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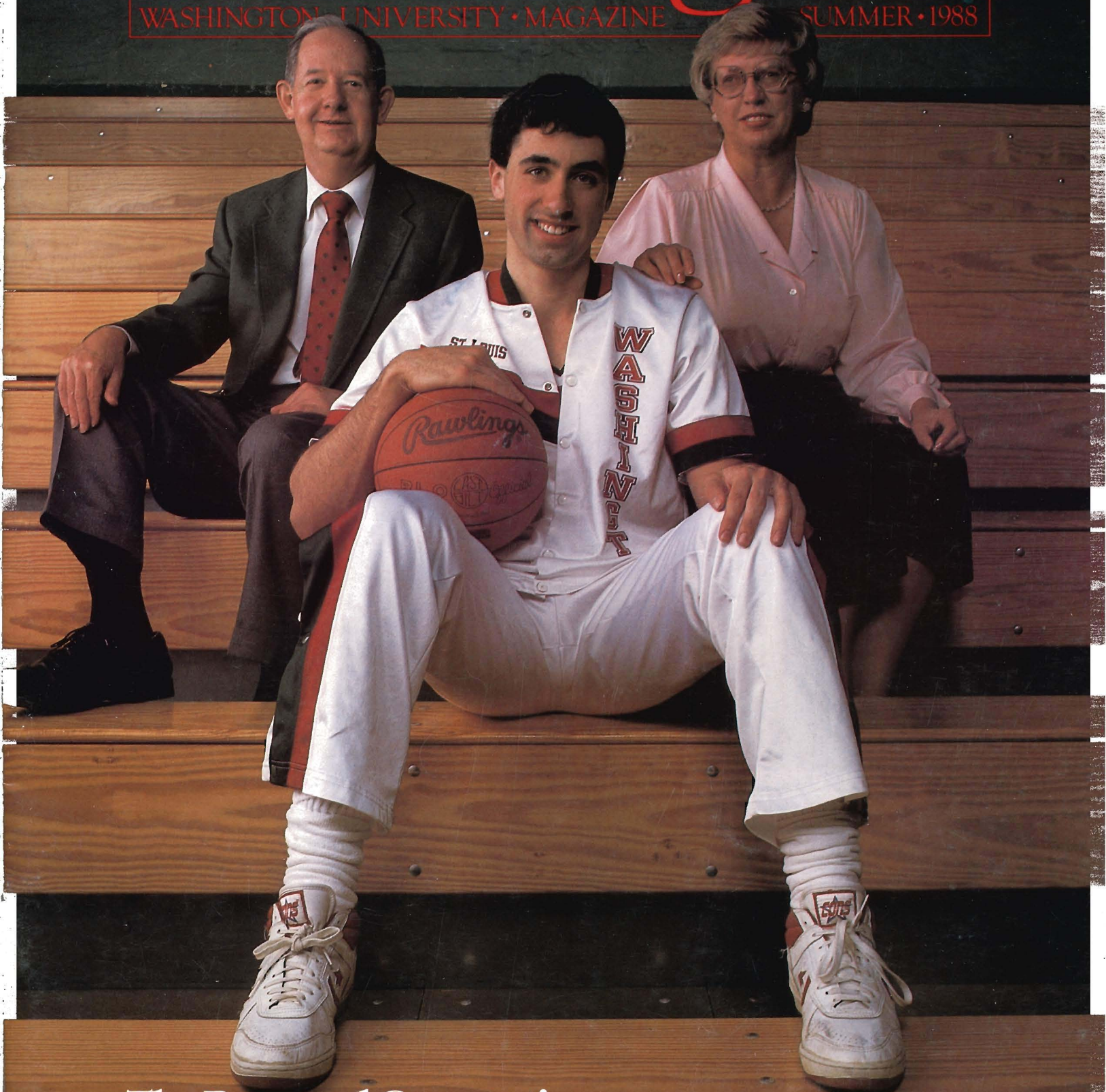
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Washington

WASHINGTON UNIVERSITY • MAGAZINE

SUMMER • 1988



The Personal Connection

Scholars in the Schools



STEPHEN KENNEDY

Fit to be dyed: The remark attributed to noted baseball sage Yogi Berra had it right: sometimes, it's like déjà-vu all over again. The notion certainly applies to the current revival of the tie-dyed look in campus fashion. Following last decade's veneration of the 1950s preppy look, the 1960s renaissance is the next logical step in retro-fashion.

Denver Post writer Katherine Corcoran, however, observed recently in a syndicated story describing the outbreak of tie-dye nationally that these are hippies of another ilk.

"The 1960s throwbacks are more of a cross

between Dylan and Madonna," Corcoran noted. "The times may be a-changin', but college students still live in a material world. They listen to the Grateful Dead on compact disc and write term papers on computers... Statements of individuality more likely come in the form of messages students leave on one another's telephone-answering machines."

Left to right: Sophomore Brett Clark, a business major from Pittsburgh, and juniors Stacy Levin and Kris Del Carmen, Spanish and French majors, respectively, both from Baltimore.

Washington

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Volume 58, Number 2

St. Louis, Missouri

Editor

Roger Hahn

Associate editor and photographer

Herb Weitman

Art director

Suzanne Oberholtzer

Executive editor

Mary Ellen Benson

Frontrunners **2**

The latest in research, achievements, and other adventures, from around the campus and beyond.

Freedom from Government **8**

Deregulation's scorecard, says University Professor Murray Weidenbaum, has shown nothing but pluses from the start.

The Unbroken Circle **12**

Direct-donor scholarship programs throughout the University touch hearts and link generations of graduates.

Mind Search **18**

Using computers, neuroscientists have established new connections between the mind's activity and the brain's anatomy.

A Democracy of Intellect **22**

An international scholarly gathering held on campus as part of the 1904 World's Fair recalls a bygone era.

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Poet-in-residence Donald Finkel reigns over the spirit of poetry wherever it may be found.

Paloma Blanca **30**

Each spring, two million pilgrims arrive in the tiny Spanish town of Rocio for a Pentecostal celebration.

On the cover: Basketball Bears' all-time scoring champ Kevin Suiter, B.S.B.A. '88, with the sponsors of his scholarship since his freshman year, Art McWilliams, B.S.B.A. '49, and his wife, Marge. The McWilliams have sponsored scholarships in the School of Business for the past 10 years. Photo by Jim Olvera, B.F.A. '78.

Address changes: Development Services, Campus Box 1082, Washington University, One Brookings Drive, St. Louis, MO 63130.

Correspondence: Magazine Editor, Campus Box 1070, Washington University, One Brookings Drive, St. Louis, MO 63130.

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1968 AIDS Case Attracts Media Spotlight to Researcher

In 1966, Memory Elvin-Lewis, Washington University microbiologist and professor of dental medicine, was a newly minted Ph.D. who had completed her dissertation on the sexually transmitted disease *chlamydia*. She had come to the University to teach in the botany department. She also worked as chief of research and development for the St. Louis Public Health Laboratory before being named assistant professor of botany. At St. Louis City Hospital in 1968, she began to see a patient who came



Memory Elvin-Lewis

to be known as Robert R. For about a year, Elvin-Lewis and a team of doctors and researchers studied and attempted to treat the symptoms, one of which was chronic genital swelling, suffered by the teenager from East St. Louis. Elvin-Lewis' laboratory tests showed the patient had acquired a severe case of chlamydia, a curable venereal disease, yet in this case, one in which no treatment proved effective. The youth's condition grew progressively worse. His immune system had stopped functioning. He died in May 1969.

An autopsy revealed purplish lesions associated with AIDS-related Kaposi's sarcoma, a rare type of cancer uncommon in patients under 60. Baffled by the case and hopeful that science would

someday answer their questions, Elvin-Lewis and Marlys Witte, a thoracic surgeon on the faculty, froze tissue and blood samples for future examination. In 1973, Elvin-Lewis published a paper on the case in a journal on lymphology. "Fifteen years later I get a call," says Elvin-Lewis. "Witte (professor of surgery at the University of Arizona at Tucson) asked me, 'Are you a pack rat?' I said, 'Yes, I am, and it's terrible.' She said, 'Do you still have the specimens?'"

In September 1987, unbeknownst to Elvin-Lewis, Witte informed participants of the 11th International Congress of Lymphology in Vienna that body fluids and tissues stored for nearly 20 years were currently undergoing testing for human immunodeficiency virus (HIV) linked to AIDS. She had sent these specimens to Tulane University virologist Robert Garry who analyzed the tissue as positive for AIDS a few months before, administering the highly sensitive Western Blot test for AIDS antibodies. She had also invited a *Chicago Tribune* reporter to the conference. The story broke a month later in the Chicago paper under the headline, "Case Shakes Theories of AIDS Origin."

"I was raking leaves on a Saturday when I get a phone call from a television station," recalls Elvin-Lewis. "I hadn't seen the Trib article so I said, 'You'd better check with Witte on this information.' I called her right away. She told me to go with the story. Then I started getting all the calls. I heard from people all over the world." Stories on her research appeared in *Time* and *People* magazines, as well as *Pravda* and the London *Daily Mail*. The research is scheduled to appear in a forthcoming issue of the *Journal of American Medicine*.

—Cynthia Georges □



Bjorn Dahlberg

Rounding Out the Curves: Algorithm Speeds Car Design

Bjorn Dahlberg, visiting professor of mathematics at Washington University, has developed a novel mathematical formula for automobile design that cuts the revision time needed for a team of artists and engineers to design a car from two weeks to just eight minutes, according to tests by the Volvo Corporation, of Gothenburg, Sweden.

Called SLIP, a Swedish acronym, the concept is revolutionary in the field of automobile design, and so far is the exclusive domain of Volvo.

SLIP has passed the experimental stage at Volvo, and presently is being integrated with the corporation's computer-aided design (CAD) technology. After the computer software is smoothly formatted and employees become trained on the system, SLIP is expected to be in full use at Volvo in two to three years.

"SLIP is the conduit to an artful blend of geometry and engineering," its inventor says. "It is a mathematical compromise between two disciplines intended to eliminate much of the repetition leading to major bottlenecks in automobile design." Because SLIP eliminates wasted time, design teams will be

able to develop more models and make infinitely more revisions in their quest to create the best models possible, Dahlberg says.

Dahlberg has no responsibility for SLIP's software but notes that the program is very complex, involving 1,500 subroutines—the software's computational foundation. It runs on an IBM 3090, the largest IBM mainframe.

"SLIP is a transparent concept," he says, "meaning that, although it was designed to compute the geometry as performed by the artist, the system doesn't care what the problem is, or how and why the formulation came up. It can do the aerodynamic design of an airplane, for instance, and probably other physical concepts."

Although American automobile manufacturers rely heavily on computer technology in the design and production of automobiles, Dahlberg says, American manufacturers may be hesitant to adapt such a novel idea. But once the American industry realizes the concept exists and knows it is operational, he expects U.S. auto manufacturers to become very interested.

—Tony Fitzpatrick □

Indian Author Pinpoints Transformation of Cultures

Vine Deloria, Jr. looked as if he had just stepped off a Wyoming ranch to give the keynote address in Graham Chapel during the University's Cultural Celebration Week in early spring. One of America's most prominent spokesmen for Indian affairs, Deloria took the podium clad in blue jeans and white-stitched black cowboy boots. In a speech peppered with wry humor, the University of Arizona professor of law and political science set out to examine the Indian and white societies "At the Edges of Cultures," the title of his talk.



Vine Deloria, Jr.

"In American society today," Deloria said, "the edge is where almost all of the action is. Consequently, you don't need people communicating back and forth between cultures, because where the cultures intersect is forming a new kind of person—a new kind of situation. The 500-year period of cultural shock in Indians is over," insisted Deloria, a member of the Standing Rock Sioux tribe in North Dakota and author of several books and articles on the American Indian.

"For a long time, the Bureau of Indian Affairs promulgated the idea that Indian culture was a material thing. As a result, thousands of Indians were convinced to spend their time making hood ornaments, beaded bolo ties, and little desk things because this was going to remind the U.S. that Indians had a

great culture. In the last year, what I've seen is the emergence of the intangible relationship of culture, and this is not without some pain."

Deloria attributed this change in attitude, in part, to a widespread preoccupation with New Age phenomena—"medicine men" and "gurus" who advocate the use of crystals, channeling, reincarnation, and Indian practices such as the sweat lodge, to attain certain truths. Many practitioners have come from the reservations, he said, and somehow moved into the network to introduce Indian truths cultivated over hundreds of years. These practices have disturbed traditional people on the reservations, Deloria observed, because they present a false image of Indian religion and make the principles of Indian life seem trivial.

In the same breath, Deloria described the New Age as presenting "an exciting situation" in which "societies are starting to look inside themselves to see who they are and what they're doing." With the right approach, this new phenomenon will sensitize "the larger societies" to the highly emotional nature of Indians and their attachment to their lands.

Throughout his talk, Deloria, who first gained public recognition in 1969 with his book *Custer Died for Your Sins*, referred to the kinship system of the Indian family and its importance throughout Indian history. "Indian societies have a self-operating social discipline to keep close track of family," Deloria observed. "There are no ethical, moral, or political decisions that you make as an individual. You make all decisions in reference to all of the people who have gone before you and all of the people who have yet to come. You can't embarrass the family that has gone before you, and you cannot live a life that will bring disgrace upon your grandchildren and your great-grandchildren."

— Cynthia Georges □



Beryl Manne

Crow Letter Establishes Relationship with Wm. G. Eliot

Last fall, when the University's Accounting Services relocated from the Hilltop Campus to the Hampton Avenue Annex, the process involved a reorganization of furnishings, files, records, and supplies. As a result, a cardboard box full of papers and yearbooks was sent to Beryl Manne, supervisor of University Archives, for examination and subsequent storage. With routine diligence, Manne sifted through the contents to uncover a stack of agreements between the General Education Board and the University Board, some dated as early as 1911, regarding the expansion of University programs.

Pressed between some of these documents lay a two-page letter, written on pale blue paper that had faded yellow at the creases and tears. "I saw the name William Greenleaf Eliot and immediately recognized Wayman Crow's handwriting," says Manne. "I knew we had found something significant."

Dated February 2, 1853, from the senate chamber in Jefferson City, the letter was written by State Senator Wayman Crow to William Greenleaf Eliot, Jr., the founder of Washington University. The letter, claims Manne, "offers irrefutable evidence that he indeed was the

person responsible for promoting the act to incorporate the institution we know as Washington University. The letter is the earliest document extant establishing the date of the corporate charter for the University. Moreover," says Manne, "it provides the accurate record, rather than the oral tradition, which characterizes earlier writings on the subject."

It is in the postscript of the letter where the reference to the incorporation was made: "P.S. If you see notice of a charter to incorporate the 'Eliot Seminary' don't condemn me for using the title—It is rather a favorable time to get acts of incorporation, and I avail of it, as our Society may desire to have the privilege of establishing such an institution at some day and this can be partially organized and held in reserve."

A turn to legislative history reveals that the charter was approved on February 22, 1853. On March 2, it was presented by its originator, Crow, to Eliot. February 22, 1854 marked the first anniversary of the charter's approval and the date on which formal organization of the University's work began. "Quite beyond the obvious delight of discovering this rare insight into Crow's

(Continued on next page)

(Crow Letter continued)

action, the letter provides some tantalizingly brief insights into his lobbying efforts for appropriations for eleemosynary [charitable] institutions, many of which were established during this period, and in which our founder was certainly involved," says Manne, who as archivist has become somewhat of an authority on Missouri history. "We can tie some of these comments to the work Eliot was doing in establishing the public school system. It was an opportune time to seek something like this."

In the letter, Crow criticizes the work of the 1852-53 General Assembly in its laxity to promote local interests. A close friend and confidant to the minister, educator, and philanthropist, Crow also congratulates Eliot on his series of sermons that appeared in the publication *The Republican*. According to Manne, Crow and Eliot engaged in a long and intimate friendship. As young men, they came to St. Louis within a year of each other. Eliot arrived from Boston to head the first Unitarian Church established west of the Mississippi River. A native Kentuckian, Crow traveled to St. Louis to seek commercial investments. As a member of Eliot's church, Crow shared his pastor's interest in educational and charitable affairs.

"Beyond the notebooks of Eliot and the board minutes, there is very little we have in our collection regarding the institution's first 50 years," claims Manne. "Outside of the recently discovered letter, no recorded correspondence exists between Crow and Eliot."

The letter has been sent to the Northeast Document Conservation Center in Andover, Massachusetts, where it will be examined by a paper expert. The conservation staff will assess the best way to restore the document. The University expects to have the document returned in late summer. At that time, Manne plans to have several facsimiles made for exhibit.

— Cynthia Georges □

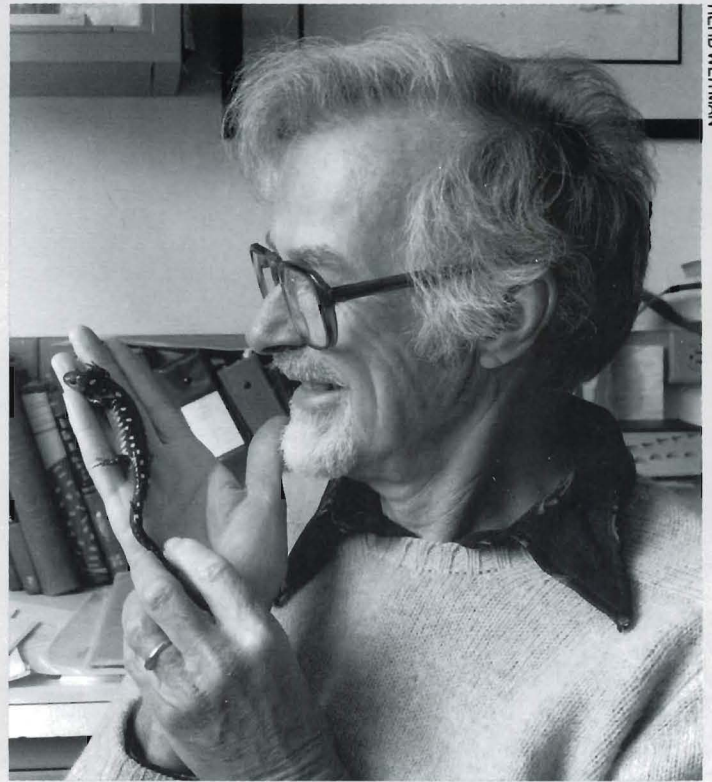
The Sex Life of Salamanders

If James Thurber had known Biology Professor Owen J. Sexton, perhaps he would have included a word about salamanders in his essay "Courtship Through The Ages," an amusing discourse on the mating rituals that generate life in nature's kingdom. Sexton has spent some 20 years researching the spotted salamander (*Ambystoma maculatum*), one of 20 species of salamander in Missouri. For the past 14 years, the biologist's studies have revolved around the amphibian's breeding activities and have been conducted at the University's Tyson Research Center, 20 miles west of the Hilltop campus.

Every year, his research has led him to a breeding pond where the long-bodied, short-limbed creatures wriggle their way to rendezvous after the thaw of late winter or early spring. The adults spend late spring, summer, fall, and winter on land, returning to the ponds to mate once a year. These overland migrations occur en masse, as environmental cues stimulate the salamanders to venture out of crevices and rodent burrows in search of breeding waters. This usually happens only one night a year, but may occur as often as twice or three times at the most, says Sexton. The environmental cues consist of rainfall, change in soil temperature, and darkness.

"The big cue is reversal of thermal gradient," says Sexton, who obtains accurate readings from steel soil-temperature probes inserted at different depths at two sites close to the pond. Mating is imminent when the soil surface grows warmer than the subsurface. Add rain or a fine mist, and darkness, and the scene is set for salamander affairs. Peak immigration periods usually occur between February 19 and March 24. On a typical night, or early morning, researchers don rain gear and head lamps and fall into step with the spring rains.

As the animals head for the pond, they are diverted by what Sexton



Owen J. Sexton

has termed the "drift fence technique," a low fence of hardware cloth circling the pond, with paired cans positioned six feet apart lining each side. As the salamanders fall into the cans Sexton and his researchers retrieve them to make necessary observations: counting the animals and noting sex, body length, mass, and can location. The salamanders are then released into the pond to engage in the ritual of courtship. Leaving the pond, they are again diverted via the cans so that observations can be resumed. Then they are returned to their woodland habitat.

The male salamanders compete very actively for females and are the first to arrive at the pond, says Sexton. At the culmination of courtship, the male deposits a spermatophore, a cone-shaped structure topped with a sac of sperm, onto a submerged leaf or stick. The female follows him, crawls on top of the spermatophore, takes off the sperm cap, and stirs it in a pocket inside her cloaca, which houses reproductive, excretory, and digestive systems. Often, more than one male will pursue a female. The second

male will move in, depositing his spermatophore on top of the original courter's so that the female will take the sperm cap of the competing male and not that of the original suitor. The eggs are fertilized internally and are laid about two days later. Most eggs hatch in about a month. In late spring or early summer the young adults leave the pond to begin life on land. The salamanders' trysting, which usually follows the mating of the wood frogs and spring peepers that also populate Salamander Pond—as Sexton and fellow researchers have dubbed the crescent-shaped pool—has revealed findings that have led to more questions the researchers are trying to answer. "What we're trying to do now is decide how they find the pond. That is the real puzzle," states Sexton, whose experiments indicate that the lizard-like creatures prefer certain routes and tend to exit the pond area the same way they enter. Do the animals return to the same terrestrial area after mating? "We don't know," admits Sexton.

— Cynthia Georges □

Journalist Hits Injustice with Humor

The example of South African journalist Donald Woods, who delivered the Omicron Delta Kappa Honors Lecture last spring in Graham Chapel as part of the Assembly Series, provides a constant reminder that appearances can be, and usually are, deceiving. Bringing a message that in other hands might prove incendiary, Woods—a converted and ardent opponent of apartheid—went about his appointed task of persuading others to join him in the most understated, off-handed fashion. Nicely tailored in blue blazer and striped rep tie, Woods offered a talk characterized by self-deprecating, jovial charm that concluded with an unequivocal plea for the divestment of university interests in the economy of South Africa.

Woods' life and his friendship with Black Consciousness Movement leader Steve Biko—who was killed after being taken into custody by the South African government—provided the basis for the recent film *Cry Freedom*, directed by Sir Richard Attenborough (director of *Gandhi*). The script was derived from two books by Woods, *Biko*, a biography, and the autobiographical *Asking for Trouble*.

In order to escape threats on his life and on those of his family, Woods masqueraded as a Catholic priest to escape South Africa with his wife and children. Based now in London, he carries on a low-key anti-propaganda campaign designed to counteract what he claims is a worldwide attempt by the South African government to influence popular opinion regarding its policies.

Calling the South African white population "the most brain-washed population on the face of the earth," Woods noted that perhaps 150 armed clashes have occurred in the past two years between government forces and blacks opposing apartheid but that none



Donald Woods

have been reported internationally or by the state-controlled South African media. He could, he said, dwell on the enormity of such injustices. Preferring, however, a method decidedly anecdotal and humorous, Woods described inconsistencies in the apartheid laws, illustrating what he called "apartheid at its zaniest." As an example, he recalled labor laws that allowed blacks to hammer in nails but required workers of lighter skin, because the work was supposedly more complex, to pull them out.

In defense of divestment, Woods noted that the South African government fears economic sanctions and that nearly 160 colleges and universities throughout the U.S. have agreed to divest interests in the country. All those in South Africa who oppose economic sanctions, he said, were either white or blacks supported by government salaries. Reaching his sharp conclusion with a slight chuckle, Woods observed that all actions have moral implications and all gestures psychological impact. Lowering his cultured baritone to a confidential aside, Woods told his audience in a most friendly manner, "I don't think I'd like it very much if part of my university were funded by the most evil system on the face of the earth!"

—Roger Hahn □

T. S. Eliot Centennial Sparks Activity, Reassessment

This fall, Washington University will sponsor a conference, *T. S. Eliot: A Centennial Appraisal*, to mark the 100th anniversary of the birth of the late St. Louis-born poet and playwright, Thomas Stearns Eliot. The three-day program, scheduled for September 30 to October 2, will honor an internationally recognized author with close ties to Washington University. His grandfather, William Greenleaf Eliot, was a founder and early chancellor; his father, a Washington University graduate, served on the Board of Trustees for 42 years. Eliot, who attended the affiliated boys' school, Smith Academy, lectured here on two occasions, once at the University's own centennial celebration in 1953.

"We decided we wanted a true appraisal of Eliot's work," says Burton Wheeler, professor of English and religious studies and chairman of the nine-member committee that organized the conference.

The committee, which began its planning nearly three years ago, has invited some 18 distinguished poets, scholars, and literary critics to the university for the program. Robert Giroux, Eliot's American editor, will open the conference with his personal recollections. Other sessions will center on Eliot as dramatist, as poet, as critic of religion and society, and as literary critic.

"We're expecting controversy," says Wheeler. "Eliot is a controversial poet and a controversial thinker. To deny that would be to misrepresent him."

Both in the community and at the University, the conference will be surrounded by Eliot-related events. On September 28, the Assembly Series will feature a lecture on Eliot by Frank Kermode, professor emeritus of English literature at Cambridge University. The University's Bookmark Society is also planning an Eliot celebration. Olin Library will arrange a special display of Eliot materials.

And from September 22 to 25, the T. S. Eliot Society, an international organization, will hold its own Eliot centenary celebration in St. Louis. Delivering the society's Eliot Memorial lecture will be A. D. Moody of the University of York (in England); other speakers will include Michael and Grainne Yeats, son and daughter-in-law of the poet, William B. Yeats. The weekend will also feature a production of Eliot's last play, *The Elder Statesman*.

Some conference events will be open to the public. On September 30, *Murder in the Cathedral* will



T.S. Eliot

be performed under the direction of Hollis Huston in Graham Chapel. On October 1, well-known American poets Amy Clampitt, James Merrill, Howard Nemerov, Anthony Hecht, Gjertrud Schnackenberg, and Richard Wilbur will read from Eliot's works in Edison Theatre.

Many sessions, though, will be open only to conference registrants. Anyone with an interest in Eliot is welcome to attend. The \$25 conference fee includes tickets to the play and to the poetry reading, as well as a Saturday luncheon. For more information, contact the English Department office in Duncker Hall, (314) 889-5190.

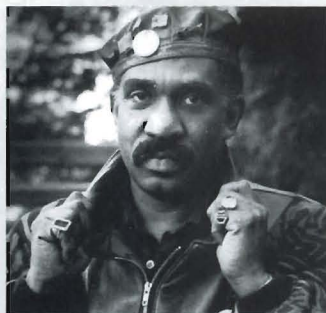
—Candace O'Connor □

Upcoming Edison Season Highlights International Fare

Edison Theatre's 15th-anniversary season will continue a tradition of presenting the avant-garde, but Henry Schvey, chairman of the performing arts department, and Katherine Thompson, who became the theater's managing director last January, are broadening the series to include more work of international renown.

The season opens Monday, September 5, with the Market Theatre of South Africa's production of *BOPHA!*, a lightning-fast protest play full of satire, barbed caricatures, and South African music and dance.

The Philip Glass Ensemble will present *1000 Airplanes on the*



Garth Fagan

Roof Sunday, October 16. This new multimedia work filters H.G. Wells' *The War of the Worlds* through Glass' unique perspective. Jerome Sirlin, creator of the sets and lighting for singer Madonna's 1987 world tour, designed more than 200 sets for the production. *1000 Airplanes* will have its American premiere one month before the St. Louis performance, at Philadelphia's American Music Theater Festival.

The Peking Opera brings its exotic blend of ancient Chinese folk tales, colorful costumes, symbolic masks, and acrobatics to Edison Friday and Saturday, January 20 and 21. It is the first North American tour for the company, which performs in a style that evolved at the Peking Court of the Q'ing Dynasty 200 years ago. Some 40 performers and a Chinese orchestra will appear in the Edison production.

New York composer and choreographer Meredith Monk brings her ensemble, The House, to St. Louis for performances Friday and Saturday, February 10 and 11. Using chant, music, dance, and film, Monk breaks down the standard barriers between artistic disciplines.



Peking Opera

The National Theatre of the Deaf takes the stage Thursday and Friday, March 9 and 10, with an adaptation of the gentle and delightful cult film *King of Hearts*. The internationally acclaimed company, an ensemble of deaf and hearing actors, performs simultaneously in two languages—one for the ear and one for the eye.

The Bucket Dance Theatre will return to Edison for performances on Friday and Saturday, April 14 and 15. The predominately black modern dance company is known for its high-energy style.

The San Francisco Mime Troupe will be appearing at the Edison on Friday, April 28 and Saturday, April 29. In addition, the Mime Troupe will give a one-day workshop on

the 29th. "With fantastic speed and hair-trigger timing, they compose a symphony of pratfalls, pantomime and sharp, lean dialogue," says *Newsweek*.

New for 1988-89 is an innovative program that will allow the public to meet several of the artists, who will discuss their work and answer questions. To accommodate larger audiences, Edison also is expanding from one-night performances to residency performances. New as well is a special series for children.

For more information, call the Edison box office at (314) 889-6543, or write Campus Box 1119, One Brookings Drive, St. Louis, MO 63130.

Quotables

"By any definition the American civil rights movement was a miracle. There is nothing in our history to suggest that we could undergo such fundamental social change without violent confrontation."

Henry Hampton, A.B. '61, executive producer of the public television series *Eyes on the Prize*, speaking as part of the Assembly Series.

"There will be, in the course of this morning's presentation, three grammatical errors."

William Safire, syndicated columnist for *The New York Times*, speaking at an Assembly Series lecture on public discourse.

"Clock time, with a discreet instrument like the second, has the ability to be a very beautiful system of measure we can cast like a net over all kinds of activities and find out all kinds of things about them. It's a very beautiful tool. Experiential time has none of the properties of clock time. We don't experience time that way at all—experience expands and contracts for us."

Environmental artist Robert Irwin at a lecture co-sponsored by the School of Architecture and Laumeier Sculpture Park titled "On the Nature of Abstraction."

"I think it's true women have less confidence, and that works to our advantage in newsrooms. We check our facts more carefully and more frequently to make sure we've got the story right. We make fewer statements and ask more questions, which means we get more answers. We never ask questions the way Sam Donaldson does. In our reporting, we make more use of the word 'perhaps.' We are more gray than we are black or white. We see nuances where men see absolutes. So, our reporting can be more subtle, and ultimately it may be more accurate."

Susan Stamberg, National Public Radio anchor, on the subject of women in the news media, as part of the Assembly Series.

"The difficulty in imagining the future comes from the fact that important changes are not quantitative. The important changes are qualitative—not bigger and better rockets, but different styles of architecture, new rules by which the game of exploration is played."

Freeman Dyson, professor of physics at the Institute for Advanced Study at Princeton, from a speech titled "Engineers' Dreams: Trying to Understand Why Some Things Work and Others Don't," given as the Fall Honors Lecture as part of the Assembly Series.

Since midwives tend to spend more time with their patients, quality of care would increase.

Women Should Be Allowed to Choose Birth by Midwives

“I’d like to make an appointment for a prenatal checkup,” I told the receptionist on the telephone.

We agreed on a date and time, then I asked, “What do you charge?”

“The fee for prenatal care and a normal delivery is \$1,200,” she told me. I looked at the phone, shocked. I had paid half that two years ago. “Do you have health insurance?”

“No,” I told her.

“Then you need to bring a \$250 deposit.”

“And what if I don’t have it?” I asked.

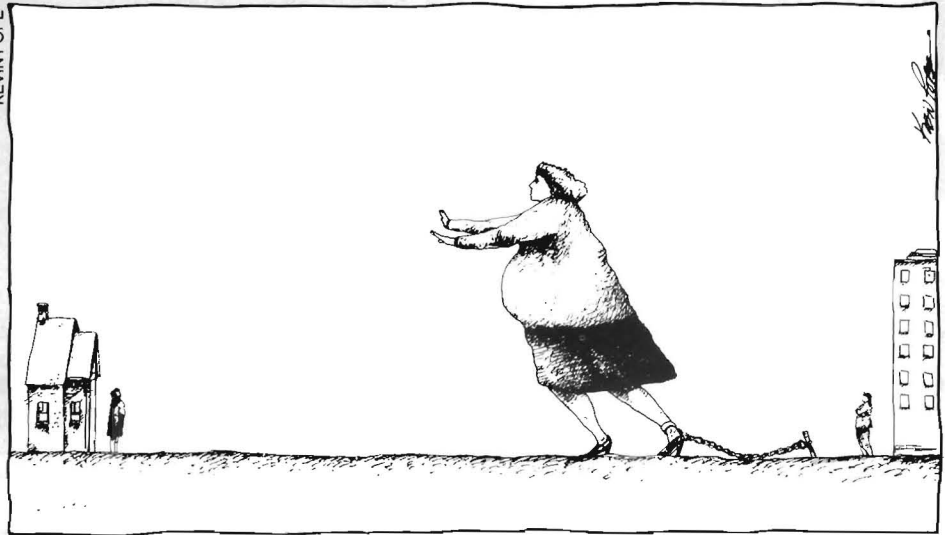
“Then we don’t see you until you do, but the longer you wait, the more you have to bring in on your first visit,” replied the mistress of the Catch-22.

I canceled my appointment and hung up.

I quickly learned that every doctor had the same policy, and I began to wonder if physicians, who stress how important good prenatal care is, are genuinely interested in women having healthy babies. I also began to wish that I were living in the central part of North Carolina again, so that I could return to the birthing center where I had my other children and had been attended by a concerned and competent midwife.

Within the past three years, the North Carolina General Assembly, as a result of intensive lobbying efforts by the medical profession, passed a law permitting only certified nurse midwives to practice in the state, and requiring that they do so under the supervision of physicians. Physicians insisted that this was the only way to ensure the birth of healthy children and good care for the mother. Legislators, as laypeople, bought the physicians’ story. Unfortunately, North Carolinians have been sold a faulty bill of goods.

Physicians began taking over the practice of obstetrics at the turn of the century. They insisted on using hospitals for births, in spite of the fact that in the early 1900s, hospitals had terrible sanitary conditions and were used for the fatally ill. When the infant mortality rate increased, (no doubt because of the unsanitary conditions), doctors blamed it on the then-thriving practice of midwifery and worked to have it outlawed. In



1920, the doctors succeeded. The United States is the only country ever to outlaw midwifery.

In the past 20 years, as medicine has advanced technologically, doctors have adopted a philosophy of medical management of childbirth. Use of fetal monitors to track infant heartbeats and a mother’s contractions, mandatory IVs in the event of a hemorrhage and, until recent years, anesthetic at the crucial time of delivery, are all part of the management package.

However, the truth is that there are no guarantees in childbirth. There are inherent risks, and every expectant woman needs to address the possibility that she may suffer the loss of a child.

And, despite this country’s attitude against midwives, the United States has a higher infant mortality rate (10.4 per 1,000 live births) than those European countries that license and encourage midwifery (6.4 to 7.7 per 1,000 live births, or one-third less that of the United States). These statistics, coupled with the smaller number of obstetric practices, call into question why we do not license midwifery as a separate practice. Consider the benefits to the public.

First, midwives could reduce a physician’s patient load by handling all low-risk pregnancies. This would free the doctor to treat high-risk patients. Women in the low-risk category would not be forced to accept medical procedures they neither want nor really need.

Second, since there is some evidence indicating that enforced use of monitors and restricting

women to the labor bed increases the caesarean rate, the absence of such procedures would make birthing easier and probably reduce this rate and the additional risks associated with caesareans.

Third, midwives tend to spend more time talking with their patients and educating them in the childbirth process. They have an inherent concern for the health and well-being of another woman. Quality of care would increase. Women’s expectations may become more realistic, resulting in fewer lawsuits and therefore, lower malpractice insurance premiums.

Fourth, midwives who practice on their own are free to settle in isolated areas, providing maternity care to women in these areas.

In 1971, the American College of Obstetrics and Gynecology recognized qualified nurse-midwives as a positive addition to the care and delivery of uncomplicated maternity cases. At least two states in the nation, Alaska and New Mexico, have laws permitting midwifery to be practiced separately from a doctor’s care.

Every state needs to take another look at its midwifery law. The birthing of our children, who are our future, is not something we should treat lightly. —Annette Dunlap □

Annette Dunlap, M.B.A. '77, who lives with her husband and three children in Smyrna, North Carolina, writes frequently on issues related to health-care and children. This article appeared originally on the editorial page of the *Raleigh, North Carolina, News & Observer*.

Freedom from Government

Resulting from a triumph of ideas over entrenched political interests, deregulation's scorecard, says University Professor Murray Weidenbaum, has shown nothing but pluses from the start.

by Murray L. Weidenbaum

Deregulation of American transportation, telecommunications, energy, and financial markets over the past 10 years has been a triumph of ideas over entrenched political interests. For 90 years—from the establishment of the Interstate Commerce Commission in 1886 to the passage of the Toxic Substances Control Act in 1976—government regulation of American economic activity continuously expanded, and created in its wake powerful constituencies who benefited from the regulation.

Yet this trend in government rule-making has changed dramatically and perhaps irrevocably during the past decade, resulting in remarkable benefits for the American economy. What caused the shift toward deregulation was not a realignment of political forces. The most significant developments were supported by a bipartisan coalition in both the legislative and executive branches of the federal government. Consumer activists such as Ralph Nader offered support at vital points, as did leaders of both political parties, including Presidents Ford and Carter and Senator Edward Kennedy. But the most important role was played by a very unusual set of actors in the public policy arena: economists, political scientists, legal scholars, and similar purveyors of ideas.

Three streams of economic research and policy analysis, dealing with different aspects of regulation, reached a confluence in the early 1970s. The first, and most substantial, focused on the heavy and widely distributed burdens that economic regulation imposed on the economy, especially in the field of trans-

portation, and the smaller and far more concentrated distribution of any resulting benefits. The second research effort dealt with the fundamental nature of the regulatory process, especially the relationships between regulators and those regulated. The third area of research focused on the general costs of regulation, especially to the consumer.

It is difficult to pinpoint the exact start of the influential research that led to transportation deregulation, but *The Economics of Competition in the Transportation Industries*, written by John R. Meyer, *et al.* in 1959, was a landmark study. Important work followed on each of the major modes of transportation, most notably by George W. Douglas and James C. Miller, III on airlines, and Thomas Gale Moore on trucking.

The airline industry provided the clearest examples of the heavy cost of regulation, particularly the price differences for trips on regulated and non-regulated airlines. Interstate travel was under the jurisdiction of the Civil Aeronautics Board (CAB); intrastate travel was beyond the CAB's purview. Research found that a traveler could fly 500 miles from San Diego to San Francisco in the unregulated California market and pay less than someone flying 300 miles from Portland, Oregon to Seattle, Washington under the CAB's control.

Most American economists writing in this field also had concluded during the 1970s that Interstate Commerce Commission (ICC) regulation was protecting the carriers (railroads, truckers, and their unions) while increasing costs to shippers by billions of dollars a year. Comparable studies were made of other regulated industries, such as radio, television, and utilities.

A consensus gradually emerged. Transportation regulation in the United States did not protect its purported beneficiaries, consumers, but instead was designed to benefit the employees, executives, and shareholders of the companies being regulated. Government rule-making shielded entrenched firms from potential new competitors and kept a high price umbrella over the regulated industry.

The second, and related, stream of



ROBERT SRENCO

Hustle and bustle: Among the benefits of deregulation in the airline industry, says Weidenbaum, are increased productivity, lower air fares, and greater volume of traffic.

“While some passengers no longer have direct flights,” writes the author, “the proportion of passengers changing planes actually decreased from 27 percent in 1978 to 25 percent in 1984.”

“Moreover, despite several highly publicized crashes and near-misses, the overall record of airline safety has improved since deregulation. The accident rate declined 26 percent—from the average during 1972 to 1978 of 2.35 accidents per 100,000 flight-hours to 1.73 per 100,000 hours during 1979 to 1986.”

research focused on the political efforts of interest groups that benefited from regulation. Political scientist Marver Bernstein presented in 1955 a basic “capture” theory of regulation. As the only political force in the regulatory agency’s environment with any stability, the industry eventually forced the agency to accommodate to its needs. George Stigler and Sam Peltzman generalized this theory, contending that regulatory policy reflects the interests and the power of the concerned groups, not necessarily the consumers. In 1982, Stigler was awarded the Nobel Prize in Economics for his seminal articles on the theory of regulation and his empirical studies of the effect of regulation on specific industries.

The third line of research—focusing on costs to consumers—saw the topic move from the business pages and academic journals to the front pages and the nightly news. The American Enterprise Institute (AEI) led the way in the mid-1970s with several widely cited reports on the high cost of regulation, among them my own *Government-Mandated Price Increases*, Sam Peltzman’s

Regulation of Pharmaceutical Innovation, John P. Gould’s *Davis Bacon Act*, and Rita Ricardo-Cambell’s *Food Safety and Regulation*. In 1977, AEI began publishing a bimonthly journal, *Regulation*, that is devoted entirely to government rule-making. The issue hit a responsive chord with the media, influential policy groups, and finally the Congress.

A few simple concepts made the issue attractive. Deregulation presented policymakers with an opportunity to curb escalating inflation in a way that did not involve a trade-off with jobs. Indeed, reduced regulation would cut both costs and barriers to production and employment. The burdens of regulation were characterized as a hidden tax on the consumer (\$63 billion in 1976 for a sample of federal regulatory programs, according to estimates by Robert De Fina and me). This cost increase was buried in the form of higher prices but it was very real and often regressive.

Cost-benefit analysis—which had been used to screen out clearly uneconomical expenditure projects for decades—also proved to be useful when applied to regulation. Although the implementation

required dealing with many difficult conceptual and statistical problems, the general notion of weighing costs against benefits generated a positive reaction.

Carefully researched examples of regulatory silliness brought these concepts to the public’s attention. Perhaps the first was the dead haul—the numerous requirements that resulted in trucks returning empty from delivery even though there was ample opportunity to fill them with cargo. The public needed no great expertise in industrial organization to resent the waste that resulted.

This unusual form of applied research concentrated increasingly on the Occupational Safety and Health Administration. OSHA jokes (based on that research) became a staple of business conversation. Is it true that OSHA made one company build separate “his” and “hers” toilets even though the only two employees of the firm were married to each other? Did OSHA really issue a bulletin to farmers telling them to be careful around cows and not to step into manure pits? Both of those questions could, quite accurately, be answered in the affirmative.

By the late 1970s, support for regulatory reform had become widespread. It included business executives who found themselves inundated with a flood of rules to follow and reports to file, lawyers and political scientists who thought that the regulatory agencies often were captured by the regulated industries, and economists who believed that regulation reduced competition and increased costs. Congressional hearings on the subject yielded support for less regulation from such disparate groups—and surprising allies—as the American Conservative Union and the Consumer Federation of America.

Progress on deregulation built up slowly but gathered strong momentum in the mid and late 1970s. In 1968, the Supreme Court decision permitted non-AT&T equipment to be hooked into the Bell telephone system. In the following year, the Federal Communications Commission (FCC) allowed a non-Bell company to connect its long-distance network with local phone systems. Although these two actions attracted little attention at the

time, they triggered the forces that led to the breakup of the Bell system.

In the 1970s, interest rates on deposits of \$100,000 and over were deregulated. Again, one move toward deregulation ultimately led to another. As securities firms took advantage of the “loophole,” banks responded. A process was set in motion that has resulted in the lifting of interest rate ceilings, the payment of interest on consumer demand deposits, and greater competition among financial institutions.

Two important regulatory changes took place in 1975. The Securities and Exchange Commission (SEC) ordered an end to the practice of fixed brokerage fees for stock market transactions, and the ICC prohibited rate bureaus for both trucking firms and railroads from protesting independent rate filings by members. Clearly, the regulatory ice was breaking.

In 1977, the Civil Aeronautics Board (CAB), led by two economists, chairman Alfred Kahn and member Elizabeth Bailey, instituted several changes that ultimately led to deregulation. The CAB gave airlines increased freedom in pricing and easier access to routes not previously served. The results were spectacular. Fares for tourists fell sharply, planes filled, and airline profits soared. The CAB experiences provided a striking example of how regulation had been hurting the traveling public; in response, a bipartisan coalition in Congress passed legislation in 1978 that phased out the CAB and its authority to control entry and prices.

The year 1980 was an eventful one for deregulation. The FCC eliminated most federal regulation of cable television. Economist Darius Gaskins became chairman of the ICC and economist Marcus Alexis was appointed a member of the Commission. That, in turn, “encouraged” the trucking industry to support congressional leadership of reform in this field, in the expectation that the results would be less drastic than desired by the ICC. Later in the year, a new trucking law provided much more pricing freedom to individual truckers, made entry into the market much easier, and eliminated many costly ICC restrictions—but the ICC presence was retained. Also passed in 1980, the Staggers Rail Act gave the railroads new pricing freedom.

In 1981, the executive branch took the lead on regulatory reform. Building on the groundwork of the Ford and Carter administrations, President Reagan issued a new executive order directing the regulatory agencies under

In 1982, George Stigler was awarded the Nobel Prize in Economics for his research demonstrating how regulatory policy reflects the interests of industry, not necessarily consumers.

his jurisdiction to perform cost-benefit analyses prior to issuing new rules. A formal review process was placed under the auspices of the Office of Management and Budget. Also, a hold was placed on the numerous “midnight” rules that the Carter administration had tried to rush through in its final weeks. As a result of these efforts, the rapid rate of regulatory issuances in the 1970s substantially decelerated in the 1980s.

Progress toward deregulation was made in other areas as well. The FCC eliminated much regulation of the radio industry. President Reagan decontrolled crude oil prices and petroleum allocations, and quietly terminated the Council on Wage and Price Stability. But the pace of deregulation slowed significantly after 1981. Although regulatory reform was one of the four original pillars of Reaganomics (along with tax reduction, budget cutting, and anti-inflationary monetary restraint), it never received as high a priority as the other three.

The trend toward deregulation has slowed since 1981. A backlash in the environmental area (fueled in part by the controversial personalities of some of the Administration’s appointees) put the entire regulatory reform movement on the defensive. Nevertheless, progress continued to be made. Banking legislation enacted in 1982 allowed savings and loan associations to make more commercial and consumer loans. The interest rate differentials between banks and thrift institutions also were removed.

The Bus Regulatory Reform Act of 1982 permitted bus companies to change routes and fares. In 1984, the Shipping Act enabled individual ocean shipping companies to offer lower rates and better service than shipping “conferences.” Also in that year, AT&T agreed to divest local operating companies as part

of its historic antitrust settlement in the Justice Department.

In one key area—the regulation of foreign trade—substantial backsliding has occurred. Since 1981, the Reagan administration has renewed or extended restrictions on the import of automobiles, meat, motorcycles, sugar, steel, textiles, and many other products. Simultaneously, control over exports—often justified on foreign policy or national security grounds—has been tightened. The administration does not seem to understand fully that deregulation is a concept as relevant to foreign trade as it is to the domestic economy.

In environmental and safety rule-making, wholesale deregulation has not been the reformers’ goal. The emphasis here has been on relating the costs of regulation to their benefits and thus reducing the economic burdens of the regulatory process. Responding to the critics of its regulatory approach, OSHA eliminated or modified 928 of its “nit-picking” rules. The EPA experimented with “bubble” and “offset” policies designed to give companies more flexibility in complying with environmental standards.

In the case of OSHA and EPA policies, the courts have often been barriers to the adoption of more economically efficient regulations. For example, in 1981 a federal court ruled out cost-benefit tests performed for a proposed cotton dust standard because it held that the law did not provide for basing OSHA rulings on economic criteria. Nevertheless, the increasing support for reviewing the costliness and desirability of proposed new regulations—an approach started by President Ford, continued under President Carter, and expanded under President Reagan—has clearly slowed down the pace of federal rule-making.

The general impact of deregulation on the American economy has been extremely positive. Diminished government intervention has expanded the role of competition and market forces. Virtually every study of the changes has concluded that the results have been lower costs, increased demand, and new opportunities for both producers and consumers of the previously regulated activities.

Deregulation has lowered the cost of producing goods and services. It has offered a wider array of choices to the American consumer. And it has substan-

tially bolstered the international competitiveness of our economy.

In the case of airlines, competition has been especially rigorous; 26 new carriers entered the field between 1978 and 1985 and 19 have exited. This has exerted great downward pressure on labor and overhead costs. Airline productivity has risen, average air fares have declined, and volume is sharply up. The number of city pairs served by more than one airline increased by 55 percent from 1979 to 1984. While some passengers no longer have direct flights, the proportion of passengers changing planes actually decreased from 27 percent in 1978 to 25 percent in 1984.

Moreover, despite several highly publicized crashes and near-misses, the overall record of airline safety has improved since deregulation. The accident rate declined 26 percent—from the average during 1972 to 1978 of 2.35 accidents per 100,000 flight-hours to 1.73 per 100,000 hours during 1979 to 1986.

The recent tendency for airline consolidation, however, was not expected by many advocates of deregulation. As of the middle of 1987, a handful of the major trunklines are coming to dominate passenger air traffic. The structure of the industry is still evolving, and the effect of the merger movement on price and service is yet to be determined. In any event, airlines remain subject to the scrutiny of the Justice Department's Antitrust Division.

For the railroads, revenue per ton-mile (a good measure of unit cost) has been declining in recent years while volume (total ton-miles) and operating income have increased. In the case of trucking, comprehensive data are harder to come by. Nevertheless, 65 percent of a large sample of shippers recently reported lower trucking rates and improved services. The number of new firms entering the industry has far exceeded the loss of older companies. The number of ICC-authorized carriers increased from 18,000 in 1980 to 33,000 in 1984.

Reduced regulation—ranging from outright deregulation to simplification and streamlining of rule-making—has enabled the competitive process to work better. Depositors in financial institutions have been receiving higher returns on their money as a greater variety of companies compete for their business. Long-distance telephone users find that greater competition has resulted in lower rates, while subsidies to local service have been eliminated.

OSHA (Occupational Safety and Health Administration) jokes increasingly became a staple of business conversation. Did OSHA really make one company build separate “his” and “hers” toilets even though the firm’s only two employees were married to each other?

Inevitably, the wrenching changes brought about by deregulation have generated counterpressures from interest groups that have lost government protection. Managers of many deregulated firms have seen their pay and prerequisites decline to the competitive norm. Some companies have been unable to survive in the new competitive environment and have gone bankrupt or have been acquired by stronger firms.

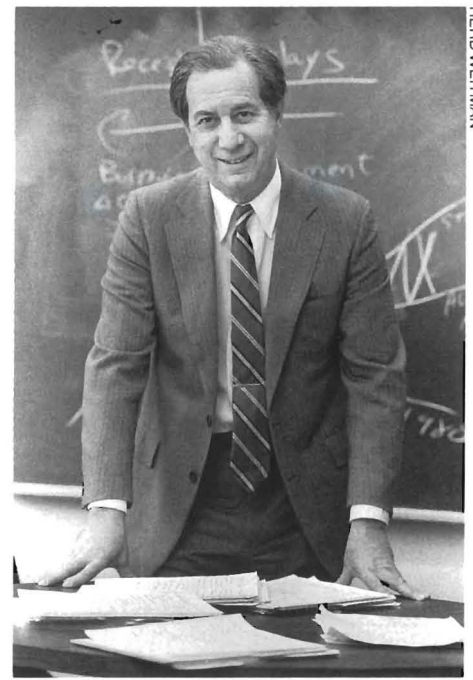
But, clearly, the economy as a whole has benefited. All economic reform involves transitional costs, which often seem to outweigh the benefits at first. Deregulation's scorecard, however, has shown nothing but pluses from the start.

The public interest would be served by another wave of economic deregulation and by renewed emphasis on reducing the burden of social regulation. In the area of economic deregulation, the Interstate Commerce Commission and the Federal Maritime Commission should follow the CAB into the graveyard for regulatory commissions. The consumer would be far better protected by competitive forces in the marketplace. Also, the remaining vestiges of energy price regulation should be repealed, along with the various quotas on imports. Restrictions on exports should be reduced only to instances that truly involve the national security.

Simultaneously, a fundamental revision of the statutory framework for social regulation should be undertaken. Unreasonable goals (such as “zero discharge”) and unrealistic timetables (such as those governing gasoline usage) should be modified, or better yet, eliminated. Much more use should be made

of market-based approaches, such as effluent fees in lieu of detailed “clean” water regulations.

Perhaps the most fundamental need is to help the public understand the limits of government rule-making. Even if it were staffed entirely with Newtons and Einsteins, the Consumer Product Safety Commission could not effectively regulate the 2 million companies producing the 10,000 products within its jurisdiction—nor could the Environmental Protection Agency clean any significant portion of the water, air, and land surfaces in and around the United States. The need is not for greater compassion, commitment, or technological expertise—those we have in abundance. What is required now is the willingness and the courage to make difficult choices among the many alternative demands for government regulation of private activity. □



Murray Weidenbaum is director of the Center of the Study of American Business and Mallinckrodt Distinguished University Professor in Economics at Washington University. From 1981 to 1982, he was chairman of President Reagan's Council of Economic Advisers. His most recent book, *Rendezvous with Reality: The American Economy after Reagan*, is being published by Basic Books in September.

This essay is reprinted from the 10th anniversary issue of *Policy Review*, a quarterly journal of the Heritage Foundation.

Professor Weidenbaum is spending a sabbatical this year at the Center for Strategic and International Studies in Washington, D.C.

by Cheryl Jarvis—
photographs by Jim Olvera, B.F.A. '78

The Unbroken Circle

As an ambitious engineering student in the mid-1960s, Paul McKee harbored three dreams: to one day play pro football, to construct useful and well-designed buildings, and to marry the woman with whom he was in love. But what was required to make those dreams happen was far more grueling than McKee anticipated—rigorous engineering classes from early morning until mid-afternoon, football practice from afternoon until dark, then homework in the library every weeknight until 11 p.m., followed by a 20-minute drive to his parents' modest home in a working-class suburb.

On weekends McKee's schedule varied, but the routine remained the same: football and studying, studying and football. In the off-season and summer, he worked in construction to earn his tuition. There was no money for a fraternity, but then there wasn't really time for parties anyway.

Those were frustrating years for McKee. Studying hard and getting only C's; paying his own way through school, without financial aid, doubting whether he would really make it. Eventually he found the pressure so intense he wanted

***Reaching beyond
the equations of
financial aid forms,
scholarship programs
throughout the
University touch
hearts and
link generations.***

to quit, and might have, if not for the woman who loved him and persuaded him to persevere.

Then, in his senior year, something happened; McKee found himself one day in the office of the dean of the School of Engineering. The dean told him that a man named Harold Jolley was giving him a \$1,000 scholarship—which, at that time, amounted to one-third of the year's tuition. McKee was in shock, both elated and confused. Confused, he says, because he was nowhere near the top of his class. Elated because it meant

he could both marry and finish his senior year. "I felt it was a sign that our marriage was going to make it," he recalls. And in shock, McKee explains, "because I couldn't believe that anyone actually gave money away. I kept wondering, 'Why was this man doing this? And why for me?'"

McKee's sense of wonder and disbelief persisted as Jolley took the young civil engineering student to dinner whenever business brought the donor to St. Louis. When McKee graduated, Jolley, a 1911 graduate of the School of Engineering with a bachelor of science degree in civil engineering, brought McKee to Chicago and offered him a job at CECO corporation, where Jolley was a partner. McKee declined the offer.

He never did land a pro football contract. But as chairman and CEO of a \$60 million general contracting firm chosen in 1987 by the *St. Louis Business Journal* as one of St. Louis' best small businesses, McKee has been responsible for constructing many useful and well-designed buildings. The marriage begun in college recently celebrated a 21-year anniversary. And now Paul



Founding father: The suggestion of University Trustee William Tao, M.S.M.E. '50, in 1974 to provide endowment-free scholarships has blossomed into scholarship programs in nearly all the schools of the University. He and wife,

Ann, sponsor Michael Kern, a senior from Marlboro, New Jersey, who started in pre-med but switched to engineering when he discovered a strong inclination for working with figures.

McKee, B.S.C.E. '67, has two sons of his own in college.

His own difficult college years are behind him, but McKee hasn't forgotten his generous benefactor, who died four years ago. Today McKee has become the unknown donor offering support and encouragement. Each year his company, PARIC, sponsors its own scholarship for a Washington engineering student—a turn of events that still surprises the second-generation sponsor. "I wasn't aware that I had such a great fondness for Washington University when I was in

school," he admits. "The 1960s were somewhat anti-establishment; I never thought after I graduated I'd maintain a connection with any institution. But Mr. Jolley's goodness and his allegiance to

"What we've given to our students is not nearly as much as what they've given to us."

his alma mater made quite an impression on me."

That rare generosity more than 20 years ago to a young civil engineering student has evolved today into scholarship programs adopted by nine schools of the University, raising over \$3 million in financial aid and currently benefiting over 600 students. These programs link donor, recipient, and University in a triangular bond that spans years and miles, reaching beyond the equations of financial aid and into the lives and hearts of those in need.

That Extra Dimension

Jerry Brasch, B.S.Ch.E. '44, M.S.Ch.E. '47, approaches each new student he sponsors with the same two invitations; a tour of his plant and a game of racquetball. Dale Martin, B.S.E.E. '82, took him up on both. Dinner and a game became a regular outing for the St. Louis businessman and the student from Minnesota.

"I started out at another college, which was a lot less expensive but didn't have an engineering school," says Martin, who is with UNISYS in St. Paul. "I would not have been able to go to Washington without that scholarship, and I wouldn't be where I am today."

When Martin graduated, Brasch and his wife, Rosalie, were there. When Brasch received the School of Engineering's Alumni Achievement Award last year, Martin flew in with his family for the event.

"Wherever I travel across the country," says Martin, "whoever I talk to about Jerry and this program, the response is always the same: 'I wish we had something like that.' Jerry definitely has been a friend. But he's also been a mentor.

"Usually, when we think back on our college days, we visualize the physical features of the campus, the classrooms. But for me, when I think of Washington University, I think of Jerry. He was the extra dimension that brings a warmth to the memory."

—C.J. □

As with many innovative ideas, Washington's scholarship program took form out of a sense of frustration. In 1974, University Trustee William Tao, M.S.M.E. '50, felt a strong need to repay what he considered a lingering debt. In the years since his family had paid full tuition for his education, the St. Louis businessman had come to understand that the cost of providing that education far exceeded the actual cost of tuition. The University, Tao came to see, paid the difference. When told that financial aid for students was Washington's greatest need, Tao, like many people, realized he did not have the resources to provide the endowment for a full scholarship.

But why must scholarships always be drawn from an endowment, he wondered, when few people are capable of so substantial a donation? And why must they always be for full tuition, when so many students need just some help? So Tao came up with an idea: named scholarships donated annually and for amounts that are affordable for many people (minimums currently range from \$1,500 to \$2,500). The program, he felt, would create "living" scholarships, where donors could see their money at work. "Why wait until you die to do some good?" he asks by way of explanation.

Tao didn't want to wait. He took the initiative of providing the first such scholarship, named for his father and given to the School of Engineering. Tao conceived of the program as repayment, as recognition, and as philanthropy. He envisioned, he says, "just a few scholarships." But today the number of awards in the School of Engineering alone will soon exceed 200. At the School of Business, where scholarships have already exceeded that number, sponsor Doris Kohn, B.S.B.A. '50, says, "It's one program people always thank us for telling them about." In just four years, Arts and Sciences Scholarships have more than tripled.

Total support for the Medical Scholars Loan Program, in which awards are made as interest-free loans, doubled within the last year, as have the number of donors. And the School of Dental Medicine's entry into the program last year elicited 15 alumni and friends as founding sponsors.

What has made the program much more successful than Tao dreamed possible is, ironically, the one element that almost didn't occur to him: the personal connection between sponsor and student.

The first year of the Engineering Scholarship Program, all six engineering students receiving scholarships met for a lunch with their respective sponsors. The tradition of a meeting was begun, and today each school holds an annual dinner. Out-of-town sponsors often come to St. Louis for just this one evening. Skitch and Bill Rosenthal, for example, live in New York. When husband, Bill, A.B. '55, could not attend the Arts and Sciences Scholarship Dinner last year, Skitch flew to St. Louis to represent the Rosentals and meet junior Sandra Momohara. Skitch found Sandra "a delightful young woman. Both Bill and I look forward to getting to know her better."

"It really gives personal pleasure to be able to identify with someone," says Art McWilliams, B.S.B.A. '49, a sponsor for 10 years. McWilliams, who is a C.P.A. and an ardent Washington sports fan, asks to support students who both are athletes and intend to be future accountants. Three and a half years ago, he was matched with Kevin Suiter, the Bears' All-American senior guard, who this year became Washington's all-time leading scorer. "It was exciting for me to

"If we're going to have a better world, we need educated people. If we don't help, our whole society will suffer."

meet Kevin as a freshman," says McWilliams, who with his wife, Marge, goes to almost all of Suiter's games. "Any opportunity to get together with Kevin is a real honor for me."

Chancellor William H. Danforth, who attends many of the annual dinners to which sponsors and students are invited, says, "These dinners are among the most pleasant evenings of the entire year for me and for Ibby, as well. It is a pure delight to see the interaction between the sponsors and students. A sense of warmth and caring pervades the room. Many special relationships take seed at those dinners and bloom thereafter. Sponsoring a scholarship is a very rewarding and satisfying way for our alumni and friends to support Washington University. And we have no greater need than for scholarships."



Maternal pride: Charlotte Burkitt's deep commitment to scholarly endeavors led her to sponsor two students. Tom Lee, left, is a pre-med senior from Downers Grove, Illinois, who hopes one day to become an orthopedic surgeon. Josh Gordon is a senior biology major from

Silver Spring, Maryland, who last year was Student Union president and who one day hopes to teach and do research. "My boys are very special," says Burkitt. "I couldn't be prouder of their accomplishments than if they were my own."

What happens when sponsors and students are paired is often a matter of geography and personality, of need and motivation. One combination, however, produces consistent results: when donors offer time and friendship, students respond enthusiastically, and the interplay can be dramatic.

Sponsor Robert Ridgway, B.S.B.A. '63, told student Eric Clauson, B.S.B.A. '86, M.B.A. '87: "Give me a call if you need anything." The business student from

Chicago recognized an opportunity that went far beyond financial aid. "It wasn't long before all the receptionists in his office knew me," says Clauson, 23. "Mr. Ridgway always had time to talk to me and was always interested in how I was doing. I came to realize that he could give me valuable advice. I was always calling or dropping by to ask his opinion about courses I should take, about interviewing for jobs. He even introduced me to the person who hired me during the summers."

Clauson now lives in New York, where he is with the investment banking firm of Salomon Brothers, Inc., but the calls to Ridgway continue. "I like to let him know how things are going for me. And I still anticipate calling him when I have a major decision to make, because he's given me such good advice in the past. I anticipate being in touch with him for the rest of my life."

The opportunity to mentor out-of-town students like Clauson is what attracted him to the program, says

A Special Investment

When Kellie Webb Semler, B.S.B.A. '84, came to Washington she intended to go into advertising. But as the recipient of a scholarship from Frank Bush, B.S.B.A. '30, and his wife Florence, A.B. '31, Kellie's experiences with the University and its supporters convinced her of the satisfaction of working in voluntarism and philanthropy. Today Kellie is the director of alumni and annual fund programs at the School of Medicine and responsible for the development of the Medical Scholars Loan Program. She explains, "I hope my work here leads to special experiences and memories for our sponsors and medical students."

Semler was a struggling young wife, mother, and student when she moved to St. Louis from her native North Carolina. She was able to transfer from a small community college to Washington because of financial aid which included a scholarship from the Bushes.

"The scholarship money was part of a package that included a loan and work study job," says Semler, 30, who was an honors student, "but it was the part that was special. The Bushes have become my family here. They came to my surprise birthday party. They came over when my dog had puppies. I can't imagine a family gathering without them. They have made me feel like I belong a little more in St. Louis.

"There's a real friendship in our relationship. There's a nurturing and love that you get from special friends who have an investment in you." —C.J. □

Ridgway. "When I went away to college, I didn't know anyone. There was no one to help with decisions about courses except guidance counselors who didn't know me." While the amount of advice Clauson requested was "initially a bit of a jolt," Ridgway feels this involvement is exactly what the program is about. The time he spends advising students is time he genuinely enjoys. "The kids are so incredibly bright and impressive," he says. "They keep you alive and moving."

Ridgway's wife, Bonnie, explains their involvement on another level: "Our kids were lonesome when they went away to school. We felt it would have been nice if they had had an out-of-town family. Our scholarship students obviously had that same need." Enid Rivera, B.S.B.A. '87, was 3,000 miles from her native Puerto Rico when she came to Washington. "When your family is as far away as mine," she says, "a phone call alone isn't always enough. For me, what was most valuable about having the Ridgways as sponsors was just the security of knowing they were there."

Rivera describes what the Ridgways offered her and Clauson as a full-fledged second home, taking the students along to baseball games, even including them on a family vacation. And yet, Bonnie Ridgway says, "I feel what we've given to our students is not nearly as much as what they've given to us."

Though many donors prefer to downplay the value of their contributions, some characterize the role that their students have played in their lives in dramatic fashion. For Sidney Guller, B.S.B.A. '47, it's seeing students develop, "feeling like Mr. Chips sometimes." Gunther Kohn, B.S.B.A. '50, who established the scholarship program in the School of Business, says, "In a sense, we have adopted these students in a small way." Marvin Levin, M.D. '51, sees the program as "a giving of oneself, because you have a chance to be personally involved in the creation of a new physician, to both recall your own experience and be a 'parent' again of a medical student, which is quite an honor."

For many donors, the personal relationship, if it develops, is serendipitous; it is not their primary motivation. Some, like Paul McKee, remember what it means to be in need. Some, like William Tao, feel an obligation to give something back to the University. Some alumni want to ensure that the University continues to attract top students. As

competition and tuition both escalate, they know financial aid can make a difference. An increasing number of corporate sponsors say they want to keep their company's name in the forefront of Washington students' minds.

Some donors see an opportunity to honor the memory of a loved one; the first scholarship in the law school, for instance, was established by son Denis to honor his father Al O'Brien. Some women donors, who were raised in an era when career options were limited for them, prefer to support women in professional schools. Some participants are not even alumni. Molly Sverdrup, although not a graduate of Washington University, created an endowed scholarship for Romance language students because she believes deeply in the strength of that department. Her student, graduate student Carine Terras, from Paris, France, is pursuing a Ph.D. in French.

For many donors, the basic purpose is giving help to students who deserve and need such aid. "Now that government help has been significantly curtailed," says Oliver Goralnik, B.S.B.A.

"I like to let him know how things are going for me. I anticipate being in touch with him for the rest of my life."

'30, an original sponsor in the School of Business, "the majority of students require some sort of financial aid. If we're going to have a better world, we need to do it with educated people. If we don't help the succeeding generations, our whole society will suffer."

Whatever the motivations of those who sponsor their scholarships, most of the recipients of this generosity find the personal connection most meaningful. Whether that connection is as simple as an exchange of letters or as extensive as a lifelong friendship, it's gratifying to the students to know that someone out there wants them to succeed enough to provide personal support.

The value of that support was expressed last fall by graduate architecture student Amy Yurko at an annual din-



Due diligence: “I’m happy to be of help to anyone of merit who is desirous of attending law school and practicing the law,” says Richard Hetlage, A.B. ’48, J.D. ’50. He and his wife, Helen, have sponsored second-year law student Lori Baskins, from Independence, Missouri, since

she entered law school. Lori hopes one day to practice criminal law either in Kansas City or St. Louis. Says Hetlage: “I’m sold on the program. It’s good for the student, and it’s good for the school.”

ner held by the School of Architecture. Yurko received the Edward Hubbell Pelton Scholarship, given by Jane Pelton, A.B. ’18, A.M. ’22, the first woman graduate of the School of Architecture. Speaking for all scholarship recipients in the school, Yurko thanked donors for “contributing to the University through its students.

“As alumni,” she continued, “you recall, I’m sure, that the process of education in architecture can be not only seductive but completely encompassing, at least to those who wish to

make it so. As students, we surrender ourselves to long evenings that flow almost miraculously into early mornings, and we enjoy it immensely. But it is you who have allowed us to work this way without the distractions of financial worries; it is your generosity that has allowed us to be free to learn and create. And for that, we extend to you our most sincere gratitude.”

With this realization, the scholarship programs throughout the University come full circle. “The support really

does mean more when you know who it’s coming from,” says senior medical student Sharon Mollenhoff. “It makes me feel closer to the school. And it makes me want to do the same thing for someone else one day.” □

Cheryl Jarvis, *a former publications editor for Washington University, is currently editor of St. Louis Home magazine.* Jim Olvera, B.F.A. ’78, *is a freelance photographer based in Dallas, Texas.*

by Don Clayton with Cliff Froeblich

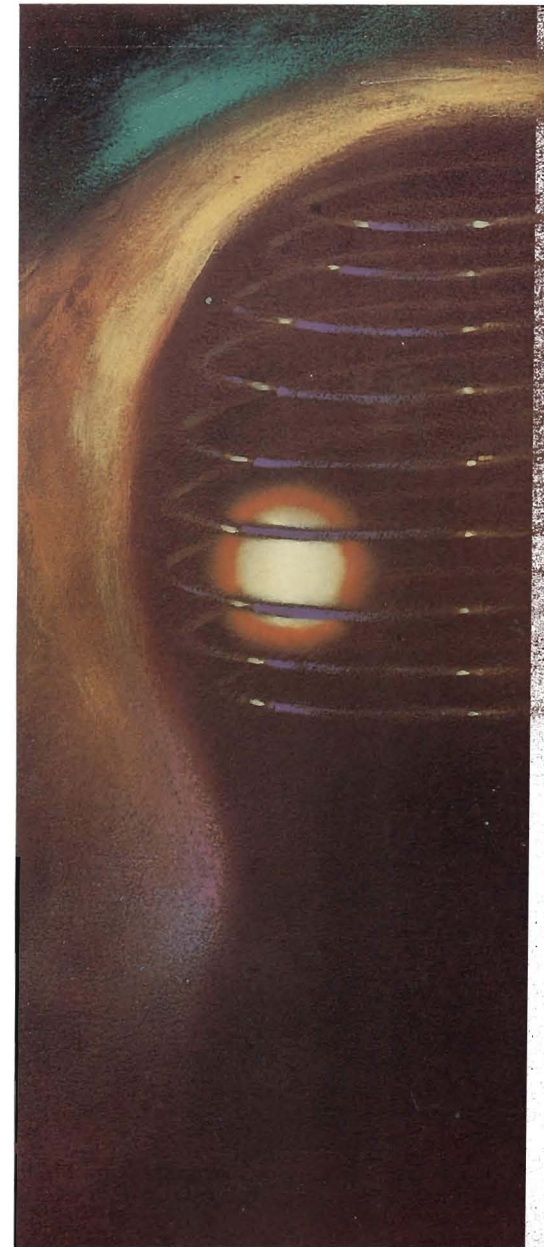
MIND- SEARCH

Using computers,
neuroscientists have
established new
connections between
the mind's activity
and the brain's
anatomy.

The classic paradox of being limited to invasive research methods that disrupt the subject to be studied is one that befuddles and frustrates every scientist trying to study a dynamic system, from the particle physicist to the cultural anthropologist. Perhaps nowhere is it more apparent than in the study of life-science's greatest frontier: neuroscientists have made great strides in recent years at characterizing the static seat of humanity—the anatomy of the brain, both gross and microscopic—but, limited to study methods too risky for human subjects or those that unacceptably alter the system's natural works, the dynamic human brain—the mind—still mostly eludes their grasp.

Wilder Penfield, a neurosurgeon who studied and worked at the Montreal Neurological Institute in the 1940s and 1950s, masterfully and safely applied mild electrical stimulation to the brain's surface during epilepsy surgery; his reports that electrical stimulation of specific areas could cause corresponding changes in memory and emotion re-ignited interest in closing the gap between the mind and the brain.

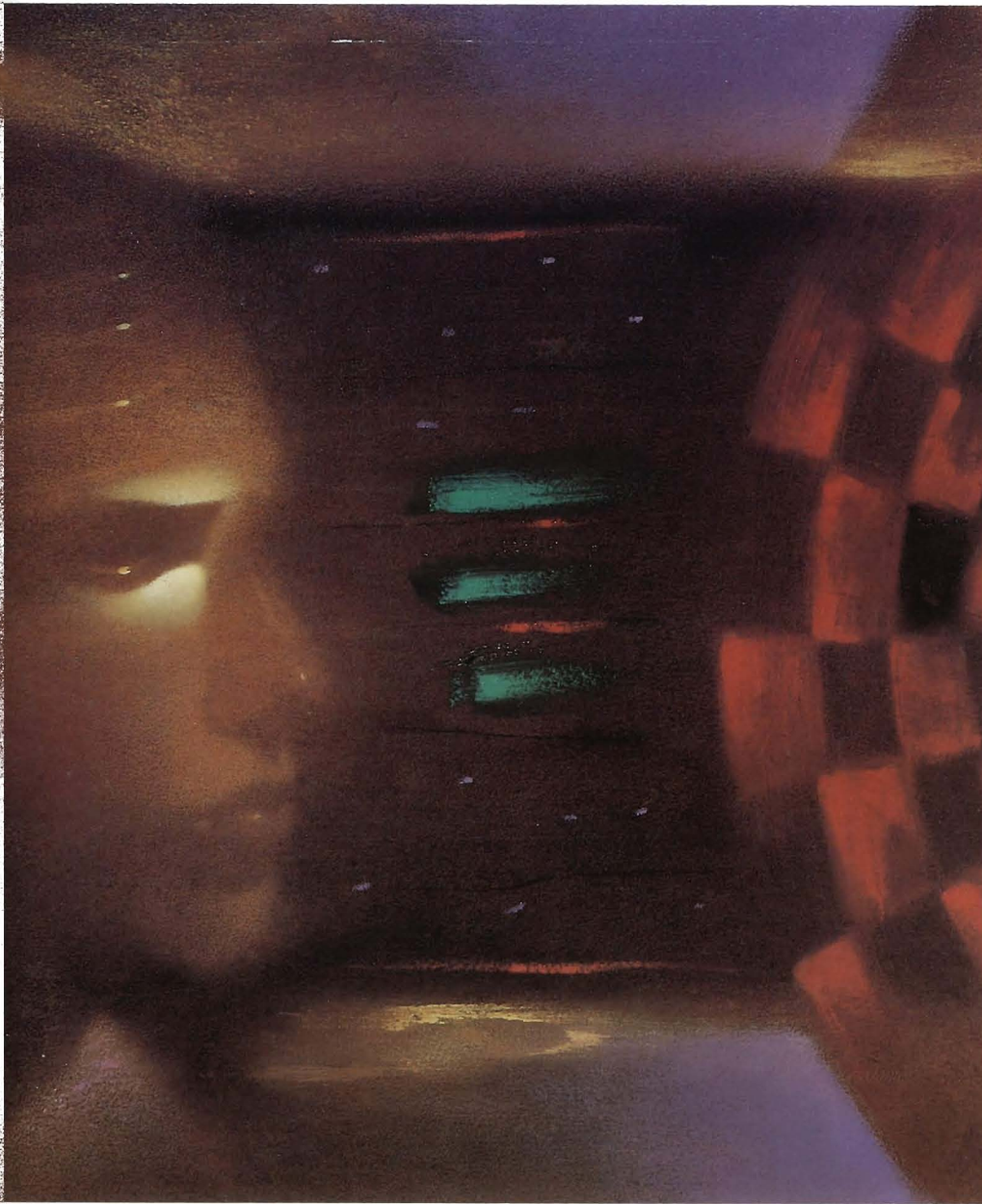
But while the work of Penfield has done much to characterize the dynamics of the mind as a whole, a detailed, accurate map of functional zones in the



normal brain has been out of science's grasp—until recently.

PET scanning, or positron emission tomography, a technology developed more than a decade ago, is possibly just the tool needed to map the functional organization of the living human brain. Wielding new approaches to image-data analysis, the PET group at Mallinckrodt Institute of Radiology has developed mapping precision beyond even their own expectations. And although PET is still primarily a research tool, clinical applications for the device are becoming apparent. Specialists, for example, are hopeful that PET will become a routine preoperative examination for certain kinds of brain surgery.

The PET scanner is, in simple terms, a Geiger counter, camera, and computer combined. The device, brainchild of a



team of investigators at Washington University working under the direction of physicist Michel M. Ter-Pogossian, consists of a circular array of radiation-sensing tubes. They detect the radiation from positrons, packets of energy shed by radioactive particles; activating each tube is also like exposing the film in a camera—impulses from individual detection tubes are then combined by a computer into a single image.

To undergo a PET scan, the subject is placed in the doughnut-shaped machine and then is injected with or inhales molecules that have been labeled with a radioactive tag. These molecules slip into the body's biochemical traffic and congregate preferentially in areas where their biological activity is in demand. The radiation they shed is picked up by the detectors, then converted to electri-

cal impulses that the scanner's computer integrates into an image.

Just two to three years ago, the best PET machines couldn't resolve beyond the 1.5- to 2-centimeter range—a cube about the size of standard dice. While that was useful in some studies, to begin to think about how the brain really works that resolution was coarse, crude. "However, with recent strides, we now have PET localizing areas of function in the 1- to 2-millimeter range, about the size of a dot on a die. That's improvement to an order of magnitude we wouldn't have predicted a short time ago," says Marcus Raichle, a professor of neurology and radiology with more than a decade of experience in PET.

Over the past 15 years, the Washington University neuroscience PET team headed by Raichle developed the use of radio-

labelled water injected into the bloodstream as a way for PET to map changes in blood flow. This approach was, in part, based on the fact that blood flow to a specific area of the brain increases when nerve cells in that area are activated. By 1980, labelled water had become a proven and safe method of detecting changes in function in different areas of the brain.

The half-life of oxygen-15 water is so brief (123 seconds) that it essentially disappears within 10 minutes (five half-lives), allowing researchers to get a new scan every 10 minutes. Each scan takes only 40 seconds. This ability to perform repetitive scans is the key to functional brain mapping.

"First we take a resting-state scan, then we apply a stimulus or ask the subject to perform a task and scan again," explains Peter Fox, an assistant professor of neurology and radiology who now routinely uses PET scanning to map the human brain. "By comparing resting state and activation state images, we can map the brain region involved in a specific function."

The success of "activation studies" depends on two things: precise control and presentation of the activating stimulus or task, and ingenious gleaning of useful information and images from the mountains of data the studies generate. Washington University investigators have not only devised ingenious means of data analysis but also a variety of elegant activation protocols in which a single variable is manipulated to identify brain regions that mediate these very specific functions.

Two of the brain activation studies illustrate the value of presenting the stimulus in a way that is controllable, simple, and maximizes the chance of a measurable result.

To chart the brain areas that receive tactile information from different parts of the body, vibration is used to stimulate small surfaces on the lips, fingers, and toes. Brain response to stimulation of each part of the body was intense and focal—tactile stimulation of each different part of the body telegraphed a corresponding increase in metabolism to separate, distinguishable parts of the brain. The results were consistent in repeated trials in individual subjects and all eight volunteers tested showed the same response locales.

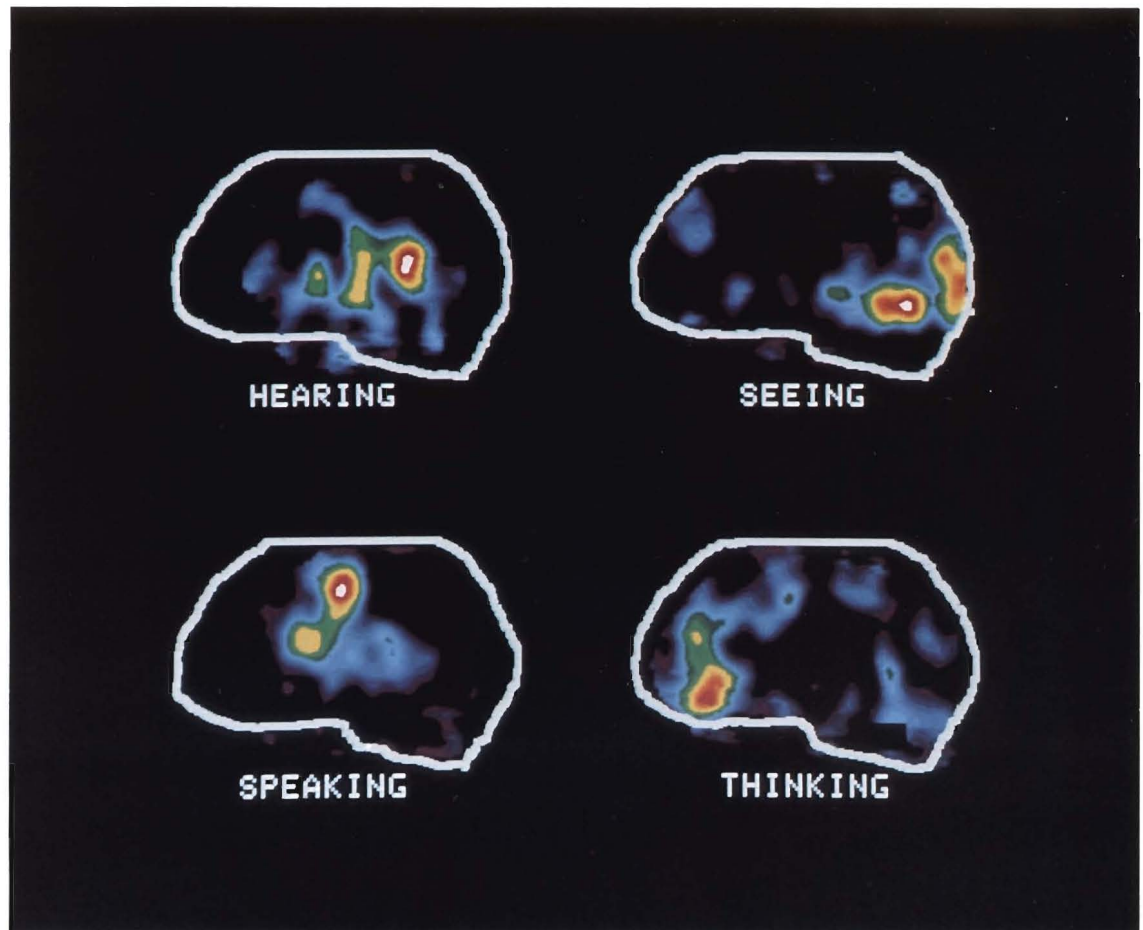
In another, more complex set of studies, Fox, working with Michael Posner, professor of neuropsychology (now at the University of Oregon) and Steven Petersen, research assistant

In the mind's eye:

Employing advanced radiological techniques combined with computerized image-processing, experiments designed to unravel how the brain reacts to verbal stimuli have disproved traditional models held in respect since the turn of this century.

This illustration represents four stages of a language-use study that asked subjects to listen to a word spoken, to read that same word silently, to repeat the word out loud, and then to speak a word related to the first.

The experiment indicated that brain functions are not solely chronological—that two events may occur at the same time—and that aural and visual recognition of words may be completely separate, but related, functions.



professor of neuropsychology, developed a protocol for studying language formulation. The experiments have yielded significant results, providing both new theoretical models of brain function and useful clinical tools. "Our approach in such a case," Fox says, "was to first examine the current wisdom and determine which brain areas we would expect to be involved in language generation. Then, using the PET scanner, we would look to those areas to see if we could describe what conditions are necessary and sufficient for activating those same areas. We attempted to break down, step-by-step, what we conceive of as incremental levels of function in language."

First, they showed the subject a word, then, during the next scan, asked them to repeat the word aloud. In the third scan, subjects were told not to repeat the word they were shown, but rather to say a related word. That caused them to make a semantic association. In a final stage, the original word was heard by the subject rather than read off a video screen, so that auditory paths could be distinguished from visual paths and cross-referenced. "As we go through these stages we can determine which areas of the brain are activated by these

levels of function and which are not," Fox explains.

Results were as unforeseen as they were impressive. "We found areas similar to those identified by studies of brain lesions and behavioral techniques," says Petersen, "but the tasks with which we find the areas associated don't seem exactly appropriate to some of the accepted models."

The standard neurological model of language processing—taking in, understanding, and speaking of a word—is described as a series of relays from one part of the brain to another, then another, always in the same sequence. "Information goes from A to B to C to D in one straight line," Petersen says. "Seeing a word starts in the primary visual cortex and moves forward to the angular gyrus, where it's phonologically encoded—a sound is associated with it. Information is then shipped forward to Wernicke's area, where a meaning is added on. That is piped forward to Broca's area, where it is programmed for production and output. Finally that goes to motor cortex and out. The areas that we see light up don't fit with this model perfectly. In our original studies, which were all vision- and very meaning-based, we found no

activation in Wernicke's area or the angular gyrus. When that first occurred, we were all horrified that these areas weren't lighting up. But Mike Posner stepped back and said, 'Well, this fits with what I know.'

"In cognitive psychology, there is another picture about reading words," Posner adds. "It's the idea that visual print can be translated two ways. You can sound a word out, or if you're quite familiar with reading, you might be able to translate that print into semantic descriptions without sounding it out."

"It seems possible," summarizes Petersen, "for a word to come in and have 'wordness' associated with it very early. That information then has access to parallel routes—one for phonology and one for meaning. So you can access meaning without having to translate the word into a sound."

The findings' third and final variance with accepted teaching involves Broca's area, long thought to be language-specific for speech production. "During our generate-verb task," says Fox, "we get a nice, clean response about 2 centimeters *in front* of Broca's area. If you speak, Broca's area is certainly active, but if you just wriggle your tongue, it's

also active. If you wriggle your fingers, it's active. If you think about wriggling your fingers, it's active. So it's not Broca's area that's involved in semantic linking, it's this anterior area—but most lesions in the vicinity cover both."

As the PET data mount, it becomes increasingly clear that standard neurological thought about the processing of words is, in Fox's blunt assessment, "just fundamentally wrong."

"The results are going to be very interesting," agrees Posner. "They'll require a re-evaluation of clinical neurologists' accepted view of the anatomy of word processing—a view that comes from studies 100 years ago."

"A big question people have had about PET," Petersen believes, "is whether it can tell us something new. The language work gives us a positive answer. We appear to be able to arbitrate between two competing theories—dual-route and the serial models—and say it looks very much like the dual route is correct."

It wasn't always so easy to analyze PET data in a way that permitted useful comparisons between resting (normal) and task-driven images. The precise protocols for applying stimuli and the general knowledge of where to look for responses only solved the first part of the enigma. The second part—how to extract useful information from the huge amount of data—was equally crucial to the current PET boon. "We've been doing activation studies here for six or seven years, a long time," says Fox. "At that earliest stage, image analysis or data analysis at the level now routine hadn't even been conceived."

Raichle primarily credits Mark Mintun, assistant professor of nuclear medicine, for exacting meaningful information from mounds of data. As a third-year medical student working with Raichle, Mintun wrote computer programs that were state-of-the-art at that time to convert the data into images that revealed broad regional differences in metabolism, such as an imbalance between the left and right sides of the brain, but could not improve the signal-to-noise ratio enough to usefully process the slight metabolic fluctuations created in the early activation studies.

Mintun, who says he simply likes to "show others new ways of looking at their data," has now developed a variety of programs that have made possible PET's recent manifold resolution improvements.

The first breakthrough was a program that enabled PET users to take a pair of images—one from a resting state and

the other from an activated state, for example—lay one over the other mathematically and subtract. This function created an entirely new image of the absolute differences between the two original scans. "And then, bingo! Things really started happening," comments Fox. "The ability to subtract away the part of the image that corresponded to the control, or resting state, tore down the barriers."

Image subtraction not only improved localization, it also improved sensitivity by removing subjective bias from the assignment of "hot," or activated, areas of the brain. No longer did researchers have to pin up the before and after images side-by-side and guess which areas were showing significant change and which were not.

Several additional advances even further refined the ability of image subtraction to localize responses. Mintun

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wrote a program that automatically lined up corresponding landmarks in the images. There was a reduction in the fuzzy borders of some activation sites by electronically nullifying the artifacts due to patient movement.

Mintun says an even more important contribution was a series of program changes that enabled them to study very subtle brain responses, changes that can't always be seen in every individual, or in every scan of any one individual. "The logical thing, we thought, would be to add up and then average the responses from patient to patient," he says. "We knew it wouldn't tell us anything about one scan or one subject, but it would tell us something scientific regarding the general principles of brain function. So we developed techniques to turn every brain scan into a standard format equal in shape, size, and orientation. When combined and mapped into the standard format, suddenly subtle, hard-to-see responses in individuals became obvious on the aggregate image.

"Mapping functional parts of the brain prior to neurosurgery should be very straightforward and may be useful clinically," offers Mintun as one example.

Activation studies that reveal the precise location of a particular person's language center, or the location for control of the hands, for example, may be useful as a guide for a neurosurgeon who must remove a tumor or focal area of epilepsy but wants to minimize damage to other crucial areas.

Because the techniques enable clinicians to realign and subtract images taken months, even years apart, psychiatrists may soon use PET to monitor the effects of psychoactive medications by comparing a pre-medication scan to scans taken at intervals during the course of therapy. Raichle and Eric Reiman, assistant professor of psychiatry, who have backlogged scans of patients with panic attack as well as schizophrenia, will soon be able to subtract scans of normal volunteers from scans of their patients in the hope of mapping the biochemical location of imbalances that

cause these disorders.

"We have done so many normal scans," explains Mintun, "that we have a sound base of knowledge about which types of tasks turn on certain areas of the brain.

"What we would like to do is to take people who we know have an abnormality in how they think or in their ability to understand the world, and find out at what point the abnormality manifests itself. In schizophrenia, is the abnormality out in the primary areas of the brain or is it in the more complicated, associative areas? That type of work may not have much immediate clinical relevance, but the concept of being able to understand where the breakdown in communication is truly exciting. There's no other word for it." □

Don Clayton is director of medical communications at the Washington University School of Medicine. Earlier versions of this story appeared in *Focal Spot*, the thrice-yearly magazine of Mallinckrodt Institute of Radiology, and *Outlook*, the quarterly publication of Washington University School of Medicine.



A Democracy of Intellect

*The Congress of Arts and Science,
an international scholarly
gathering organized by the
1904 St. Louis World's Fair,
recalls a bygone era.*



*by Kate Berger—
photographs courtesy
Missouri Historical Society*

The photographs on these pages depict scenes from the Congress of Arts and Science, a great scholarly gathering that took place on the Washington University campus in 1904 in conjunction with the St. Louis World's Fair. For one week in September of that year, some 500 scholars, 100 of them from abroad, met in Brookings Hall, and the other old buildings around the quadrangle, to exchange ideas and assess the state of human knowledge.

Some of the period's greatest thinkers—French mathematicians Emile Picard and Henri Poincare, British historian John Bryce, president of Princeton University Woodrow Wilson, and many others—attended the Congress. Participants at the event read over 300 papers and gave more than 100 addresses, covering everything from the classics (algebra and philosophy), to the new social sciences (treatment of the poor and the defective), to the now obscure (raceomatology). It was a remarkable undertaking, of the largest scale and widest scope possible, conceived in parallel to its sponsor and parent, the 1904 World's Fair.

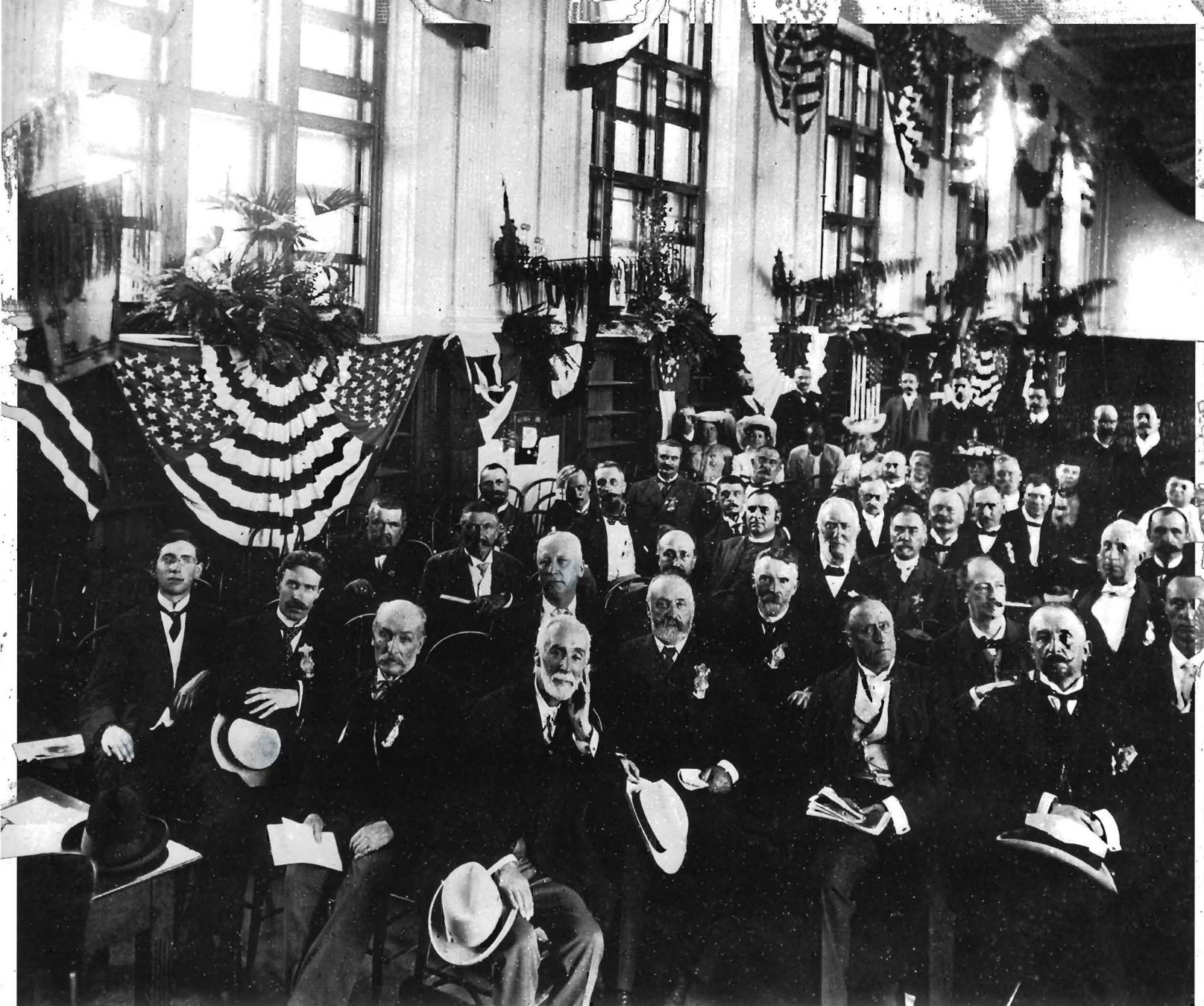
This was a world's fair that strove to be bigger and better than all of its predecessors, and it was largely successful—its fairgrounds covered more acres than any before and its exhibits introduced technologies (such as wireless telegraphy and automobiles) that were about to change the world. Like its predecessors, the St. Louis exposition encouraged international societies and trade associations to hold their conventions in St. Louis, in order to increase both the fair's attendance and the range of experiences represented on its grounds. In this way, too, the St. Louis fair was to excel.

All told, the Department of Congresses sponsored 156 conventions, providing these groups with meeting facilities and

assistance with their hotel and travel arrangements. More than 100,000 delegates representing every imaginable trade (police chiefs, nut growers, short-hand reporters, and veterinarians), as well as a number of popular causes (such as the International Pure Food Congress and the Catholic Total Abstinence Union) met in St. Louis that year. Some of the most notable of these gatherings were the Democratic National Convention, the International Peace Congress, and the World Press Parliament. But the Congress of Arts and Science was the crowning feature of the Department of Congresses' program.

Washington University's campus was the convention center. The school had delayed moving from its original, downtown location in order to lease its new hilltop campus to the fair for \$750,000, enough money to build eight pink-granite buildings and the Francis gym and field. The exposition company used the campus for offices (on the upper floors of Brookings), the Olympics (held mainly at Francis gym and field), and all but the very largest of the conventions.

It was as early as 1901 that the fair's organizers, many of whom had worked on



previous international expositions, began discussing the yet-to-be-formed Department of Congresses and ways to make it more than what they had already seen—a series of unrelated meetings. Education was one of the themes of this exposition, and so various ideas were afloat that the fair sponsor a series of scientific and literary lectures. Frederick J. Skiff, the director of exhibits, who had also directed the Colorado exhibit at the 1893 Chicago fair and the American exhibits in Paris in 1900, persuaded the exposition's executive committee, during these early discussions, to appropriate \$200,000 to the proposed department. Almost all of this money went to the Congress of Arts & Science, the only convention that was not merely hosted, but actually organized by the exposition company.

Hugo Munsterberg, a Harvard psychology professor who was visiting St. Louis at the time and therefore invited to attend the discussions, suggested that these lectures be united by some underlying theme or idea. "The Progress of Man Since the Louisiana Purchase" was the obvious choice, since the fair, officially titled the 1904 Louisiana Purchase Exposition, marked the 100-year anniversary of Thomas Jefferson's historic land purchase. Now considered a pioneer in the field of applied psychology and the author of several books on the subject, Munsterberg served as one of the vice presidents of the Congress and its planning committee, along with Albion Small of the University of Chicago; Dr. Simon Newcomb, retired professor of mathematics, U.S. Navy, presided.

Globe-trotters: Eminent scholars from all over Europe and the U.S. arrived in St. Louis during late September 1904 for a week-long sharing of knowledge.

Far left: A small crowd of nicely turned out professors poses on the steps of Ridgley Library.

Above: A large group meeting in what is now Holmes Lounge, the center for much of the activity of the Congress.

At a series of meetings in New York City in January 1903, they scheduled the Congress for late September ("in view of the climatic conditions at St. Louis during the summer and early autumn"), 1904, and proposed that the exposition pay a \$150 honorarium to each speaker and that, as reimbursement for their

travel expenses, it pay \$150 to American and \$400 to European participants. They based their first draft of the Congress' program on Munsterberg's elaborate diagram of human knowledge so that, on the first day, the most general categories (including logic, geometry, classical literature, surgery, and comparative law) would be discussed and that, as the week progressed, the scientists would break up into smaller and more specialized groups covering, in the end, almost 175 subcategories—everything from somatology to municipal administration.

The planning committee then began working on the recruitment of a large and significant body of European scholars. After soliciting the nation's universities, scientific societies, and cultural institutions for suggestions, Drs. Newcomb, Munsterberg, and Small sailed for Europe in the early summer to invite their European colleagues to the Congress. In four months, they delivered more than 150 personal invitations and secured 117 acceptances.

Howard J. Rogers, director of the Department of Congresses, best describes the magnitude of this feat in his essay "The History of the Congress." "Scientists are as a class sensitive, jealous of their reputations, and loath to undertake long journeys to a distant country for congress purposes," he wrote. "The amount of labor devolving upon the Committee to find the scientists scattered all over Europe; the careful and painstaking presentation to each of the plan; . . . the hearing of a thousand objections, and the answering of each; the disappointments incurred; the substitutions made necessary at the last moment;—all sum up a task of the greatest difficulty." But once armed with such an impressive list of respected European scholars, the committee had little trouble assuring that every important member of America's intellectual community would be present.

Administrative details—scheduling speakers and meetings, assigning buildings and halls, and assisting with visiting professors' travel arrangements—were another matter. Dr. Newcomb had to set up a branch office in Washington, D.C. and hire clerks and stenographers to handle the enormous volume of correspondence.

Despite the varied and complicated itineraries of the foreign guests, the Department of Congresses did everything possible to make their visits comfortable and convenient. In New York, a reception committee made up of more than 30 of the town's learned men helped to receive and entertain the



Hugo Munsterberg, a Harvard psychology professor visiting St. Louis, suggested the lectures be united by a theme. "The Progress of Man Since the Louisiana Purchase" was the obvious choice.



foreign scientists during their stay in that city. All of the foreign guests also enjoyed temporary membership at the Century and University clubs while in New York. A number of the visitors from abroad stopped in Chicago, where they were the guests of Professor Small and University of Chicago president William Harper, on their way to the Congress.

In St. Louis, those who were traveling with wives and daughters stayed at the homes of prominent St. Louisans. Beginning with the city's mayor, Rolla Wells, who hosted Mr. and Mrs. James Bryce at his Lindell Avenue home, 32 of the city's political, social, and industrial leaders (including Judge W. F. Boyle, Robert Brookings, F. W. Lehmann, and Edward Mallinckrodt) opened up their homes



in this way. The foreign scholars who traveled alone stayed on campus in the newly constructed dormitories. This arrangement "proved a very happy circumstance," Rogers writes, "as nearly one hundred foreign and American scientists of the highest rank were thrown in contact, much after the fashion of their student days, and thoroughly enjoyed the novelty and fellowship of the plan."

At last, on Monday, September 19, 1904 at 3:00 p.m., the entire body of scholars assembled to hear the opening addresses



Far left, above: A committee meeting by the ornate mantelpiece of Holmes Lounge, in what the World's Fair referred to as the Hall of Congresses.

Far left: Professor Suante Arrhenius, from the University of Stockholm, by the doorway to the Hall of Congresses.

Left: Professor Albrecht Penck, of Vienna, conversing with interested parties.

Above: Retired Professor of Mathematics Simon Newcomb, U.S. Navy, presided over the week's schedule.

of the Congress—at least a dozen of them. David R. Francis, President of the Exposition, Washington University graduate, former mayor of St. Louis, former governor of Missouri, and former Secretary of the Interior, spoke. So did the honorary vice presidents for Great Britain, France, Germany, Russia, Austria, Italy, and Japan. Dr. Newcomb, speaking on “the evolution of the scientific investigator,” gave the day's first and only research paper. But Skiff's words best expressed the spirit of the day: “The universal exposition is a world's university. The International Congress of Arts and Science constitutes the faculty; the material on exhibition are the laboratories and museums; the students are mankind.”

The meetings began in earnest the following morning and, amid the more typical 1904 headlines (“Skirt Dancers on the Pike—Pretty Girls of Various Nationalities Now Attracting World's Fair Multitudes”), the city's daily papers began to run these stories as well: “Future College to be Coeducational, Miss Carey Thomas So Declares to Scientists,”

“Japanese Lecturer Tells of Pearl Farms, Overfishing Condemned,” and “Dr. Dike Argues for Uniform Divorce Laws.” “Entrance to the congress meetings will be by card, in order to restrict the meeting to those interested and to keep out the merely curious,” an old *Globe-Democrat* article announced. Still, over 7,000 people registered to attend, making this report from the *World's Fair Bulletin* all the more impressive: “Every meeting was called to order promptly on time, and with very few exceptions the scheduled speakers were present.”

Another *Globe* story describes the accessibility of the scholars: “At a long table a number of the younger professors looked for invitations and when they found one addressed to one of the savants, took advantage of the opportunity to present it to him and at the same time to engage him in conversation. But upon the whole,” the story concedes, “the savants are not hard to approach and the democracy of intellect seems to have influenced them in their personal conduct.”

Sadly, the Congress is one of the least remembered elements of the St. Louis World's Fair. The papers presented that week were printed in a 12-volume work titled the *Congress of Arts and Science* and published jointly by Houghton, Mifflin & Company and the Riverside Press; the University Alliance re-printed an abridged version in 1909. But little else, aside from these books and a few contemporary accounts, recalls the Congress; its memory has been eclipsed by more exotic stories about the fair. In many ways, though, the Congress is the most depictive event of the period, a time when the world seemed smaller and more comprehensible. The belief that the entire scope of human knowledge could be represented at one week-long gathering is, indeed, bygone. □

Kate Berger, formerly managing editor of Third Coast magazine in Austin, is a freelance writer and editor based in St. Louis.

Don's Place

Poet-in-residence Don Finkel's official place-of-business is in Duncker Hall of Commerce and Finance, an august, turn-of-the-century building turned over in the early 1960s to the English department. But tonight, Finkel is at one of his other headquarters, a restaurant and bar in St. Louis' chic Central West End called Duff's. Brick walls, Mexican blankets and hanging plants make Duff's the perfect gathering place for the city's literati and other varieties of the culturally inclined.

*Poet-in-residence
Donald Finkel
reigns over the
spirit of poetry
wherever it may
be found.*

For the 12th year in a row, Duff's has set aside Monday night during the spring and fall for poets and novelists to read their works. Finkel, a Duff's regular, is scheduled one spring evening to read from his new book, *Selected Shorter Poems*. Before the program begins, he mixes with the audience, which includes past and present

students. Shaking hands, hugging friends, smiling warmly, sipping a beer—the poet might be a hip saloon keeper, and this his native domain: Don's Place.

Bearded, in denim shirt and jeans, with running shoes on his feet and a silver skull for a belt buckle, Finkel barely resembles the conventional idea of a university professor. Few have seen him in coat and tie, and even fewer in academic regalia. He did wear cap-and-

gown a few years ago—on Founders Day, October 25, 1986—when he was presented with a distinguished faculty award. Finkel still is embarrassed when he remembers that longtime friends Jarvis Thurston, former chairman of the English department, and his wife, poet Mona Van Duyn, keep a snapshot of him receiving this honor. (“Tear it up, tear it up!” he mumbles to himself.)

Working his way to the lectern, Finkel takes the mike and surveys the 50 or so people crowded around tables sipping drinks. “I realize that whereas prophets are without honor in their own country, poets are without shame,” he tells them. “This is especially true of me tonight, since I’ll be reading from the *Selected Shorter Poems*. That means some of you may have heard some of this before, for which I ask forgiveness.”

He gives an engrossed audience poems about marriage, King Midas, chimpanzees trained to communicate, and fly-swatting. The voice is strong and masculine, yet subtle enough to suggest line breaks without undue exaggeration. His listeners respond with both laughter and appreciative silence. “This one deals with something I find a lot more puzzling,” he says at one point. “I discovered that the painter Raphael said, ‘My painting will never offend.’ It seemed like an odd kind of admonition to me, who naturally tries to offend at every point:

“The way Beatrice does not offend,
perhaps
she chides you for your own good;
the way

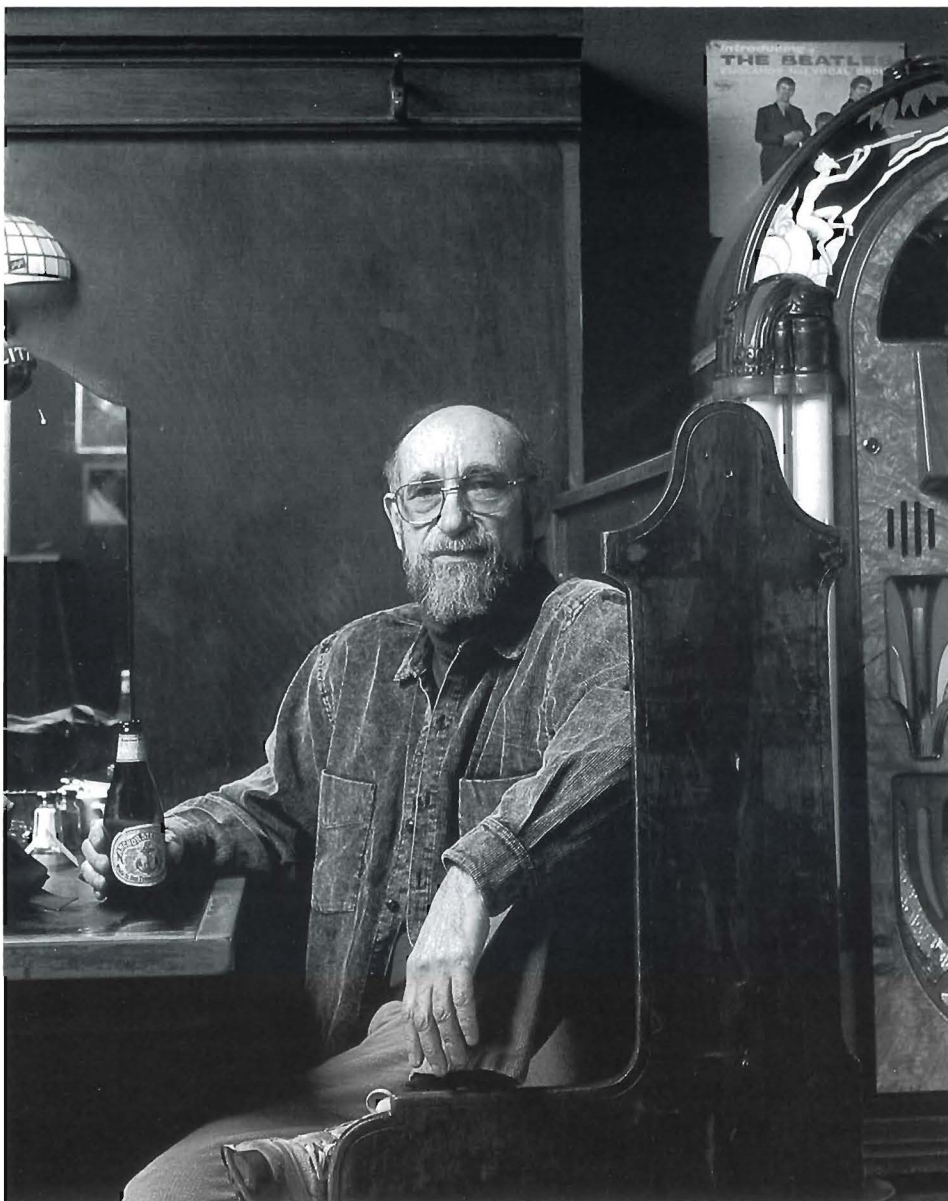
Circe does not offend, it is the smell
of the other pigs that assails your
nostrils.

However there is always the danger
of replacing
the beau ideal with the least com-
mon denominator...”

Fingering his beard, Finkel rhythmically dips his head down into his text and then lifts it to address his audience, like a swimmer coming up for air.

“No martyrdoms, no Last Judgements,
and after one or two
youthful indiscretions, no crucifixions,
either...”

In the post-incantatory silence, Finkel deadpans: “I hope I offended Raphael, wherever he may be.” A few in the audience break out in guffaws.



HERB WEITZMAN

Solitary voyager: Finkel's most recent book, *The Wake of the Electron*, is based, in part, on the journals of a deranged sailor. "What a writer does," Finkel observes, "is wait for invisible forces to lift him and move him, and to try, with a certain amount of ingenuity, to reach the finish line."

of 1969-1970, he spent a month in bleak, white Antarctica and returned to write *Adequate Earth* (1972).

But for a wild man, Finkel has enjoyed a surprising measure of stability—and provided it, too. He has been married to poet Constance Urdang for 31 years. He has had the same publisher, Atheneum, for 23 years. He has taught at Washington University since 1960. His students grow up to be his friends, treasuring Finkel's sometimes fatherly, sometimes brotherly concern for their lives and careers. Finkel's own career has been steady. Given his enthusiastic involvement with students, he has still found the time and energy to publish 12 books of poetry since 1959. His work has earned him such prizes as the Theodore Roethke Memorial Award and the Morton Dauwen Zabel Award from the American Academy and Institute of Arts and Letters.

While Finkel observes regular writing hours and has converted to a Macintosh personal computer, his steady production over the years still depends on the serendipity of poetic connection. The idea for his most recent book, *The Wake of the Electron* (published last winter), took root about 10 years ago when Finkel and his son, Tom, picked up a hitchhiker during a trip to the East Coast. The hitchhiker's parting gift was a book entitled *The Strange Last Voyage of Donald Crowhurst*. Crowhurst was an English weekend sailor who entered a one-man, around-the-world sailing race in 1968. Based on his radio transmissions, the world thought Crowhurst was winning. In fact, Crowhurst had been meandering in the Atlantic Ocean, maintaining a true log of his journey and scribbling a manifesto for a new religion accommodating both Christ and Albert Einstein ("The Kingdom of God has an area measured not in square miles, but square hours."). Crowhurst's vessel, the *Teignmouth Electron*, was found abandoned in the Sargasso Sea on July 10, 1969, Crowhurst presumably having leapt overboard.

Finkel read the book and then lost it. About seven years later, during a writing retreat in San Miguel, Mexico, the book came to mind when Finkel saw an

Somebody once described the 58-year-old Finkel as the "wild man of American poetry," wild meaning not destructive, but untamed. Considered experimental by critics, Finkel has become a master of the book-length collage, assembling a number of poetic voices, or speakers, together with fragments from documentary sources such as diaries, biographies, newspaper accounts, and religious writings. But he has not confined himself to just one form: Finkel is praised for his short lyrics, as well. His subject matter is also diverse—dogs, mythological gods, florists. Bawdy and irreverent in one instant, grim and cutting in another, Finkel often forgets to mind his manners in print.

Critic R. J. Mill called him "a creator

Having been described as a "wild man of American poetry," wild in the sense of untamed, Finkel has enjoyed a surprising measure of stability.

of comic extravagance, of an imagination that responds to the seemingly chance, grotesque, and unreal nature of present-day life in its own terms." That imagination often expresses itself in terms both earthy and spare—qualities that describe Finkel himself. He has sustained himself on lean provisions, crawling for hours in the darkness of enormous Kentucky caves, fueled by the inspiration that produced two book-length manuscripts: *Answer Back* (1968) and *Going Under* (1978). In the winter

orange balloon the size and shape of a baby whale. The balloon reminded him of the annual balloon race in St. Louis' Forest Park, which in turn triggered the memory of Crowhurst's race. "I went down to the local library and there, miraculously, among the small collection of books in English, were two copies of *The Strange Last Voyage*."

Besides narrating the tale of Crowhurst, *The Wake of the Electron* also explores, in counterpoint, the art of poetry—a solitary voyage driven by fictions and dependent on the winds of an unpre-

Instead of seeking truths about human tragedy and heroism in a King Midas or a Dionysus, Finkel during the 1960s mined them directly from his own experience... And as those experiences grew more extreme—sitting in a cave in pitch darkness or acclimating to the beautiful, dangerous emptiness of Antarctica—the truths loomed in bolder relief.

dictable muse. "What a writer does," says Finkel, "is wait for invisible forces to lift him and move him, and to try, with a certain amount of ingenuity, to reach the finish line."

Born in the Bronx, "in the shadow of Yankee Stadium," Finkel says he can't remember exactly when he fell in love with poetry. But he recalls the affair intensified when someone gave him a copy of Louis Untermeyer's anthology, *Modern American Poetry*. "I think I liked the way poems sounded more than anything else," he muses. At Columbia University he started out majoring in English literature, but his interest in aesthetics and the poetic process led him to switch to philosophy. After earning a bachelor's degree, he went back to literature for his master's. At the Art Students' League, Finkel studied sculpture, working both in clay and in stone—metaphors, he says now, for the art of poetry. The first step in clay sculpture, he says, is building an armature, a three-dimensional skeleton of stiff wire upon which the clay is molded. "Everything depends on the initial lines.

You have to know where you're going before you can go much further."

By that time, Finkel knew that he wanted to be a poet. He recalls after a day's work (carving picture frames), he would go home to his walk-up flat on Little Italy's Mulberry Street, eat, then walk to a cafeteria on the Bowery. There, he would read, write, drink coffee, and listen to the polyglot of voices around his kind of place.

His first book, *The Clothing's New Emperor* (1959), relies on rhyme—strict and loose—and metrical techniques. Finkel says he practiced these techniques during the late 1950s and early 1960s to prove to himself he wasn't writing free verse only because he had failed to master formal verse. Another characteristic of this early book is a preoccupation with mythological characters. In those days, he felt ancient myths gave poets and readers a "shared knowledge," and that he could project himself onto the lives of the gods and goddesses to grasp the universal experiences they enacted.

But as the 1960s progressed, Finkel the poet swapped the tunics of antiquity for his own blue jeans, work shirts, and shades. His style became more informal. The man who wrote, "I am caught between song and plain speech," in the 1950s, announced a decade later, "I am the one now who stutters." Even so, beneath the stuttering lurked the ghosts of more formal rhythms. Instead of seeking truths about human tragedy and heroism in a King Midas or a Dionysus, he mined them directly from his experience and those of other ordinary mortals. And as the experiences grew more extreme—sitting in a cave in pitch darkness or acclimating to the beautiful, dangerous emptiness of Antarctica—the truths loomed in bolder relief.

The collage technique and its array of voices, which he first employed in *Answer Back* helped him explore more than one facet of his personality. It also resolved the long-standing concern over how a poem should begin—the armature's crucial lines. ("All starts are false," he wrote in an early poem.) "You still have to find a beginning, but there was at least some sense of being able to begin, and begin, and begin again." For the collage to succeed, at least one voice has to provide unity and continuity.

Finding that voice is the poet's challenge. *Endurance* (1978) illuminates his artistry—and humanity. *Endurance*, a collage appearing in the same volume with *Going Under*, was the name of a ship commanded by Ernest Shackleton, who in 1914 attempted to land a transcontinental expedition on the shore of Antarctica. The ship, however, became trapped in ice floes, and after nine months, was crushed into splinters. The crew survived, but endured another 13 months of frigid hell before their rescue.

"I started that poem three times, because I couldn't get it right," Finkel recalls. "Finally I came to my senses. I needed a focus."

He turned to Harry McNeish, the ship's carpenter, solitary man getting along in years. McNeish kept a cat; Finkel is a cat-lover. Finkel, like McNeish, has done his share of sawing, nailing, carving, and sanding. In their shared interests, Finkel saw the possibility of friendship. In the end, McNeish's voice provided *Endurance* its focus.

The poem began to click when Finkel imagined what objects McNeish would fashion from ship fragments at different stages of the crew's polar internment. At one point, he decided McNeish would have made a cribbage board:

"the grain streamed down the board like fleeting years swirling all but a single, dark, contracted spot still sheared cleanly the offending limb again, again, riding the current down the jack-plane struck the sullen knot and shot bravely through"

During his research, Finkel had discovered McNeish kept a diary that later was given to a New Zealand library. The diary arrived in the mail when the manuscript of *Endurance*—including the section on McNeish's cribbage board—was nearly complete. "It was very clear to me he had made a cribbage board," Finkel says of his imaginative work, a claim the day's mail only served to support. "I read his diary," Finkel says, in astonishment, "and damn it, he did."

“Unbelievable. Unbelievable." Finkel bows his head as he speaks. His advanced poetry class—part of The Writing Program—has convened this Friday afternoon in Hurst Lounge in Duncker Hall without having brought any work to discuss.

"I'm embarrassed. In the 10 years of this program, this has never happened."

Finkel dismisses the class, but goes ahead with its regular Friday-afternoon

When the Lightning Strikes

*You will remember nothing.
You will remember nothing of these
millennia while your hand inexorably
closes round the glass, and your molecules
serenely rearrange themselves.*

*When I count three and snap, the glass
will fly into shards.*

*You will unfold from your chair
and slump to the floor like a wounded carp,
thrash away from the open window, leaving
a trail of blood on the carpet
which will dry by morning a poignant umber.*

*You will remember nothing when you wake.
You will remember wanting only not
to die, not yet,
as they lift you to your feet,
giddy, bleeding, green, original,
raging to alchemize and replicate.*

© 1986 Donald Finkel

From *Selected Shorter Poems*, published by Atheneum,
an imprint of MacMillan Publishing Co., 1987.

tradition. Teacher and students amble out of Duncker Hall and head over to Blueberry Hill, Finkel's off-campus place-of-business in nearby University City, a pub famous for darts, Elvis Presley parties, and its own Rock-and-Roll Beer. Finkel's class assembles four small tables into a large one in front of a gigantic hippo head on the wall. Attending to a dark brew, Finkel is back in his element.

Teacher and students talk literature, talk departmental politics, talk cars. Eric Pankey, director of The Writing Program, and his wife, Jennifer, come in with their 10-month-old daughter. Finkel lights up and smiles at the child paternally.

Don's Place.

By next Friday, his poetry class has shaped up, providing an abundance of work to be discussed. Students and teacher settle down into an oval of chairs and couches in Hurst Lounge. The session begins with second-year

graduate student Doreen Salli reading a poem about a dejected woman in a subway who hears a man singing. The title: "About the Heart."

The poem leaves some listeners puzzled.

"I like the poem, but I think it's withholding something," says one student. "The relationship with the guy is not very clearly delineated."

Another adds, "I didn't take it to be a lover. Maybe he is a friend or someone she overheard."

Salli sits in her chair cross-legged, blinking and taking it all in with a trace of wariness on her face. After listening for the most part, Finkel chimes in.

"The first time, through, the place wasn't clear to me as well as the reference to the 'he.' Is this my baby, or is this somebody totally alien to me?"

One solution, he suggests, is a more informative title.

The class then discusses the science of line breaks, in response to several poems read by second-year graduate student Teresa Sweeney. Should the words "do not" be split up on two separate lines? Should a poem's last line be broken to give the final words more emphasis?

Finkel leans forward in his chair and launches into a mini-lecture.

"The obvious, inevitable, grammatical way of breaking up lines right where they snap... is wasting one of the possibilities. One of the things you can do instead is contemplate an alternative kind of pause.

"It usually is the kind of pause that occurs in ordinary speech. We hear it all the time, but as soon as you write it out, you start breaking things in their inevitable place. It's possible that if you want to imitate the hesitations and odd emphases of natural speech as opposed to grammatical, syntactical freshman comp, you'd end up with something slightly different. I like to see if I can resist the inevitable."

Back at his Blueberry Hill campus and under the gaze of the hippo, Finkel is telling a booth full of graduate students about a recent trip to the East Coast, where he gave two poetry readings. In one, at the Guggenheim Museum in New York, he and 11 other poets published by Atheneum—including Mona Van Duyn and John Morris, another English literature professor at Washington University—each read under the auspices of the Academy of American Poets, in honor of Harry Ford (who recently moved to Alfred Knopf), an editor who had shepherded the careers of the 12 poets.

Finkel then describes a less formal reading years ago in a crowded bar in San Miguel, Mexico. Only the people within a few feet of the poet actually knew there was a poetry reading going on. "The microphone didn't work, so I stood on a chair. The lighting was so bad someone looking like the Statue of Liberty had to hold up a lamp next to me.

"There I was, teetering on this chair, shouting my poems..."

The wild man of American poetry crumples in laughter, and the students laugh, too.

Even in Mexico there is a Don's Place. □

Robert Lowes, A.B. '75, studied poetry with Donald Finkel as an undergraduate and is a freelance writer based in St. Louis.



Paloma Blanca

Each spring, nearly two million congregants in Spain make a Pentecostal pilgrimage that celebrates the sacred alongside the profane.

Story and illustrations
by Bill Kohn, B.F.A. '53

Two million people gathered in a flat, dusty, desert village in southern Spain on the day of Pentecost last spring to wait through the night for an ancient wooden statue of the Virgin to be hoisted through the doorway of her church and carried among them around the town of Rocio. She is called the Paloma Blanca—white dove and mother of God, but for many of the congregants she is also the fertility goddess of Rocio.

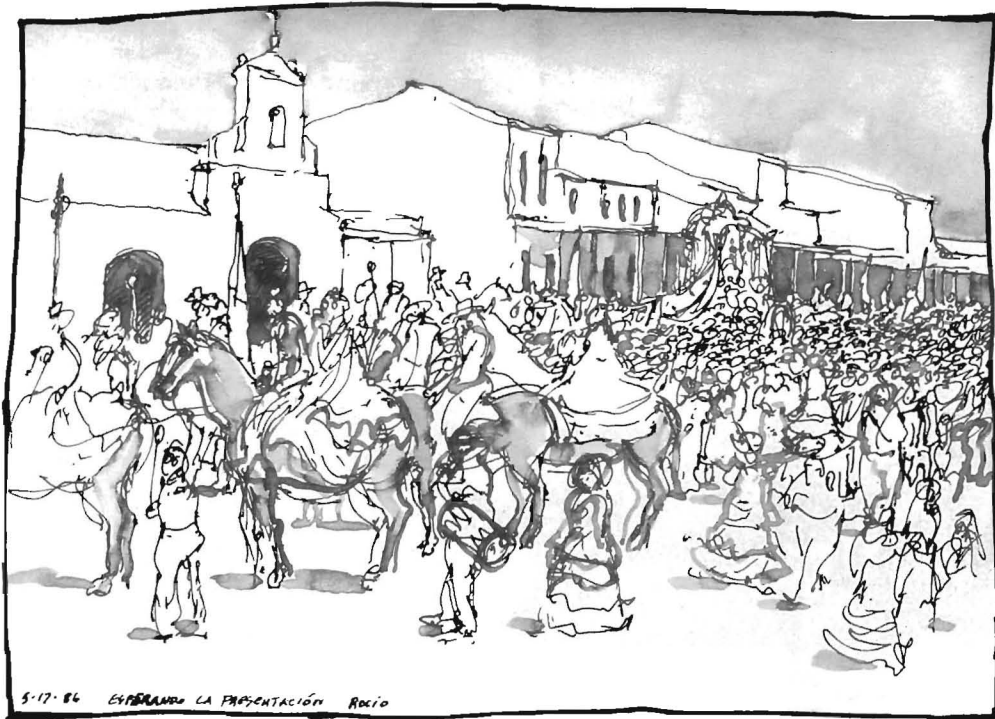
During that night, just as it happens once each year, she will be fought over and jostled by her admirers, many of whom have been partying and singing for days, creating an atmosphere where the sacred competes with the profane.

Although pavement runs to Rocio, the two million have come on foot, on horseback or in carts and wagons pulled by oxen, mules, horses, and tractors, and they all have braved 100-degree temperatures and dust—dust so thick visibility is reduced to only a few feet. They have traveled from Seville, Cordoba, Granada, Malaga, and myriads of smaller towns, along narrow paths through forests and swamplands, and through the Coto Donana, a large wild-life preserve that borders the Guadalquivir River.

Determined to walk the 45 miles from Seville to the town of Rocio, I joined one of the 14 organizations of the Rocio brotherhood of Seville's church of El Salvador. The organization would provide meals and drinks (including alcohol), and convey provisions and baggage for 30 pilgrims in two land rovers and two tractor-pulled farm wagons. They would sleep on the wagon beds, in tents, or in the open.

Nothing happens during the festival without the sounds of sevillana or flamenco music, castanets, and clapping palms. So important is the music, that each year the chorus of the brotherhood composes and records a set of Rociero songs. The year's most popular, "Yo Me Pongo Mi Sombrero," came from "my" brotherhood. It was sung during the first morning's Rociero mass in the church of El Salvador as the *simpecado*—a banner that represents the Virgin of Rocio—was carried outside and placed in a highly ornate silver carriage carrying candles and flowers and pulled by two huge oxen.

Men and women on horseback wearing typical Rocio dress and rancho suits weave through the crowd



Long day's journey: Braving 100-degree weather and dust so thick it obscures visibility, celebrants travel on foot to the small village of Rocio in southern Spain; some travel from as far away as Barcelona and Las Palmas, in the Canary Islands.

Left: Dressing a *carreta*, one of the colorful, flower-strewn wagons that decorate the procession.

Above: The procession stops at every church in every small town for music and prayer.

outside the church and then lead the *simpecado*, followed by the *carretas*—tall covered wagons, brightly colored and decorated with wreaths and flowers—out of the plaza toward Seville's massive Gothic cathedral.

Here, as at every church along the way, the procession stops for prayer and song followed by shouts of:

"Viva la Paloma Blanca!
Viva la Madre de Dios!
Viva la Virgen de Rocio!"

The procession moves on, to the edge of the city, across the Guadalquivir and up the hill to San Juan, as the afternoon sun begins to broil and the road passes through gleaming white Andalusian villages. The sky is intense blue, the white walls blinding.

We eat on the run and walk through siesta time to reach our first night's resting place by sunset. There, the *simpecado* pays its final respects of the day to the small hacienda chapel at Cuatrovitas. The vehicles are placed in small circles and the organizations set up for dinner and prepare the wagons and tents for sleeping.

Once the tables are set and people have cleaned the dust off themselves, the sherry begins to flow, guitars are tuned, and flamenco follows sevillanas. Those gathered sing, clap, dance, and

drink until the sun glows on the horizon. That night we are joined by friends from the city. Under the stars—there could be no more ideal setting for listening to flamenco music!

It is clear and cool when we begin our second day's walk through olive groves, meadows, pine and eucalyptus forests, undisturbed by wires, roads, or buildings. For the moment, we are alone on sand paths, a ribbon of color turning beautiful scenery into magic.

As trails come together, we are joined by other brotherhoods slowing our movement; meanwhile, the temperature rises to one hundred degrees. We are in the middle of nowhere and there is a traffic jam! Rows form and we wait side by side for our turn to cross the Rio Quema. We inch forward to the edge of the small river valley.

After lunch at Villamanrique, we push on to a peaceful spot in the pines, our brotherhood alone again, the wagons drawn in tight circles as the sun sets. A little later, the lights of the *carreta* carrying the *simpecado* are turned on, the chorus gathers in front of it for prayers and songs with guitars, castanets, and moonlight. By this time, it is cool enough to light bonfires, start the eating, drinking, and singing.

Because our silver-covered *carreta* is



“Once the tables are set, the sherry begins to flow, guitars are tuned, and flamenco follows sevillanas until the sun glows on the horizon. Under the stars—there could be no more ideal setting for listening to flamenco music!”

very valuable, it must be guarded on the camino by two armed “policia nacional” on horseback. One of them, Antonio, handsome and graying, comes over to our bonfire and sings song after song—all about the camino to Rocio. We sing of the brotherhoods, *simpecados*, the “paloma blanca,” the Rio Quema, the dust, and El Palacio, which we will see the following day.

My friends, red-eyed from fatigue, tell me that they will sing all night—again. At 5:30 in the morning, they are still singing and clapping out Rociero sevillanas. The fire has burned down and when they toss the contents of their glasses into it, white flames leap up reaching for the glow of daylight on the horizon.

At 7 a.m., rockets are shot into the air and the two players of drum and flute, the official Rocio music, begin to circle

the campsite, stopping at each tent to make sure no one sleeps. At 8 a.m., another round of rockets announces the caravan is moving out.

The third morning brings us to the real and royal “*raya*” to El Palacio, with tracks so deep in dust the oxen are having trouble and large tractors spin their wheels helplessly. It is a frightening, frantic, and frustrating movement that pulses and pushes forward. The sun beats down, the dust is far worse than before; it burns my eyes, coats my tongue, and I am thirsty immediately after drinking from my canteen. Leaping to avoid an oncoming horseback rider, I almost stumble against an elegant carriage full of people in traditional dress.

El Palacio was built as a lodge for the kings to use while hunting in the Coto Donana before it became a national park and game preserve. An oasis of palms and white Andalusian architecture, its surrounding pines offer shelter from the sun for lunch. Spirits are high on this last lap of the camino as the accordion is added to the guitar to accompany Mexican *ranchero* songs.

At 5 p.m., rockets announce our departure on the final part of the journey that travels the game preserve. Darkness will arrive at around 9 p.m., but we will not enter Rocio until 10. We will

enter without song, for one of our tractors has run over and killed a man from Villamanrique whose tractor was stuck in the sand. Having been shoved from behind by a horseman and having dodged horses and carriages, I am amazed that there has been only one death, and wonder how many more have been injured.

Rocio looks like a flat, white frontier town with sand streets and an unusually large church tower protruding above its one-story dwellings. There are about 600 houses, almost all of which are used only this one week each year. The largest house belongs to the brotherhood of Seville. The *carretas* and wagons enter its huge enclosed courtyard with the oxen and horses.

In the morning, the brotherhoods—75 of them from as far away as Barcelona

and Las Palmas, in the Canary Islands—line up, the oldest going first and passing one by one in front of the church. The people dress in their finest, and the carriages are the most elegant and the most outlandish. Our policeman, Antonio, guards our silver *carreta* to the door of the church where the oxen are tapped on the knees so that they seem to bow and the *simpecado* tips forward in a gesture of submission to the virgin.

Rockets soar, the bells peal, the crowd cheers and the band stationed at the church plays a stirring “Yo Me Pongo Mi Sombrero.” At 11 p.m., the presentation nears its end, as Malaga, one of the newest but largest brotherhoods, streams by, singing and cheering.

The following midnight all the *simpecados* are carried through the town in the light of candles and red and green flares, then come together at an outside altar for the rosary, followed by beautiful singing from a chorus with guitars and castanets. The final notes bring a series of rocket blasts. Their fiery tails, visible where they originate in the crowd, can be seen slowly working their way to the main square, drawing the masses to the front of the church.

The crowd is jittery and anxious, for they know it could be only minutes before the virgin appears. The church itself is jammed. At a signal from heaven, the men of Almonte (the nearest town to Rocio), guardians of the virgin, jump over the railing that protects her, hoist her *palanquin* onto their shoulders, and carry her away from her altar.

The black sky is filled with shimmering color as fireworks announce to the throngs outside that the railing has been violated and the white dove is about to enter the streets. The church spits its human contents into the already jammed plaza, the bells peal, rockets pop, the swallows nesting in the tower swirl, the crowd roars and claps as the Virgin of Rocio is seen in the portal.

She tips as the faithful fight to touch her, but the men of Almonte move swiftly and unpredictably forward, sideways, backwards, deflecting the onrushers. Her protectors will fight to maintain their own positions and push through the mobs, stopping at each brotherhood throughout the night, the dawn, and into the intense heat of the late morning sun. □

Bill Kohn, B.F.A. '53, is a professor of art at Washington University and a part-time adventurer, whose work is housed in many permanent collections. Last fall, he was honored on Founders Day with a Distinguished Faculty Award.



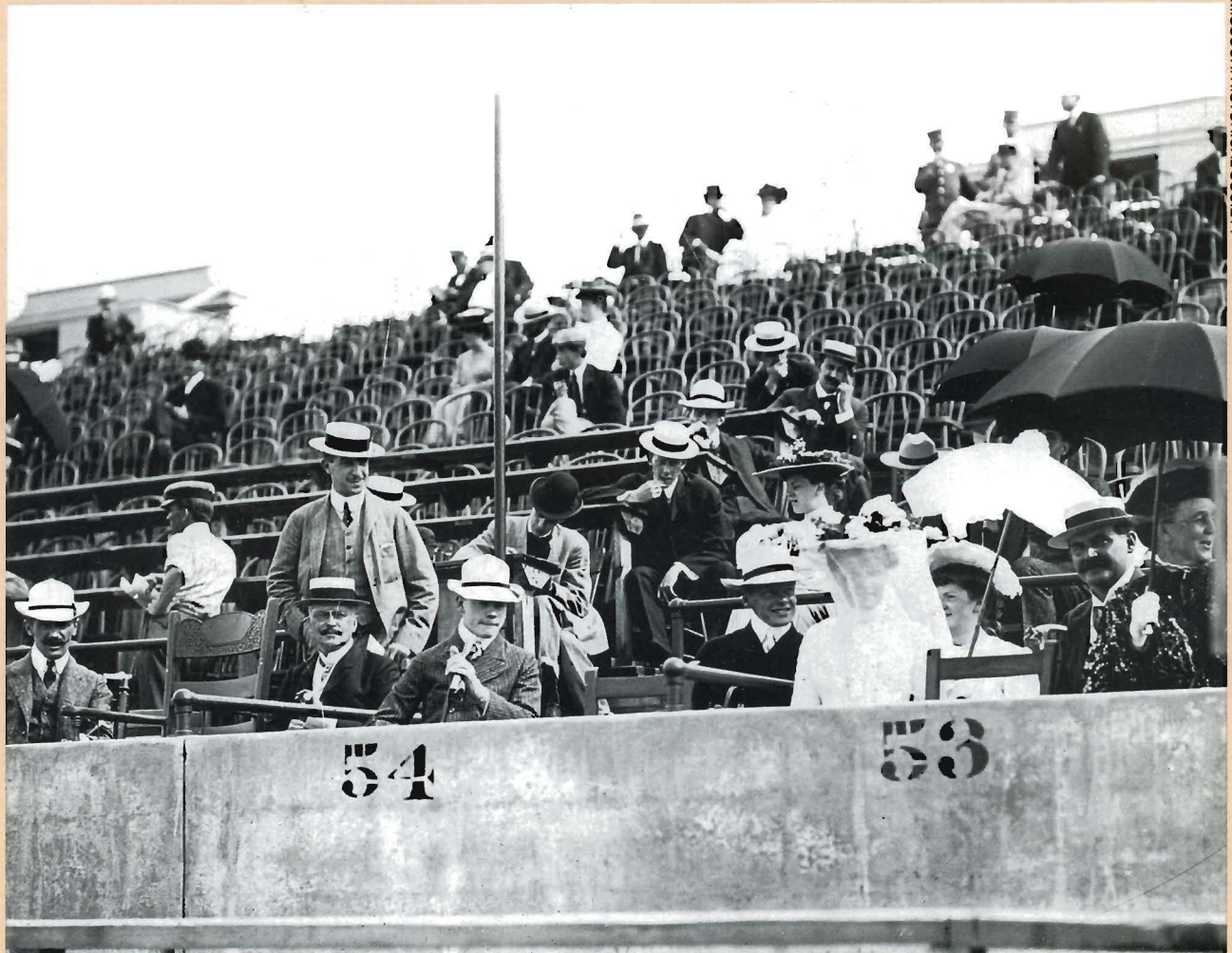
Into the night: Celebrants (at left) congregate in the small courtyard beneath the towering steeple of the church at Rocio.

Above: Jostling for position, groups parade

before the church at night waiting for the appearance of the White Dove, Paloma Blanca, an ancient wooden statue that serves as a representation of the Virgin.

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Campus Box 1070
Washington University
One Brookings Drive
St. Louis, Missouri 63130

Address changes:
Campus Box 1082
Washington University
One Brookings Drive
St. Louis, Missouri 6313



MISSOURI HISTORICAL SOCIETY

The way we were: The first U.S. Olympics (and only the third worldwide) was held during the 1904 St. Louis World's Fair — with many events occurring on the Washington University campus at Francis Field; the photograph above (never before published), with its depiction of nostalgic serenity and bentwood chairs in the stands of Francis Field, documents a quiet moment during Olympic activities.

But less well remembered is an event of comparable consequence, the Congress of Arts and Science, an international symposium

of the most outstanding scholarly minds of the time, held during September 1904 (the same month as many of the Olympic games) and not far away, with events emanating from Ridgley Hall and what is now Holmes Lounge.

Beginning on page 22, we recall in words and pictures what may have been the most ambitious intellectual convention ever held, with the hope that during the Olympic fever of early fall tribute may also be paid to accomplishments of the mind.