Pollen: Why We Sneeze
Staying Put

There's something to be said for being a stay-at-home. We needn't travel long distances to experience the new and unfamiliar. Sometimes it is only a matter of looking harder at what was beneath our noses all along. Emily Dickinson, after all, constructed a spacious poetic world though she rarely left her father's Amherst estate, and Henry David Thoreau philosophized on life, the universe, and everything from the obscure perspective of Walden pond. Dorothy, it is true, left Kansas (which may not have been such a bad move, come to think of it), but she ended her adventure murmuring "There's no place like home."

For its summer issue Washington University Magazine is staying put. There's more than enough to write about, we've discovered, right in our own backyard.

First, there's the Masters of Liberal Arts program offered by University College and the Graduate School of Arts and Sciences, which is now celebrating its fifth anniversary. What better proof could there be that interest in the liberal arts is alive and well than the fact that dozens of active, successful adults varying in age from their twenties to their seventies have enthusiastically supported a program which exists for no other reason than to facilitate the pursuit of knowledge for its own sake?

Taking another angle on the school/work relationship, Steven Ehrlich, career counselor at WU, describes how the career planning and placement service helps students relate their studies to the work world through internships.

Two research stories, by their very universality, connect the local scene with the greater world. Allergies can affect all of us, whoever we are, wherever we live. Walter Lewis' research on allergenic pollen brings new understanding to this field and provides physicians with a valuable tool for diagnosing and treating specific allergies. The work of John Gohagan, Edward Spitznagel, et al., provides a more precise and effective way of using existing tools to fight a disease that affects women everywhere: breast cancer.

In keeping with the theme of local interest, we introduce our readers to a man who, when he goes in search of the unknown, travels not toward one of the compass points but rather straight down, into one of the cave systems that are so abundant in this section of the country. In this issue, Richard Watson, philosopher, novelist, speleologist, adventurer, explains how he came to write his most unusual work to date—a diet book.

Finally, what could be more indigenous than man's best friend? They're as much a part of the campus as the trees, the grass, and the squirrels, and it's time we gave them their due. In this issue, Michelle Meehan offers a tribute to the dogs of Washington University.

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Openers/2
Senator Eagleton professes, Philip Habib advises, and Alain Robbe-Grillet introduces la nouvelle vague.

Pollen Peril/6
They're consenting adults, all right, but the sex life of plants has a way of affecting others who haven't consented to anything—especially red eyes and runny noses.

Come On In, the Careers Are Fine/10
Sure, it's hard making the transition from school to work, but internships can soften the plunge.

Learning Is Forever/15
The Master of Liberal Arts program makes study an end in itself.

The Philosopher's Diet/20
Richard Watson has written the thinking person's weight-loss book.

Let's Hear It for the Dog!/24
Campus canines as companions, playmates, friends.

A Calculated Risk/28
How often should a woman be examined for breast cancer? Now the question can be answered precisely and individually.

Betrayed by Baseball/32
When the Dodgers and Giants headed for California, it was the beginning of the end.

On the Cover:
Pollen grains, most likely from a maple, enlarged 1500 times by a scanning electron microscope. The pollen has been color enhanced by computer. Photo ©1985 Alfred Pasieka.
Habib Describes Challenges to U.S.

On May 17 Washington University held its 124th annual Commencement ceremony in the Brookings Quadrangle. The commencement speaker was international negotiator Philip Habib, whose long career in the foreign service has been one of the most distinguished of recent decades.

Habib's career has included an appointment by President Nixon as acting head of the Paris peace talks with North Vietnam from 1969 to 1971. In 1977, he played a key role in President Carter's Camp David peace accords. Habib retired in 1978 after a 41-year career in the foreign service; however, President Reagan called on him in 1981 to negotiate a cease-fire between Israel and the Palestine Liberation Organization in Lebanon. He was nominated for the Nobel Peace Prize for achieving that goal in the summer of 1982.

At commencement Habib spoke about American foreign policy, its goals and major challenges. "The foundation of United States foreign policy," Habib said, "should be, can be, must be, and is the overriding concern for the search for peace. A just peace. A durable peace. Peace which is not just the absence of hostilities, but also includes some degree of orderliness in the world."

Foremost among the challenges that the U.S. faces, Habib said, was management of our relations with the Soviet Union and its allies. "I do not believe in the inevitability of conflict," he insisted. "On the contrary, I believe the issues separating us are subject to solutions short of resort to the use of force. It means that while confrontation is likely to continue, it need not lead to conflict."

Other great tasks Habib identified as essential to maintaining world peace were the strengthening of ties with our allies, especially the NATO nations, and the management of regional conflicts, particularly those of Central America and the Middle East.

Finally, he identified a group of problems that he called "issues between the haves and have-nots. How do the haves deal with the have-nots and what will be the response of the have-nots to the manner in which they are dealt with?"

In speaking of these problems, Habib did not downplay their seriousness or urgency, but he did exhort the graduates not to be pessimistic. "If, as a result of what you have achieved here," he said, "the momentum is with you and you are on the right track, keep going. For as Mark Twain put it, if you are on the right track and stand still you are sure to be run over. Don't be run over."

Novelist Joins Faculty

French novelist and filmmaker Alain Robbe-Grillet has been appointed an adjunct professor of French at Washington University. His first visit will be in fall 1986.

"This is a national and, indeed, international feat for the department, for the faculty of Arts and Sciences, and for Washington University," said James F. Jones, Jr., chairperson of the Department of Romance Languages and Literatures. "Alain Robbe-Grillet is one of the most distinguished French writers alive today."

Robbe-Grillet, founder of the New Novel, is best known for the novel "La Jalousie," 1957, and the script of the film "L'Année derniere a Marienbad" ("Last Year at Marienbad"), which won the grand prize at the 1961 Venice Film Festival.

Bruce Morrissette, who taught French from 1938 to 1962 at Washington University, was the first academic critic to recognize the importance of Robbe-Grillet and has devoted much of his career to the study of the French author. Morrissette published a book titled "The Novels of Alain Robbe-Grillet" in 1965. Morrissette's successor in 20th century French literature, Michel Rybalka, professor of French at the University, is also a specialist on Robbe-Grillet.
Two New WU Trustees

Michael M. McCarthy, chairman and chief executive officer of McCarthy Construction Company, St. Louis, and Kenneth Prewitt, president of the Social Science Research Council, New York City, have been elected to the Washington University board of trustees.

McCarthy, who received his bachelor's degree in engineering sciences from Washington University in 1962, is also on the board of directors of Mark Twain Bancshares and a director of AMEDCO, a development of retirement villages. From 1979 to 1982, he served on the School of Engineering task force of the Commission on the Future of Washington University. He was honored in April 1985 by the University's Engineering Century Club "in recognition of his dynamic leadership in the national and international construction industry."

Prewitt has served as president of the Social Science Research Council since 1979. His education includes a B.A. from Southern Methodist University, an M.A. from Washington University, and a Ph.D. from Stanford University. A widely published political scientist, he has been on the faculty of the University of Chicago, Columbia University, and Stanford University. He has also served as director of the National Opinion Research Center and continues as a trustee for that organization. He is on the board of directors of International Research and Exchanges and is a fellow of the American Academy of Arts and Sciences, as well as a member of the American Political Science Association. He recently has announced that he will assume a new position as vice president for programs, Rockefeller Foundation, later in the year.

Chancellor William H. Danforth said the University was extremely fortunate to have two outstanding new members of the board. "We know we will benefit from their experience and counsel," he said.

Learning from Trash

Most of us face a dilemma when it's time to choose summer reading matter: should we tackle something worthwhile or relax with something trashy and fun? Now for those of us who yearn to get down with junk rather than climb the rocky slopes of Parnassus there is good news. Stanley Elkin, who is Merle Kling professor of modern letters and one of the most distinguished writers in America (latest work: The Magic Kingdom, Dutton, 1985), has placed his seal of approval on trash. You'd better read attentively, though. Elkin expects you to learn something from the experience.

In his course on the novel, Elkin teaches what he calls "sub-genre" works—children's fiction, best-sellers, formula romances, detective novels, science fiction, and pornography—to demonstrate what "real" novels are.

To Elkin, the notion of examining the good, the bad, and the ugly of literature did not seem so extraordinary. "I didn't even know I was having an idea," he says. "I simply knew that in order to teach something called the novel, the structure, the bones of the novel, would be more visible in the less ambitious works. If you want to demonstrate what the novel ultimately is, you begin by showing what it does when it's least self-conscious."

Elkin contends that all writers who set out to tell stories are compelled by the same principles, whether they know it or not. "What I'm really trying to do in this course is to find out what those principles are," he says. "They would be the laws of fiction."

Elkin won't reveal what those laws are. If you'd like to find out, take his course. Or else, take a tall, cool one out to the patio and settle in for a long summer with the best-sellers. There'll be an exam in the fall.
Peter Raven, Engelmann Professor of Botany at Washington University and director of the Missouri Botanical Garden, is receiving a $240,000 fellowship for five years of personal research, with no strings attached.

Raven, 49, was one of 25 people across the country selected by the John D. and Catherine T. MacArthur Foundation of Chicago to receive a prestigious MacArthur Fellowship for 1985.

The fellowship selection process is kept a strict secret, even to the nominees. "I was completely and totally surprised by the announcement," said Raven.

The foundation cited Raven's outstanding work as a world leader in conservation efforts in the tropics. Raven has been a frequent and eloquent lecturer on the dangers of rapid deforestation of tropical lowland rainforests and of the massive extinctions which would follow deforestation.

"The fellowship will enable me to concentrate even more on these conservation efforts," Raven said. "I probably will devote much of my time to writing and lecturing about the problems of the tropics so that I can reach a wider audience."

Raven is also considered one of the world's top authorities on the plant family Onagraceae (evening primrose). He began studying the evening primrose in 1955 and has received National Science Foundation grants every year since 1962 to continue the work.

Raven noted that the fellowship would enable him to delegate some administrative duties at the Missouri Botanical Garden to others and allow more time to pursue his individual research and conservation efforts. He also plans several month-long sabbaticals for intense study during the five-year grant period. He stressed, however, that he will remain director of the Garden and will retain his post at Washington University: "I want to stay where I am because I cannot imagine a better place to work than Washington University and (Shaw's) Garden."

Under his leadership, the Garden has sponsored the largest private research effort in tropical plant biology in the world, and has gained a reputation as one of the pre-eminent botanical gardens in the country.

Raven, who was born in Shanghai, China, is a member of the National Academy of Sciences, a Fellow of the American Academy of Arts and Sciences, and a Foreign Member of the Royal Danish Academy of Sciences. He has published eight books and over 300 scientific papers.

**Awards for Teaching**

Two members of the Washington University faculty have received awards from the Burlington Northern Foundation, Seattle, Washington, "in recognition of outstanding teaching and exemplary contributions on behalf of undergraduate education." The awards were presented at the Eliot Honors convocation held May 16.

They are Carl M. Bender, professor of physics, College of Arts and Sciences, and John W. Bowyer, Jr., professor of finance, School of Business.

To be eligible for the award, a regular faculty member must have evidenced unusually significant and meritorious achievement in teaching, possess high scholarly standards, and show direct impact upon and involvement with students.

Bender started with Washington University in 1977 as professor of physics; since 1979 he has also served as a scientific consultant, Los Alamos National Laboratory. He has been a National Science Founda-
tion pre-doctoral fellow, a Woodrow Wilson fellow, and a Sloan Foundation fellow. In 1982-83, he received the Council of Students of Arts and Sciences Faculty Award "in recognition of excellence in teaching and genuine concern for the welfare of undergraduate students."

Bender has had direct involvement with Washington University's participation in the William Lowell Putnam Mathematical Competition, the nation's highest academic competition for undergraduates. Since he has been coach, the Washington University mathematical team has consistently placed in the top ten, taking first place four times and second place three times. He also helped coach the University's first place winner in the first National Mathematical Competition in Modeling.

Bowyer started with Washington University in 1952 as an assistant professor of finance and was later named an assistant dean, associate professor of finance, and professor of finance in 1958. He has been selected as "Teacher of the Year" many times by both undergraduate and graduate students.

Since 1975, he has been called upon by numerous state agencies to testify on cost of capital to public utilities in utility rate determination.

Washington University's Chancellor William H. Danforth said that Bender and Bowyer exemplify the highest standards of teaching and student relationship. "I know I speak on behalf of the entire academic community in extending congratulations to two outstanding members of our faculty," he said.

Senator Thomas F. Eagleton will become University Professor of Public Affairs at Washington University at the conclusion of his third term in the U.S. Senate.

The Committee to Establish the Thomas F. Eagleton Endowment Fund announced plans to create the endowed professorship. Gifts for the endowment will be raised by the committee, beginning with a dinner celebrating Senator Eagleton's career in the U.S. Senate. The dinner will be held October 3, 1985 in the Khorassan Room at the Chase Park Plaza.

"We feel privileged to establish the Thomas F. Eagleton Endowment Fund as permanent recognition of his service to the country," said Chancellor William H. Danforth. "The conclusion of Senator Eagleton's career in public service offers an unusual opportunity to Washington University. We will be adding to the faculty a statesman whose experience in law and government and knowledge of politics and public administration qualify him uniquely in the area of political affairs."

Eagleton will contribute to many aspects of the Department of Political Science and to The Center for the Study of Public Affairs, bringing fresh perspectives and a practical dimension to the study of political affairs. Eagleton will also contribute to undergraduate teaching as a guest lecturer, in team teaching with other faculty members, and in honors seminars on specific topics.

Thomas Eagleton has served in the U.S. Senate since 1968. Previously he was elected lieutenant governor of Missouri in 1964, attorney general of Missouri in 1960, and circuit attorney of St. Louis in 1956.

A 1953 cum laude graduate of the Harvard Law School, he completed his undergraduate degree with honors at Amherst College in 1950. He also served in the U.S. Navy.

His honors and awards include UPI's Missouri Man of the Year, the National District Attorneys' Association Furtherance of Justice Award, the Leon Jordan Memorial Award, the Harry S Truman Good Neighbor Award and, recently, the distinguished Truman Award granted to a major national leader each year by the city of Independence, Missouri.

During his career in the Senate, he has served on the Governmental Affairs, Defense, Labor, and Appropriations Committees. He has worked strongly on behalf of Missouri with the Agriculture Subcommittee.

Senator Thomas Eagleton speaking at the dedication of the Clinical Sciences Research Building.
POLLEN PERIL

by Carol Baskin

Allergy sufferers don’t want to get in the way of plant reproduction. They can’t help it. But the punishment can be severe.

It’s that time of year again, when millions of Americans start sneezing and wheezing. Allergy season is in full bloom.

All those runny noses, itchy eyes and sinus headaches wouldn’t happen if mere mortals could avoid getting in the way of plants’ urge to reproduce themselves, says Walter H. Lewis, professor of biology at Washington University.

“We all have to breathe, so we can’t keep from inhaling airborne pollen. We’re accidental intruders in the life cycle of plants,” explains Lewis. “The culprit is floating everywhere. Pollen is the male part of plants, and with the arrival of the appropriate season, it has a one-track mind—to do its part to make more plants.”

From early spring to late fall, most of North America is awash in an invisible pollen rain. First it showers from sunlit trees, then it flies from drying grasses, and finally, at summer’s end and into fall, it explodes from flowering weeds. Under microscopic scrutiny, pollen reveal a plethora of distinguishing

At the left: Grains of pollen from Salsola kali or Russian thistle, as seen via an electron microscope. Pollen from this plant can cause a very serious allergy.
characteristics—wings, warts, spines, craters, ridges and valleys—to name a few.

Lewis describes the normal course of events in a pollen grain's day: Floating through the air, the tiny particle is non-selective, dependent on the whims of wind. It makes contact with the tiny, sticky hairs of the stigma (egg-bearing organ) of a female flower or plant and absorbs its moisture. Activated, the pollen grain flushes the moisture back out, laden with proteins that carry a message to the female. It says, "Here I am. These are my compounds. Are they like yours? Are you receptive?" If the female is the same species, it responds with like compounds. A tube from the pollen grain emerges and breaks through the wall of the stigma, making its way to the egg at the base of the ovary, and fertilization occurs.

"A little dramatic, but basically, that's what happens," says Lewis. Pollen grains aren't discriminating. There's a chance that any moist, sticky surface they land on might be a female plant. But that surface could just as easily be the human nasopharynx—the passages of the nose and throat. Regardless, those proteins are released, popping the question. Instead of saying 'yes,' people who are genetically predisposed to developing allergies begin the process that will eventually cause them to sneeze, wheeze, and probably curse the plant kingdom along the way.

Not all people are allergy prone, and for them, inhaling pollen is no problem. Allergies in general, however, are first in frequency among the nation's chronic diseases, according to the National Institute of Health. We lose eight million days of school and work, spend more than $600 million for remedies and endure months of misery all because of a mass of microspores called pollen.

Lewis says only eight to 10 percent of the population is allergic to airborne pollen. For that eight to 10 percent, allergic response is not automatic—at first. An allergy develops over time.

More than one exposure is required. Once pollen proteins touch mucous surfaces of the nose and throat, antibodies form. These antibodies—called immunoglobulin E or IgE—attach themselves to certain cells—called mast cells—in either the nasopharynx, lungs, lining of the body cavity, or the skin.

Over the years, each new round of exposure to pollen proteins stimulates production of new immunoglobulin E. Antigen-antibody complexes form on the surface of mast cells like a microscopic honeycomb. Finally, the mast cells become saturated and begin leaking compounds.

Primary among these is histamine, a natural body substance that produces body responses that tell us we are having an allergy attack. Histamine is responsible for dilation of blood vessels, which slows circulation and lowers blood pressure—classic symptoms of a generalized allergic response.

Or, if symptoms are localized, we'll have runny eyes and nose, bronchial asthma and headaches (from dilation of blood vessels in the brain).

Allergy victims doctor themselves with over-the-counter antihistamines. If those fail, they turn to stronger, physician-prescribed, antihistamines or regimens of immunotherapy injections.

Lewis warns that there's no security in moving to a new location, even if you don't start sneezing right away. "Allergic response may develop in as little as two exposures, or it may take as many as 10. For ragweed—a prime offender in the eastern half of the United States, the average is four to five years," Lewis says. One species—giant ragweed—common along waterways in the upper Midwest, has a Jack-in-the-beanstalk growth pattern. Its seedlings, barely visible in April, can literally leap to 20-foot "forests" exploding with pollen by August.

Maples and oaks are the main culprits in the tree family, releasing their pollen in spring. Their many species with wide ranges of adaptation to climate make them among the most common trees in North America, and they're also among the most prolific producers of pollen. Alders are a particular problem in the Pacific Northwest, birches in the far northern states, live oaks in California, and bayberries or wax-myrtles along the East Coast from New York to Florida.

Along with two other Washington University associates, research associate in biology Prathibha Vinay and allergy trainee Vincent Zenger, Lewis is author of a recently-published book, Airborne and Allergic Pollen of North America (Johns Hopkins University Press). Requiring five years of field work, the book contains hundreds of pollen photographs and maps illustrating species density, distribution and flowering time. The volume takes much of the guesswork out of the allergist's job.

"With the book as a reference, the allergist can now much more closely approximate what pollen is in the environment and narrow the possibilities," says Lewis. "For example, if a Utah allergist suspects a certain species of maple, he can refer to the book and see which species are in his area. We've never had that kind of specificity until now."
Muhlenbergia (above), an example of a grass that sheds allergenic pollen, was photographed in Austin, Texas.

Iva annua (above), is a local St. Louis weed that sheds a lot of allergenic pollen, which can be very dangerous, according to Walter Lewis. Quercus palustris, or pin oak (right), is a local, spring-flowering tree whose pollen causes allergy.
Many college students spend a great deal of time thinking about careers and worriedly asking questions like “What can I do with an English degree?” or “How can I survive in the ‘real world’ after graduation?” Such concern is only natural. After all, college is both a safe and threatening passageway into the world of work—a place to forge an identity but also one conducive to questioning that identity’s ultimate worth. Washington University does all it can to help students through this transition and prepare them for the challenges of a career. In addition to their academic work, students can benefit from career panels in which prominent individuals in business, politics, and the arts share their knowledge and experience.

But while such panels may yield valuable insights, their usefulness is limited. It is unlikely that the participants can convey a sense of the day-to-day texture and flavor of their work through words alone.

For that inside view, WU students are increasingly turning to internships—practical work experience supervised by skilled professionals. Whether it’s writing copy for a news broadcast, interviewing job applicants in a personnel department, coordinating a fundraising campaign for a non-profit organization, or conducting research for the Office of the Lieutenant Governor, an intern’s work is demanding, and is generally awarded academic credit and sometimes pay. Most importantly, interns have an opportunity to utilize knowledge outside of the classroom, develop new skills, and explore career paths.

The heightened interest in internships is, in part, a response to the ongoing debate about the value of a liberal arts education. Educators, students, and employers are concerned that a college education has become too specialized and that fundamental skills, intellectual and moral growth, are dangerously slighted. Appeals have been made for more integrative curricula and special programs to reinvigorate the liberal arts and demonstrate their applicability in the work world.

For many students majoring in English, history, political science or a foreign language, the internship is one such program. In fact, one of the conclusions underscored by a National Institute of Education special report, Involvement in Learning: Realizing the Potential of American Higher Education, was that there is a need for more “active modes of teaching,” including “internships and other forms of carefully monitored experiential learning.” And among the report’s specific recommendations to students was: “Make sure that you take at least one independent study course and one internship during your college career, and that these experiences involve research and the opportunity to apply theory to problems in the world beyond the campus.”

Students often speak about the pressure to make a lifelong career choice as quickly as possible, and to select a major that will provide the ticket of admission to that field. Their prevailing assumption is that there is a direct link between the academic major and the initial career choice: biology majors become physicians or laboratory researchers, political science and history are the “best” majors for a career in law, a corporate job requires a business degree, and English majors are best suited for writing or teaching. And if the “right” undergraduate degree hasn’t been acquired, or if it’s not “enough,” there’s always graduate school!

Generally speaking, these perceptions—or more accurately myths—are restrictive, simply unrealistic, but nevertheless painfully evident as students map out their academic schedules and career paths.

One of the primary goals of the Career Planning and Placement Service is to challenge these assumptions and relieve some of the pressure students feel to make hurried, uninformed decisions.
about their future. Career counselors teach students first to assess their own interests and values and then to analyze their skills based on all meaningful experiences—work, study, travel, and extracurricular activities—rather than just try to match high-paying jobs with high marks in the classroom.

Learning by doing, is an often overlooked educational experience that bridges the gap between school and work, theory and practice. It is the internship, then, that demonstrates to students how to challenge and broaden restrictive assumptions about academic preparation, career options, and the value of the liberal arts and humanities. And it is the internship that blends on- and off-campus learning to help make a student’s education more integrative, intellectually and interpersonally compelling, and occupationally rewarding.

Students have the chance to participate in their education in a manner unavailable in the classroom: to learn by doing rather than merely reflecting on a text or lecture. That “real world,” alien and often feared, becomes the intern’s; resulting in a more integrative, holistic, and sometimes unsettling outlook on learning. Traditional academic and institutional boundaries diminish; the whole world becomes the classroom and practical experience the instructor. As interns, students learn about responsibility, authority, and decision-making in often difficult ways, and those lessons endure.

Internships can also reinforce in a student’s mind the value of an academic discipline. Students begin to see that “career relatedness” does not have to be such an intrusive criterion for curriculum design. That is, in part, precisely what internships are for—to demonstrate the “market value” of liberal arts skills and the relevance of any academic discipline to a chosen line of work. Internships prove that strong interpersonal, organizational, analytic, and communications skills—regardless of academic major—are and will always

For 18-year-old WU sophomore Sophie Huang, working as a summer intern at Anheuser-Busch Companies helped unravel the mystique of the corporate world.

As an intern in the companies’ New Product Development Department, Sophie created market profiles on more than 50 Anheuser-Busch bakeries across the country. The Hong Kong native developed the profiles from information she obtained and interpreted from a computer. She also learned how the market profiles she created affected the companies’ marketing strategy.

“Experience in the real world is important to securing a corporate career,” said Huang, who plans to

major in economics or business and eventually get a master’s degree in business administration. “Hopefully,” she added, “my internship and education will allow me to work my way up the corporate ladder.”

Sophie believes her internship experience will help her be a better student this fall. “Many of the things I’m learning now, particularly about the computers, will be discussed in some of my classes,” she explained. “I’ll be able to fully participate in class discussions. The internship has definitely broadened my views.”

The internship has helped Huang improve her communication skills too. “One of the most important lessons I learned this summer was how to work and cooperate with others,” she said. “I’m sure that’s a helpful lesson wherever I go.”

Sophie Huang at Anheuser-Busch’s New Product Development Department.
My internship in the creative services department of Ralston Purina was a positive experience in several ways.

I worked under the supervision of a creative director and an art director and learned much about the way an in-house advertising agency functions.

The experience surpassed what I've gained in the classroom; I was able to observe how visual artists work in a business environment. I learned that the ability to compromise, defend your ideas, and make quick, effective decisions are just as important as creative ability. I gained a great deal of insight about advertising, and about the different steps involved from concept to finished product.

Most importantly, I learned more about the ways in which freelance illustrators are used, and as a result I'm very encouraged about entering the profession.

Jon Herz at Channel 9 studios.

Gina Minor, '85
BFA, Graphic Communications and Illustration

Edward Dyson, art director, with Gina Minor.

Jon Herz, '85, BA,
English Literature

I was an advertising and promotions writer with KETC-TV, Channel 9. My job included writing press releases for Masterpiece Theater, Great Performances, NOVA, National Geographic, and others. These appeared in the Channel 9 Magazine as well as in the Post-Dispatch and the Globe-Democrat. I also wrote public service announcements for radio station KMUR.

When I first started, I didn't know what promotions were, but I just jumped right into it and tried my best. The people at Channel 9 were very supportive and made me feel comfortable very quickly. It gave me a great feeling of self-confidence to see things I had written going out into the real world and appearing before the public. It made me feel that I could do something else besides function in the classroom.

The kind of writing I did was a lot different from papers I had done in class, but I found that my background as an English literature major helped me a lot. The internship was a great transition from school to work. I think that by senior year, school can sometimes be less meaningful than it was earlier. Things are winding down, and you're thinking more about what lies ahead than about the classes you're involved in at the moment. An internship can help keep you going, give you something to look forward to every day. And of course it's a great way to get your foot in the door. I'm planning to go in the direction of TV journalism, particularly sports, and this was a wonderful introduction to that career.

At Channel 9 studios.
In very concrete ways, internships also aid students' career development. In addition to offering a more realistic view of work in general, internships are testing grounds for students to explore specific career alternatives. Supervisors often become mentors, and along with other contacts made at a work site, provide a valuable network for advice, information, and future job hunts.

What benefits do employers gain from internships? Enthusiastic talent is the most obvious gain, but other significant advantages are often overlooked. Many employers welcome the opportunity to teach and supervise interns, and actually become more effective themselves with the addition of this new responsibility. Students supply the work sites with new knowledge and refreshing perspectives nurtured by an academic environment. Interns form a skilled, energetic, and responsible workforce. They are indispensable in many organizations and generally make up a proven workforce.

The number of journals, newspapers, and newsletters available in the career library also publicize local, national and international internships. And many members of ACCESS, the Washington University alumni network, have agreed to sponsor interns. If there are no relevant positions available a student may also design his or her own internship.

All students find internships through the Career Planning and Placement Service. With the assistance of faculty, many make their own contacts and arrangements with employers. Several academic departments have developed internship and practicum courses that place students in community organizations. There are, for example, public policy and legal internships available through the political science department, social service internships through the psychology department, and marketing positions through the School of Business.

Whether a position is located through a course, an individual faculty member, or the Career Planning and Placement Service, credit is offered only through faculty approval and sponsorship, and it is the student's responsibility to contract with a faculty advisor for that credit.

Several exciting developments at the Career Planning and Placement Service have given the internship experience even greater breadth. The number of local internships has increased during the past year, primarily in areas such as advertising, public relations, media writing and production, and arts management. Organizations such as Anheuser-Busch, Monsanto, Marriott, and Seven-Up have been contacted, and as a result liberal arts students will have more corporate internships available in human resources, sales, government relations, communications, and research.

Nor are internships just for undergraduates. The Graduate Intern Program, initiated several months ago by Edward Wilson, dean of the Graduate School of Arts and Sciences, and Karen Levin Coburn, director of the Career Planning and Placement Service, was developed exclusively for graduate students in the final stages of their doctoral studies. The program places these students in paid, part-time positions requiring research, data analysis, writing and editing skills. Directed by Dr. Pamela Warford and operated under the auspices of the Career Planning and Placement Service, the graduate intern program is helping young scholars better identify the range of career options—academic and non-academic—which are available to them.

Even if liberal education could guarantee that every graduate would better understand the difference between right and wrong, where we erred in our past, and how our future may be more prosperous and just, this would not be enough. Liberal education must teach people to act as well as to know, and to take personal responsibility for what they do. Through internships, students are acting, learning by doing, and watching their knowledge come alive.

Steven Ehrlich is a career counselor with the WU Career Planning and Placement Service.
For students in the Master of Liberal Arts program, learning is a way of life.

by Mary Kimbrough

LEARNING IS FOREVER

Dennis Post is an aptly-named mailman who writes novels and short stories as a hobby. William Cornelius is president and chief executive officer of a utility company. His special interest is nuclear weapons. Mary Lou Noonan Koenig is a young mother of three who welcomes adult conversation and the exchange of ideas on subjects other than toddler toys and car pools.

Larry Travers is a construction supervisor. Larry Amitin deals in rare, hard-to-find books. Lillian Zemelman is a retired social agency case worker. Walter Lawrence is a West Point graduate with the rank of captain and plans for a medical career.

They received their undergraduate degrees from many different colleges and universities. They took their first steps on their career paths years and miles apart from one another. But now these paths have circled back into the world of academe and crossed in the classrooms of Washington University.

These men and women are among a select company of scholars who have gone back to school, some as long as 40 or 50 years after college graduation. And now they are reaching for another milestone—the degree of Master of Liberal Arts.

MLAs are non-traditional students in an unconventional curriculum, registered in a learning program that cuts across disciplinary lines with a gourmet's choice of courses flavored with condiments from the humanities.

In a collegiate world peopled by teenagers, young graduate students, and enrollees in part-time career-enhancement courses in University College, they comprise an elite educational corps. Parents, grandparents, homemakers, engineers, business and professional employees, management personnel, corporate executives, teachers, social workers, retirees—they belong to a unique fraternity of learners, an exclusive group who study not technology but theories, not historical data alone but ideas.

They aren’t looking for professional advancement—although that may well be a by-product of their studies and of the writing and communication skills which result from preparation of class papers and the robust give-and-take of lively classroom discussions. Each one’s course of study is as individual as the students themselves. The structure, while firm, is not stringent.

But all, whether working or retired, have two reactions in common. To participate in the MLA program, they agree, stretches the mind and enriches the life.

Says Dean Robert Williams, professor of history and dean of University College, who designed the program: “It makes your life more meaningful in the middle of your career. No one will tell you that the MLA is a stepping stone to a future career. Rather, it’s almost an escape from a successful career.

“We find people who are fast-tracked, very successful. But that is not enough. They start to ask or re-ask value questions which may have bothered them in college but which they haven’t asked for a long time.

“These are individuals with lively, open minds and they do a lot of reading in a society geared to television.”

Ten men and women, who success-
fully completed the 30 units required for the MLA degree, received their diplomas in May with seniors and graduate students who were accepting traditional bachelor's, master's, and doctoral degrees. As they walked across the platform in their caps and gowns, their spouses, children, and grandchildren, and even an occasional boss joined in the applause.

Of those 1985 graduates, five were among the 25 who registered for the first courses five years ago when the MLA program began. This past spring, 76 were enrolled, bringing to more than 170 the total participation since 1980.

They are the academic beneficiaries of an idea of Ralph Morrow, then dean of the graduate school.

"We were seeing a new kind of adult student," Dean Williams said. "There were a lot of non-credit courses and some students were finishing their bachelor's degree in University College, but there was no quality graduate program for the part-time student.

"Dean Morrow asked me if I were interested in chairing the program. So I created a curriculum based on four broad categories.

"These categories define the colloquia, and each student must take 12 units in the core colloquia, with electives permitted beyond that to make up the 30 hours required for graduation.

"One category is ideas and inquiry, or how do we know what we know about the world? Then I thought there should be one based on the creative imagination, emphasizing that we are creative in performing certain things as opposed to being analytical and judgmental.

"Since I am an historian, I thought a lot of courses could be gathered under the umbrella of a third category, historical imagination. What we had in mind was picking particular places and times and doing interdisciplinary studies of particular communities at particular times. The Vienna 1900 course fell...
nicely into that category. We have done one on World War II.

The fourth is science and human values, like the others horizontal rather than vertical, sufficiently broad-based to permit both professor and student to spread mental wings and fly into new territory unexplored in orthodox courses in a tightly-structured degree or career-enhancement curriculum.

"I felt very strongly there should be a science component to the liberal arts, but these are not people who want to learn organic chemistry," said Dean Williams. "We felt we should focus on areas where science runs into value judgments. For instance, we had a course in ethics and genetic engineering and are doing one next year on birds, but it has to do with ecological questions.

"The traditional divisions of liberal arts are the humanities, social sciences and sciences," he said. "We wanted to get away from that. The interesting thing is that you get people from different departments teaching across disciplinary lines."

The Dean himself has taught a course in this fourth category because he is interested in nuclear power. "And there is no reason why a physicist cannot teach a class in the area of ideas and inquiry."

From the Dean's office in January Hall, the headquarters of University College and heart of the Master of Liberal Arts program, the faculty is chosen as carefully as the students. At first they may be anxious about the non-traditional setting.

"A teacher in MLA," Williams says, "must have an understanding of and sensitivity to the needs of adult students. He or she has to be a very good teacher and has to have a lot of self-confidence. Sometimes, it can be threatening. If you are used to teaching 18-year-olds who don't know a lot about the world, you're up against a whole different category when you have a 40-year-old Vietnam vet or an ex-priest or the president of a company."

But, he adds, "what makes this program outstanding rather than just adequate or good is the quality of the faculty and of the students. "We can give them the structure, but there is a chemistry that occurs between the instructor who suddenly discovers


MLA student Ellen Post.

that adults are worth teaching and the students who discover that the faculty takes them seriously."

But there is no one-on-one confrontation with the professor on one side of the desk and the class on the other. The typical MLA class—it is normally limited to 20—is a discussion rather than a lecture. And the Vietnam vet and ex-priest and corporate president, or their counterparts, come prepared with often widely-divergent opinions, which they may have to defend against the onslaughts of their colleagues.

"They would bring their old prejudices, yet everyone had an open mind," says Ellen Post, an alumna of Barnard College and a 1985 MLA graduate. "We had wild discussions in our ethics class. It was so exciting that we met with the professor over wine and cheese for two months to keep the discussion going."

Even so, maturity and career success are no security blanket against back-to-school jitters.

"The classroom provides a lot of reinforcement," says Dean Williams. "We find that many of the MLA students are seeking peer support. Some are anxious. That's one reason why we want to restrict the courses to adults."

So, despite their age and professional prestige and the scope of their experience, MLA students are treated with as much tender loving care as a frightened freshman stepping away from the family fireside into the unfamiliar world of the Hilltop campus. But they aren't coddled. The MLA program isn't a late-
blooming dilettante's time-passing hobby, created for the faint-hearted or the lazy. It isn't cramming on data to be returned on a final exam paper. It's asking questions—of themselves as well as of the faculty. It's discussing, differing, defending an opinion, and it's writing papers throughout the course. "If they were in college in the 60s, they tended to get caught up in the notion that education had to be relevant to social reform," Williams says. "In the 70s, education became very careerist. Pre-law. Pre-medicine. Pre-business. What got left out was liberal arts."

The students' desire to fill this gap often is reflected in their orals preceding the awarding of a degree.

"We always ask what significance the program has had for them," says Associate Professor of English Wayne Fields. "And a kind of pattern keeps emerging from the answers even though they are entirely different people. One is that almost always they came back because there were doors which had remained closed to them. Many were very job-oriented as undergraduates and that tended in some ways to limit that education."

But it also hones skills which may have lain dormant and rusty since their collegiate years.

"Out of this," says Dean Williams, "comes a whole set of skills—clear and distinct writing, the ability to communicate, the ability to judge, to see both sides of a question, to weigh evidence, to analyze a problem you have never seen before. These skills are developed whether the topic is Proust or Ibsen or Vienna or nuclear power."

"I like to compare the program to a funnel," says Assistant Dean Anne Hetlage, the coordinator—and often the counselor, comforter, and mother confessor. "In the traditional program, the farther you go the more narrow it gets and at last you are researching a relatively narrow topic.

"MLA inverts the funnel. You might study 19th century art one semester and something entirely different the next. But it is a structured program. You can't come in and take literary basket-weaving. On the other hand, there is a great deal of flexibility within the structure. It's very eclectic."

So is the student body. MLA people have come from every corner of the St. Louis area and from a wide range of career backgrounds. Yet, at a reunion shortly before the May graduation, they met as old friends and fellow warriors whose divergent paths, because of their common desire for more learning, have melded in the classroom.

To talk with them is to hear recurring motifs—enrichment, mind-stretching, new horizons, and as a counterpart, the occasional fears about returning to school.

For some, such as Elvis Cole, it hasn't been a "return." Rather, it's a continuing journey.

"I am in medical management," he says, "working with physicians in private practice. I had 42 hours in accounting and finance, and that whetted my appetite, so I went for the degree of Bachelor of Science in Business Administration. I wanted more than business so I took a degree in organizational psychology.

"I wanted something different, something other than business, so that's why I came into the MLA program. This keeps you mentally alert. I have been going to school most of my working life but this has broadened the base of my education."

For Walter (Jim) Lawrence, it has been the stepping stone to a new career. For William Cornelius, it has added another facet to an already prestigious corporate career.

Cornelius, a graduate of the University of Missouri and now president and chief executive officer of Union Electric Co., has been appointed an adjunct teacher in University College on the subject of nuclear weaponry which he presented in his thesis for MLA graduation—an optional project.

Lawrence, a captain from the U.S. Military Academy, originally entered the program "to make me more competitive in my other career, medical administration."

"But halfway through, I developed a desire to go back to medical school for a degree in medicine. This gave me a little different perspective toward medicine, not just the scientific aspect but other things that tie in."

"It gave me a chance to do some of the things I wasn't able to do as an undergraduate at West Point. There, you stick pretty much to basic engineering, physics, and chemistry. This let me pursue in depth some areas I wanted to—for instance, baroque music, the history of medicine, the social, political and economic factors of World War II instead of just the tactical."

For Larry Amitin and Larry Travers, it is enriching their present lives and careers. For Lillian Zemelman, it is an exciting life-after-retirement.

Amitin, who graduated in May, has his Bachelor's degree in philosophy from Washington University.

"But as a book store owner," he said, "I am in a kind of business where liberal arts helps. It's not just getting a degree. It's using it. This has given me enlightenment in learning my own stock."

Travers, a construction superintendent at Union Electric, didn't find it too hard to return to the classroom because only three years had elapsed between his undergraduate degree in industrial engineering (all taken in night courses) and his entrance into the MLA program. One of the original 1980 class, he received his degree in May.

"I would get so enthusiastic about some of the reading," he said, "I would never have been exposed to it otherwise. It is directed reading. You sit down with your peers and analyze what you have read. They are serious students, a super bunch of people."

Lillian Zemelman, with a master's degree in social work, has retired as a case worker, but, at 79, she doesn't mind
identifying herself as the oldest in the program.

"I enjoy the younger students," she said. "And I just like to go to school. This is very fulfilling for me. I am not a great writer, but I enjoy the research and the writing of papers."

Henrietta Meier, formerly a prominent advertising and public relations executive who is now moving into the real estate field, received her associate degree in the mid-40s from University College. In May, after many hours as a part-time student, she was awarded her Bachelor's degree. Now, she will "go for it" in the MLA program.

"I hadn't been back to school for years. It makes a difference, being able to concentrate again. The brain is like a muscle. If you don't use it, it atrophies. "The future is today. I enjoy learning."

"They all do," said Dean Williams. "I don't know of any other degree in which there is no sense of ending. We give them an oral exam, we give them a degree. But they are the first to tell you that they already are thinking about the next course.

"Although it is a structured program, it is really continuing education."

"There is a hunger to reach out, to want something more."

But, he added, it doesn't stop with the individuals who take the classes. Those individuals, in turn, can enrich their careers, influence their corporations or their communities.

Dean Williams, obviously, is an educator with the soul of a missionary.

"I like to think of MLA people going out into the world and not only being better but making the world better."

Mary Kimbrough is a freelance writer living in St. Louis.
More people are dieting and exercising these days than ever before, but not all of them are doing it for the same reason. Some sweat and count calories because they want to look good in a swim suit, others because they want better health and longer life, still others because being physically fit enhances their self-image.

Now Richard Watson of the philosophy department has written a diet and exercise book that presents a relatively uncommon reason for slimming down. It's a philosopher's reason: do it for its own sake.


Watson isn't kidding. The basic premise of the book goes something like this: if you're 10 or 20 pounds overweight you can probably live with it. Ideal weights are subject to trends and opinions anyway and nothing to get overly excited about.

But, if you're unhappy with your body, why not do something about it? Set yourself a goal, map out a program, and stick to it. Not primarily to look good or to feel good, but to take control of your life. Because to lose 20 pounds and keep it off, you'll have to do more than go on a diet. You'll have to alter your lifestyle. And if you can do that, you can do anything, even change the world.

Why is an academic philosopher, a recognized expert on the thought of Descartes, fooling around with a sub-literary genre like self-help books? Watson, the son of a small-town school superintendent and grandson of an evangelical minister, is the first to admit that there is something about self-help literature that fascinates him. "I read these books for amusement, the way some people read murder mysteries," he says.

Watson has never been one to let his field of academic specialization confine him creatively or intellectually. In addition to his work on Cartesian philosophy, he is the author of two novels and co-author of a book on cave exploring. Among speleologists (people who study caves) Watson is a person of note. His name will probably go down in caving history as a member of the team that discovered a connection between Mammoth Cave and the Flint Ridge Cave System, thus "creating" the largest cave system in the world.

There is quite a bit about caving in The Philosopher's Diet. There is also quite a bit about Watson's own life and the lives of his mother and father. And there are numerous quotations from the great philosophers, whose opinions, the reader will be amazed to learn, can be startlingly relevant to the task of losing weight. This melange of philosophy, biography, geology, and nutrition strains the genre but does not break it. Ultimately, Watson ties it all together in a form that he describes as "a literary-philosophical essay in the form of a diet book."

The Philosopher's Diet contains passages of insight, beauty, and humor. It also contains practical, specific advice on losing weight. Watson recommends a strictly quantified approach to weight loss: 900 to 1,200 calories a day until the desired weight is reached, followed by a 2,000 to 2,400 calorie maintenance diet to keep it off. There is no magic combination of foods designed to burn away fat. Instead, Watson suggests something even more radical—a wholesale rejection of the fast foods, convenience foods, and other gnostically abominations to which our society is unhappily habituated.

The food industry, Watson believes, is doing something far more insidious than catering to a basic biological need. Its real business is cultivating addictions.
The meaning of the juxtaposition is good, homely fare his father enjoyed. Shifts into a vivid description of the dying, "he told his son. "Don't give me cloudy idealism but because it had to make yourself run four miles a day, above all, commit yourself! You'll look better, feel better, but most important, life itself will be sweeter, more valuable:

Render out some of that fat. Get down to the muscle. Bare yourself to the rising wind. I have said before and I will say again that it really does not matter much to the rest of us what you do, so long as you don't hurt anyone. But if you don't do something you will be proud of later on, it will matter to you.

At the same time, Watson urges us to take some pleasure in life, not guiltily or half-heartedly, but in big, satisfying gulps. To illustrate this balance between pleasure and duty, he uses the example of his father, who succumbed to a gastrointestinal ailment at age 81 shortly before Watson began work on The Philosopher's Diet.

In the book's penultimate chapter, Watson describes how his father, after undergoing a series of unsuccessful operations, came back to his home town to die. The elder Watson had spent his life in taxing, often thankless community service, lending a hand not out of drudgery. Both the elder and younger Watson, each in his own way, has bared his soul to the rising wind.

Watson's latest project is an outgrowth of his interest in risk-taking. It is a novel called On the Wire, Over the Falls, and it is based loosely on the careers of two actual people: Jean-François Gravelot, the first person to walk across Niagara Falls on a tightrope, and Anna Edson Taylor, the first person to go over the falls in a barrel.

Watson says that the book is not really a historical novel. It takes many liberties with chronology, and the historical research on which it is based is minimal. Instead, Watson did research on a real live daredevil, the man who wire-walked across Route 70 at last year's Veiled Prophet Fair.

"I went down several times, talked to him quite a bit, watched him through field glasses. He put that wire up himself, you know. He's a fanatic. Total absorption. You do a thing like that, you do it well. If I were a bit younger, I'd give it a try."

One only has to know Watson slightly to realize that he is quite serious. It is exactly the sort of challenge that appeals to him, one that tests the ability of a person to concentrate totally on a specific action and to perform at the absolute limits of his or her capacity. "You know about climbing the north wall of the Eiger?" he asks. "The problem there is that there are so many avalanches, the weather changes so rapidly, they say there's a 50/50 chance you'll be killed just by chance. That kind of danger doesn't attract me."

Instead, Watson has specialized in meeting the kind of danger that comes from within. Fear of darkness, fear of heights, fear of exhaustion—these are the challenges that beguile him. In a sense, dieting, humble activity though it may be, stands among this pantheon of chimeras, demons to be faced down through courage and tenacity. For ultimately the body is the source of all fear. It is our most fragile part, this hapless consortium of cells, vulnerable to injury, to disease, to time. Dieting is a way of making the body do what we want for a change and thus of becoming a little less vulnerable.

Does Watson believe that his diet book, true to its title, will change the world? If doing so means grabbing the market from Richard Simmons and Jane Fonda, the answer is no. Watson doesn't even think many people will follow his program, but that doesn't diminish the ardor with which he advocates it. Perhaps there is something in him of his grandfather the preacher.

Perhaps. But Watson is wary of the title's implications. "I'm not a preacher in the sense that I know the truth or that I know what people really should do," he says. "I'll be your coach for a while, but I'm not going to run your life for you. The point of the whole thing is to get you to run your own life."

It's a good point.
The Philosopher's Recipe for Bran Muffins

A philosopher's diet book should include at least one recipe: a recipe for bran muffins. If you make bran muffins from sugar-full All Bran with a recipe on the package that calls for even more sugar, you will not like my bran muffins at first. But try them. You will learn to love them.

These muffins contain about 150 calories each. If you eat two of them a day, you will get enough bran to fill normal roughage requirements in addition to the roughage in the other food you eat.

The way to make these muffins sweet, if you want, is to add raisins or blueberries or any other kind of dried or fresh fruit. A mashed banana added to the mix makes the muffins smell and taste delicious. You can add wheat flakes or oat flakes or wheat germ or germinated whole grains or sunflower seeds or nuts. Better use an 8-hole tin if you add much fruit.

THE PHILOSOPHER'S RECIPE FOR BRAN MUFFINS

Set the oven at 425 degrees. Grease a 6-hole muffin tin.
Mix together dry:
- one cup of bran
- one-half cup of whole wheat flour
- one-half cup of one of the following:
  - whole barley flour
  - whole rye flour
  - whole buckwheat flour
  - whole wheat flour
- one-half teaspoon of baking soda
- one-half teaspoon of baking powder
- a pinch of salt (optional)

Push the mix to one side in the bowl and into the space provided:
- break one egg
- add two tablespoons of animal or vegetable oil, e.g., butter, lard, safflower or corn oil, and beat it with a fork until the egg yolk and white are mixed.
- Add one cup of yogurt or buttermilk or sour milk or sweet milk to the mix.
- Stir with a wooden spoon only enough to mix the ingredients together once and so that everything is damp.
- Spoon into the muffin tin.

Bake from 23 to 27 minutes.
Elmore's his name. Elmore Creamcheese. If it weren't for his pink nose, he'd resemble a mop with a tongue.

Eleven months old and he still hasn't gotten used to his feet. His hair is always in his eyes—if he has eyes. And some dogs pick on him because he's such a nice guy.

Luckily for Elmore, he's used to life's little traumas. Most old English sheepdogs are.

"He bumps into things a lot," explains Elmore's benefactor, WU senior Donald Parsons. "But there's a bony thing on the top of his head that protects him. He's a real conehead. He likes to drool on people's legs."

Elmore is one of the few pedigreed dogs that attend WU. There have been reported sightings of a sleek afghan and an attractive standard-sized poodle, but those may just be rumors.

Rumors or no, society dogs mean nothing to Elmore. He couldn't see them anyway. As sheepdogs go, he's legally blind.

"His eyesight makes some things tough," Parsons says. "I try to play fetch with him, but he can't see the stick."

The anonymous dog runs in circles as three young men toss a frisbee in WU's Morris Quadrangle. None of them knows the dog's name. None of them cares.

For now, the sport is all that matters. And the dog, weaving wildly after a skybound piece of plastic, seems to agree.

"We met the dog while we were eating lunch," explains MBA student Joe O'Connor, a transfer student from Southern Illinois University-Carbondale, is an old hand with campus canines.

"SIU has sort of a forest reserve in the middle of the campus. The dogs are everywhere. They have at least as many as WU."

The anonymous dog, now tired-out, snoozes under a tree.
"At first I was afraid the dog would run away with the frisbee or tear it up," says O'Connor's friend, Karl Banach. "I didn't trust him."

But after witnessing the anonymous dog's athletic abilities, Banach was impressed.

"You know, when I go up to dogs on campus, they usually run away. But this dog seemed to like me. Maybe he'll give me an in with the other dogs."

Eric Harris works in the campus deli. Occasionally, as on this sunny day, a dog wanders into the restaurant looking for food. Although dogs often wander unchallenged into the Mallinckrodt Center, the deli, for health reasons, is off limits.

"C'mon. Get going," Harris tells a large dark dog with big white teeth. The dog ignores his requests. Harris pleads with him and tugs at his collar. The dog stands his ground. A true dog lover, the deli cook pauses to explain that he wouldn't remove the dog if he didn't have to.

"It's my job to chase them away. Usually, dogs stay out. Most campus dogs are trained. If they come around when they're puppies, my boss tries to find out who their owners are. Then we ask that they teach them to stay away from the deli."

The big dark dog probably hasn't had the advantages of early deli training.

"He's not so bad," Harris says, after the obstinate hound decides to leave. "We used to have a dog around here named Casey. Now, that was a problem dog."

Casey, known for grabbing food out of customers' hands and climbing on tables, finally stopped coming to the deli. "His owner graduated and he moved away," Harris says. "We haven't seen him since."

Donna Battershell is a WU secretary who has made a big difference in the life of one campus dog.

"About a year ago, I started to see this dog walking near Alumni House. She seemed to be going back and forth between the main campus and the dorms. The students probably left her scraps and, of course, there was always the garbage."

There was something hauntingly lonely about the animal, something Battershell couldn't forget.

She did some investigating to find out if the dog had ever had a home. "Seniors told me they remembered her wandering around campus when they were in their freshman year. One student said she once belonged to a fraternity that abused her."

According to Battershell, the dog had all the signs of an abused animal. She tucked her tail between her legs and cowered when people approached her. She also ran from most noises and tried to be as unobtrusive as possible.

It took Battershell months of hard work and patience to help the dog overcome her fears.

"She was very afraid of me in the beginning. It took weeks before she'd let me get within a few feet of her."

Every day, including weekends, Battershell left food for Willie. (She had christened Willie before the bashful, long haired dog gender could be firmly established.)

Then it happened. Willie broke down and let Battershell hand feed her through a fence.

"It was very funny. I think she did it out of jealousy. I was paying too much attention to her friend."

Willie's best pal, Tai, was following Battershell one afternoon as she tried to leave Willie's dinner.

"That was the first time I heard Willie bark. She came to the fence and started whining. Then she took a dog biscuit out of my hand."

After that, Willie became more and more trusting. Then one day she threw caution to the wind.

"It was going to storm and she must have sensed that. She just walked into the building and started looking for me. When it stopped raining, she went back outside. But that night when I was getting ready to leave, she let me put her inside my car."

Today, Willie shares her life with Battershell and Miranda, an elderly cat. Incredibly, the dog that once had no home is now an apartment hound. And happy to be one.

Tai is a lazy hound. He sleeps wherever he wants to sleep. He sleeps in the hallways of Mallinckrodt Center. He sleeps in the campus bookstore. He sleeps in the shade.

When he's not sleeping, he's eating. And when he's not eating, he's begging for food.

Everybody loves Tai.

If WU were to run a pooch popularity contest, Tai would probably win it. His checkered past only adds to his lovability.

"Originally, a bunch of Kappa Sig fraternity members found him outside a bar in New Orleans," explains Sam Steinberg, WU sophomore. "When they brought him back, he looked like a little rat."

Steinberg smiles at the long tan dog, who stretches himself with obvious satisfaction.

Steinberg believes canines on campus serve a therapeutic purpose.

"In an academic atmosphere where
grades are so important, I think pets reduce the stress. They're comforting to have around."

Frat dogs usually lead a more sedentary lifestyle after they reach a certain age, Steinberg says. When they're young, they have great fun running around campus. But when they get old, many prefer going into retirement with a graduating brother.

O
cfficier Mario Menears and Lt. Charles Pinkston of campus police have great respect for the dogs of WU. "This is a school of higher learning and these are smart dogs," says Menears. "They know how to come indoors. They know where to find food. And they seem to know the people who'll pay the most attention to them."

Of course, occasionally they get arrested. But that could happen to any dog.

"The APA (Animal Protective Association) often comes to campus to pick up dogs that aren't on leashes," says Pinkston. "In St. Louis dogs must be in the control of their owners."

Pinkston shrugs and takes a long meditative pull from his can of diet Pepsi. "I'm a dog lover myself," he says. "In all the years I've been on the force, dogs have always run around the campus. Most of them have collars and are just having a good time. But rules are rules and occasionally the dogs get picked up."

J
dmes T. Madore is very much aware of the dog situation at WU. As news editor of the campus paper, Student Life, he keeps up on all pertinent information—and gossip.

"I've heard a little-old lady gave money to WU specifically so the dogs could run free on campus. I'm not sure how to verify that, though." (Our own research fails to confirm the existence of such a grant.)

According to Madore, dogs are as much a part of the WU campus as oak alley or Brookings, North and South. They help make campus life more entertaining. They also help win elections.

"Everyone says Marvin Rhodes was elected vice president of Student Union because of his dog, Dick. Dick and Marvin are very close. People say Marvin won the election because he had Dick in a picture with him on his campaign poster."

Madore concedes this may be true. "Everyone knew Dick. Not everyone knew Marvin."
A CALCULATED RISK

by Linda Sage

Each of us is constantly calculating degrees of risk. Is it worthwhile putting on my seatbelt to drive to the corner store? Should I let my nine-year-old sleep at her friend's house even though I've never met the child's parents? If I go to the theater instead of staying late at the office to finish a report, will I catch hell for it the next day?

Most of the time, we make these calculations intuitively. Intuition can be a remarkably accurate decision-making method. It can also be highly unreliable if we are not aware of all the facts or if our judgment is distorted by emotions or preconceptions.

When matters of health are involved, most physicians prefer to supplement their intuitive judgments with a more precise technique, one that allows them to quantify the factors involved and calculate the degree of risk on an objective basis. Recently, a team of researchers at Washington University devised just such a method for calculating the degree of risk in monitoring and diagnosing a disease that kills 38,000 women annually—breast cancer.

Like other researchers, John K. Gohagan, Ph.D., professor of preventive medicine and engineering, and his team concluded that mammography—

X-ray examination of the breasts—is the most accurate single method of detecting breast cancer.

But unlike other researchers, they constructed models to determine when mammography and other tests are appropriate. Those models reveal that a woman's age and the competence of her radiologist should be the most important factors affecting her decision to have a mammogram. And benefits clearly outweigh all costs by the time a woman reaches her late 40s.

The models consider not only accuracy, but also financial and social costs of the tests, future costs of undetected cancers, and the possibility that the radiation dose from mammography could itself induce a small number of breast cancers.

The WU findings increase doubts about self-examination and lead Gohagan to suggest that women ask important questions about radiation level, frequency of equipment checks, and number of mammograms the clinic performs.

Reaching for a floppy disk in his office, Gohagan says, "This allows you to sit in front of an IBM PC and enter data characterizing a woman's risk profile. For example, you can say that a woman is 42, has two children, and was 24 when the first was born, nursed them for a total of 12 months, and has no symptoms of breast cancer. The computer then goes through the calculations and recommends that a woman—

Dr. Barbara Mosses, assistant professor of radiology on the staff of Mallinckrodt Institute of Radiology at the Washington University School of Medicine, and a colleague (at right) examining mammograms.
John K. Cohagan, Ph.D., professor of preventive medicine and engineering.

Copies of the disk should be available to health care professionals later this year through WU's Division of Health Care Research in Preventive Medicine. Cohagan believes the disks will be especially valuable in medical schools, where future physicians learn to balance the pros and cons of breast cancer tests.

At present, physicians have no firm guidelines because there is disagreement over the scheduling of mammography. The American Cancer Society recommends that all symptom-free women receive periodic mammograms beginning between ages 35 and 40, while the National Cancer Institute recommends mammography only for women at high risk—over 50 or with a family history of breast cancer.

Richard D. Costlow, Ph.D., head of the National Cancer Institute's Cancer Detection Branch, directed a national, five-year breast cancer detection project sponsored by NCI and the American Cancer Society. He says the Washington University mathematical models, drawn from part of that project's data, "provide another piece of information in a large void. They don't answer all the questions, but they do help determine how frequently we suggest a screening exam, the age groups that should have it, and the sequence of the examinations. Without very long trials—which cost a great deal of time and money—it's difficult to get that kind of information."

The 10,000 women who generated data used for the models were enrolled in one of the 27 breast screening projects, carried out at the Cancer Research Center in Columbia, Missouri.

Between 1974 and 1979, the Missouri center, directed by Ned D. Rodes, M.D., screened women annually, using mammography, clinical palpation (manual and visual examination of the breasts by a clinician), and thermography, which detects the pattern of heat loss from the body. The center also taught women, ages 35 to 74, how to examine their breasts at home.

For thermography, a woman stood with her hands over her head in front of a machine that converted the pattern of infra-red heat rays emerging from her unclothed breasts into an image on Polaroid film.

During clinical palpation, a nurse-clinician inspected the breasts for thickenings, lumps, discharges, and other abnormalities.

When a woman had a mammogram, each breast in turn was compressed into a plastic device and pressed against a plate that could be developed into a Xerox image. Two or three X-rays of each breast were taken.

The specialists who interpreted and recorded the results worked independently so that they could not influence each other. Then they pooled information to decide whether a woman should have a biopsy to diagnose detected abnormalities.

The Washington University group began to analyze the screening data in 1979 in collaboration with the Missouri screening project. The work was sanctioned by the National Cancer Institute and funded by the National Center for Health Services Research, U.S. Public Health Service.

The researchers—including Edward L. Spitznagel, Ph.D., professor of mathematics, William P. Darby, Ph.D., associate professor of engineering, and others—noted that 152 breast cancers had been detected over the course of 50,000 visits to the five-year project in Missouri. When they assessed the individual screening methods, mammography stood out as the most accurate. It correctly identified 58 percent of all breast cancers, and misclassified only 1 percent of noncancerous breasts. Clinical palpation alone, however, correctly identified about one fourth and thermography just over a third. Thermography produced the most false alarms because temporary infections as well as tumors produce abnormal heat.
patterns. So severe was the problem that all 27 screening centers discontinued thermography in 1976.

The various techniques also differed in ability to detect very small tumors, whose diagnosis and treatment offer the greatest survival rates. Mammograms revealed cancers as small as pinheads, but only cancers at least one centimeter (about 4/10 of one inch) in diameter could be found by clinical palpation.

"By the time a mass reaches a centimeter in diameter, it has about a billion cells," says cancer specialist Rodes. "And masses may be as big as golf balls before they are detected by palpation in some obese breasts. Moreover, 50 percent of all masses have metastasized by the time they become palpable."

The data did not lead to any firm conclusions about the value of breast self-examination because few women were willing to practice it methodically. Further, the 16 cancers detected outside the center represented both cancers found by women at home and by personal physicians.

But even if all 16 had been found at home, the detection rate would have been low enough compared to the number of biopsies done to cast doubt on the effectiveness of breast self-examination. "Furthermore," says Gohagan, "most of these would have been found in the next screening examination."

Beyond individual methods, the WU team analyzed the effectiveness of various combinations. They discovered that clinical palpation, though not very effective by itself in detecting small cancers, greatly increased detection rates when combined with mammography. The two methods used together correctly identified 82 percent of all the cancers, while misclassifying only 2 percent.

Gohagan and his research assistants tried to identify all possible test combinations and sequences for analysis, but they found that they couldn't keep track. "We didn't even know if we had the right number," recalls Gohagan. "So we talked to Spitznagel. A month later he came back and said, 'I've figured it out.' He had developed an equation to count the number of possible strategies or examination protocols."

Next Spitznagel wrote—initially in his head—a computer program to pick out the sensible strategies and evaluate them. One technique involved was a mathematical optimization method called decision analysis. "It's a process by which one decides to pursue one course of action rather than another, based on probabilities and costs," says Spitznagel.

Since mammography was obviously superior to the other methods, Gohagan's group addressed the problem of when a symptom-free woman should have a mammogram. He wanted to balance the probable benefits against the probable costs.

"The basic idea is that at any point in time, a woman with no symptoms of breast cancer doesn't know if she has it," says Gohagan. "So periodically she has to decide whether to have a mammogram. The same applies to the other tests. A false negative or false positive test is always possible. But the consequences associated with missing a cancer are certainly greater than the consequences of doing a biopsy when you only have fibrocystic disease (benign, fibrous tumors)."

After the mathematical wizardry was complete, it revealed that the two most important factors affecting the decision to perform a mammogram are a woman's age and the accuracy rates at her mammographic center.

Age emerged as the most important risk factor. Consequently, the researchers concluded that the benefits of annual mammography certainly outweigh the risks by the time a woman reaches her late 40s.

Unfortunately, using their data, the researchers could not directly assess the risks associated with two important factors in developing breast cancer—previous repeated X-rays and family history of the disease. They had to rely on the projections of other researchers. But pertinent data on familial risk should soon be available from a long-term follow-up of the screening program now being concluded by the National Cancer Institute.

Regarding radiation risk, the WU team concluded that benefits of mammography outweigh hazards in centers where accuracy rates are high and false alarms are infrequent, but vice versa at centers with low detection rates. "If a center's accuracy rates are substantially below ours," says Gohagan, "mammography probably shouldn't be used.

"The risk/benefit ratio of radiation hazard depends on the competence of radiologists who classify mammograms. An inaccurately read mammogram still gives you the radiation dose," Gohagan points out.

Since most women have no way of determining a center's detection rate, Gohagan advises, "Go somewhere where they do a lot of mammograms and have only a few people reading the films. In the Missouri screening center, one person read all the cases and went back over every one that he made a mistake on."

Gohagan suggests that women question their physician or mammography center about quality control and experience of professional staff.

Gohagan thinks that women would benefit if the national cancer organizations could monitor and reveal detection rates. "I'd like to see organizations like the National Cancer Institute and the American Cancer Society develop a screening policy to encourage accurate monitoring," he says. "Such a policy might indicate key features associated with accuracy to the benefit of women and their personal physicians."

Linda Sage is a freelance writer living in St. Louis. She writes frequently on scientific and medical subjects.
Betrayed by Baseball

Once upon a time there were 16 major league teams, none west of St. Louis or south of Washington. Then the Dodgers split for L.A., and look at the mess they've gotten us into...

Once more the trees are in leaf, the grass is green, and all of life luxuriates in the delicious warmth of mid-summer. Baseball season is once again in full swing; and life cannot remain bleak when the morning papers offer us box scores as a wake-up call.

This 1985 season carries an unusually heavy burden of cultural significance. This is a year to test whether Americans can once again begin to give loyalty and faithful support to their institutions and leaders. Loss of commitment has been a pervasive feature of our times. Americans are less firmly attached to their political parties, their communities, even their country and its traditions than they used to be. Many explanations of this development have been advanced and many remedies offered. I think the root cause lies where we should have known all along to look for it: baseball. Consider the evidence.

**Item:** In both of the last two presidential elections more than one-fourth of those who call themselves Democrats voted Republican. Moreover, an additional 25 percent or more refuse any longer to identify with either party. Party loyalty has been going down since the 1950s and in addition, those who retain some attachment pay less attention to it when they cast their votes.

**Item:** Beginning in 1958 there was a sharp decline in every indicator of what we call political trust. Fewer and fewer Americans thought public officials were honest, frugal, or competent, or cared what the people thought. That decline bottomed out in the late 1970s, but the level of trust remains far below what it was in the 1950s. Over this same period the reputation of every set of authority figures and institutions—doctors, lawyers, and professors as well as labor, business, the military, and the church—followed the same downward trajectory.

**Item:** Beginning about 1960 consumer brand loyalty began to erode sharply. Automobile makers found they could no longer depend on the patterns of lifelong loyalty to a particular make which for so long had characterized the industry and shaped its marketing strategy. No longer did a family remain faithful to one make (and often one dealer) nor did the children brag to one another of the merits of their kind of car (or refrigerator or television set). Cigarette brand loyalty also faded. Other kinds of preference packages shaped consumer choice, not necessarily more rational or better informed but less predictable and much less stable.

**Item:** At about this same time people began to switch church membership more frequently. This is a hard matter to assess because we lack good information on this part of our past, and, in addition, Americans have always moved a good deal from one denomination to another. Nevertheless, the decline in membership among what had been the mainstream Protestant denominations, the decline in attendance among Catholics, and the rise of the pentecostal and charismatic churches and sects all show up clearly beginning in the early 1960s.

**Item:** The divorce rate began its dramatic upward climb in the period from 1960 to 1965. It had gone down during the 1950s, but it rose more than 10 percent in the 1960-1965 years and then doubled again between 1965 and 1970.

It must be more than coincidence when all these forms of commitment display the same tendency to break down at about the same time. Granted that Americans have always been a highly mobile people, moving readily and often from one place to another. Granted, also that we have tended always to regard our material possessions as having a short useful life, expecting to replace our houses, cars, and other goods at frequent intervals, trading them in for newer, better models and registering our personal progress through life by moving "upscale" as consumers. But why in the years around 1960 should there have been the sudden drop in all these indicators of loyalty? Had something especially unsettling taken place, perhaps so subversive of the idea of loyalty as to wash away other fragile structures of attachment in its wake?

The answer is yes. The fabric of American life had been torn, irreparably as it turned out, and it had happened just prior to the other developments we have noted. As early as 1952 the first small crack appeared in what had been a stable foundation of twentieth century American life. At the end of the season the Boston Braves announced they were moving to Milwaukee. The next year, after getting rid of Bill Veeck as owner, the American league permitted the St. Louis Browns to go to Baltimore. These franchise shifts were unnerving, certainly, but we could take some comfort in the realization that both Milwaukee and Baltimore had had major league teams before (in 1901), and these could therefore be considered as moves within the family.

Then came the fatal blow. After the 1957 season Walter O'Malley spirited the Dodgers away from Brooklyn, conniving the Giants into going along, and went West. He made California part of the major leagues. Nothing since has ever been the same. No wonder divorce...
became so popular. Why not? What was a mere marriage vow compared to the true map of baseball franchises? In the first half of the twentieth century there was a Great Depression and two World Wars, the Holocaust and Guernica, the airplane and the skyscraper, and much else. But as long as there were 16 major league baseball teams, none west of St. Louis or south of Washington, American society held together. You could still count on things. The faith was worth keeping.

Look what happened since. O'Malley paved the way for all kinds of changes: free agency and astronomical salaries, domed stadiums and astroturf, the designated hitter, Richard Nixon and Ronald Reagan, star wars missiles and the budget deficit. Can life's stability be restored? Frankly, I'm not sure. Certainly no mere nostalgia craze will take us back to simpler, more virtuous times. If we do attain a better social balance, however, it will be the calming effects of the summer game, not tax reform, that does it. The beauty of baseball's symmetries and the endless fascination of its rich tapestry of detail could make commitment not only possible but enticing once again. Of course, they have to preserve Wrigley Field and Fenway Park. None of these new-fangled indoor suburban monstrosities. They may be all right for football, but...

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Washington University senior Donald Parsons shakes the paw and pats the head of his good friend, Elmore Creamcheese. (See story beginning page 24.)