman, former Washington University Trustee, and retired professor of management, died July 1. He was 78. Stalnaker retired in 1980 as chairman and president of General American Life Insurance Co. and began a "second career" as professor of management in the Olin School of Business. He was named chairman of the board of Barnes Hospital in 1985. He was the 1978 Globe-Democrat Man of the Year, and in 1981 he received the Right Arm of St. Louis award. He received a doctorate in personnel psychology at Ohio State University, a master's degree in economics from the University of Pennsylvania, and a bachelor's degree in business administration from the University of Cincinnati.

Ross M. Trump, former dean of the School of Business from 1954 to 1968, died August 13 of a respiratory ailment at his home in Ft. Myers, Florida. He was 82. During his tenure, Trump established the Graduate School of Business Administration and oversaw the school's accreditation by the American Association of Collegiate Schools of Business. He joined Washington University in 1949 as a marketing professor.
Robert C. Drews, M.D.: Type A...Plus!

If the Energizer Bunny were an innovative clinical ophthalmologist on call to the world, his name would be Bob Drews.

Then again, even the most energized Energizer Bunny would probably have trouble keeping up with the good doctor—although these dynamos do share a well-developed sense of humor and a sturdy but pleasant air of self-confidence.

Renowned for his expertise in the fields of cataract surgery and lens implantation, the dynamic Robert C. Drews, A.B. '52, M.D. '55, travels the world several months each year, teaching, consulting, and meeting with colleagues, many of whom chair international scientific societies. In fact, he's headed a couple of these global groups himself, including the Pan American Association of Ophthalmology—the largest international organization in ophthalmology—and has been honored for his achievements by several of them.

A professor of clinical ophthalmology at the School of Medicine since 1979, he is also the author of nearly 500 journal articles, book chapters, and books, and he has served as editor or editorial board member of several leading ophthalmology journals.

He is an accomplished photographer whose collection of ophthalmologic slides and videotaped surgical procedures is regarded as a priceless teaching and research resource. His "non-scientific" photographs win prizes and are featured in fine arts calendars distributed worldwide.

He is also an inventor who has created numerous examination and surgical instruments for the profession. In the 1980s, he devised groundbreaking office-management, personal-computer technology, which is currently used in more than a thousand ophthalmologists' offices.

Drews is a respected clinician with a busy private practice—the source of much of the data for his scientific papers—who presides over an office that patients describe as a "happy place."

He agrees with them, at the same time revealing, perhaps, the keystone of his great productivity. "I've built a pleasant office to work in," he says. "I have a superb staff; it's fun to be around them. If you are going to work really hard, you should enjoy it."

As if all his other accomplishments were not enough, Bob Drews has served Washington University long, well, and, yes, actively. He has been a member of the University Board of Trustees and of the executive council of the former Alumni Federation. He's chaired the Alumni Board of Governors, the Alumni Annual Fund, and headed the Medical Alumni Giving Program during much of the $300 million ALLIANCE FOR WASHINGTON UNIVERSITY campaign. He also has served as president of the University's Medical Alumni Association and Eye Alumni Association. He and his wife, Lorene, are Life Members of the William Greenleaf Eliot Society.

Drews is devoted to his family.
and clearly considers it a source of strength in his life. The Drewses have three daughters and a son and, at last count, eight grandchildren. Their photographs hang throughout Drews' office suite, as do many of his scenic photos. His inner sanctum there contains a desk he inherited from his grandfather—"I've been sitting at this desk for 50 years," he says with affectionate pride—and a pair of exquisite side chairs, part of Lorene Drews' grandmother's dowry.

His family connections to Washington University are strong. His late parents, ophthalmologist Leslie C. Drews, M.D. '29 (for whom the Drews Staircase in the medical school library is named), and Sarah Carrel Drews (a Class of '27 member and namesake of the Sallie Drews Music Scholarship) met as students at Washington. Bob Drews' brother, two sisters, and their husbands are all Washington graduates.

Drews entered Washington as a physics and math major—carrying, no surprise, a heavier-than-humanly-possible course load and earning Dean's List grades with it—during a golden time for physics students at the University. With Arthur Holly Compton, a Nobel laureate physicist, as Chancellor, the greats in the field frequently visited campus and shared their expertise. But it was not a golden time for physics graduates—jobs were few—and Drews instead opted for a career in ophthalmology, entering the School of Medicine at the end of his third year of college. He had spent his summers working in his father's office, doing, he says, "things that a physicist would do in an ophthalmologist's office because there are a lot of optics involved."

"The background and the training that I got, on the Hilltop, at the School of Medicine, and in my residency, really set me up for the rest of my career. It was an enormous opportunity, and I've always felt grateful about that."

After a residency at the School of Medicine, where he served as chief ophthalmology resident from 1958 to 1959, he did two years' military duty as staff ophthalmologist at the U.S. Naval Hospital in Great Lakes, Illinois. In 1961, he joined Washington's Department of Ophthalmology as a lecturer and established a private practice.

Three decades later, Drews says he still finds great fulfillment in his practice and in his work at the medical school. He says he feels a sense of obligation to the University: "The background and the training that I got, on the Hilltop, at the School of Medicine, and in my residency, really set me up for the rest of my career. It was an enormous opportunity, and I've always felt grateful about that."

It shows. When, for example, he set to work helping raise funds for an endowed chair in honor of a department great, Drews says, "I just called up our alumni and said to each of them that I wanted $5,000. When they picked themselves up off the floor I said, 'You can give it to me in five years if you want, and after taxes—I forget what the exact amount was, you're talking about something like $2.39 a day. What you got from our residency program is worth more to you in your daily practice than $2.39.' We raised enough for an endowed professorship in less than a year."

The story illustrates not just Drews' persuasiveness but his uncanny ability to cut to the chase, as he does again in talking about his office: "My patients occasionally comment on what a happy office this is to come to. I've told them, 'Years ago I decided that happiness was a state of mind. I intend to be happy.'"

Energizer Bunny, the doctor is in.
Biological Extinction: Its Scope and Meaning for Us

by Peter H. Raven

Today, we are confronting an episode of species extinction greater than anything the world has experienced for the past 65 million years. To understand species extinction in the broadest possible terms, consider this fundamental fact: the Earth, our planetary home, is truly finite. Since it is limited, and everything in it is limited, the economic formulas developed over the past couple of hundred years to keep track of the values involved in human transactions cannot make it any larger, nor give us any more of the productive systems and commodities on which we depend. No matter how clever we may be, the Earth remains the same.

Contrary to the wishful thinking embodied in the cornucopian scenarios presented daily in much of the business press, the Earth and its systems can either be used to provide a sustainable context for our operations, or we shall destroy them. We are currently losing the biological diversity on which we depend at a rate that will greatly limit our future options, and no amount of sophistry will alter the basic facts.

What is occurring now, during the second half of the 20th century? The human population is growing from 2.5 billion people, a third of them living in industrialized countries, to more than 6 billion people, only a fifth in industrialized countries. Over the past 40 years, while the human population shot upward at unprecedented rates, we have wasted about a fifth of the world's topsoil; lost about an eighth of the world's cultivated lands to desertification, waterlogging, and salinization; increased greenhouse gases in the atmosphere by more than a third, thus setting the world on a course that is leading inexorably to warmer climates; destroyed more than five percent of the stratospheric ozone layer; and cut or converted to simplified biological deserts about a third of the forests that existed in 1950.

Perhaps the simplest way to summarize the conditions we face now is to point out that human beings, one of an estimated 10 million species on Earth, are currently estimated to be consuming, wasting, or diverting 40 percent of the total net photosynthetic production on land. To assert that activity at this level would in some mysterious way not be leading to the extinction of large numbers of species of organisms, is really a fantasy of the most pernicious kind.

Why is this loss of biodiversity important? Viewed appropriately, the loss of species and their genetic
MORE INCOME, LESS TAXES

(See inside front cover.)
FREE INFO ON INCREASING YOUR INCOME

(See inside front cover.)
home function. Only someone unaware, or unwilling to become aware, of the way in which living systems function could conceivably view this destruction with indifference, because it will profoundly affect the future of each of us, of our children and their children, and of our planet for as long as our species exists.

"The loss of biodiversity should be viewed as a ripping apart—desecration, in the literal sense—of the fabric of our living world, and the destruction of the machinery that makes our unique planetary home function."

What should be done? The preservation of biodiversity can be accomplished only as a part of an overall strategy to promote global stability. This would involve social-equity issues, improved agricultural and forestry practices (for example, using cut-over lands rather than virgin forests for new enterprise), capping the activities that are leading to global warming and other drastic alterations of the Earth's environment, and limiting overconsumption in industrialized countries to levels that the world could sustain. Pollution poses problems for other organisms similar to those of which humans are so acutely aware, and is another factor that must be controlled if a reasonable sample of biodiversity is to be preserved.

Since currently 77 percent of the world's people, numbering some 4.3 billion, live in developing countries, with access to about 15 percent of the world's cash economy, six percent of the world's scientists and engineers, and about 80 percent of the world's biodiversity, it is obvious that international assistance on a massive scale will be necessary to stabilize our common management of our planetary home and to provide hope for the future of most of the world's animals, plants, fungi, and microorganisms. Such a strategy is of extreme importance for the future, for it is precisely from the organisms that we are able to save that we shall be able to build the productive systems and ecological communities of the future.

Human cultural diversity must also be taken seriously into account if biological diversity is to be preserved: the two are intimately connected.

Human cultural diversity must also be taken seriously into account if biological diversity is to be preserved: the two are intimately connected. The use of primary forests should always be avoided when disrupted communities provide alternatives. In addition, many organisms will be preserved only if they are brought into cultivation, in zoos or type-culture centers, or deep frozen, or otherwise preserved in a living condition outside their natural habitats. A world scheme for accomplishing the preservation of the maximum amount of biodiversity would be the most important single contribution that the people of our generation could make to the future.

Peter H. Raven is Engelmann Professor of Botany and director of the Missouri Botanical Garden. His comments are excerpted from a paper he presented to the 1993 annual meeting of the Council for Advancement of Science Writing.
Long Live the King

A speckled king snake in its Tyson Research Center habitat. Washington University biologists are studying how predators like the king snake interact with other species to subdivide resources such as food and shelter. Tyson Research Center marked its 30th anniversary in 1993-94.