Hollywood Heroes

Actor-Writer-Director Harold Ramis, Producer
Michael Shamberg, Producer Buzz Hirsch
The interpretation of dreams: Set in motion by the attempt to understand the disturbed mind of a boy accused of blinding six horses, the play *Equus* becomes, in the words of recently named Performing Arts Chairman Henry Schvey, "an investigation into the roots of ritual and worship."

Schvey, who won awards in Europe with his production of *Equus*, chose the play as his first campus-wide production, presenting five performances during the first two weeks of April.

Playwright Peter Shaffer visited campus April 15 to view the production and speak with both a general audience and performing arts students about the play and about playwriting.

Sophomore Darren Oliviero, above, played Alan Strang, the boy plagued with wild dreams, and Hollis Huston, assistant professor of drama, played the psychiatrist, Martin Dysart, attempting to tame the boy's subconscious imagination.

The production was choreographed by Michael Ballard, assistant professor of performing arts; the set was designed by Jay Ferger, artist-in-residence; costumes (including an array of horse heads) were created by Bonnie Krueger, artist-in-residence; lighting was designed by Ed Goetz, artist-in-residence; and St. Louis-based Synchronia, an ensemble specializing in contemporary scores, provided the original music.
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Mimi and Rhett Dawson share a hectic schedule along with a privileged view of government.
Janáček Festival Fosters International Exchange

Currently experiencing a rebirth throughout Europe, the reputation of the Czech composer Leoš Janáček will get a big boost in the U.S. from an international conference and festival to take place at Washington University May 4 through 9.

The first event of its kind held here, the week-long celebration will bring together participants from six countries and will feature the North American premieres of a recently discovered Janáček symphony (performed by the Saint Louis Symphony Orchestra) and a symphony, considered unfinished after the composer's death but later determined to be a complete composition. Known as the "Danube" symphony, the work has only been performed once outside of Czechoslovakia, before a small audience in Liverpool.

In the course of two trips to Czechoslovakia, Beckerman learned of the existence of the "lost" Janáček symphony, considered unfinished after the composer's death but later determined to be a complete composition. Known as the "Danube" symphony, the work has only been performed once outside of Czechoslovakia, before a small audience in Liverpool.

While in Czechoslovakia, Beckerman also made the acquaintance of the Czech director Jireš—a contemporary of Miloš Forman (director of One Flew Over the Cuckoo's Nest, Hair, and Amadeus). Jireš' film biography of the passionate Czech composer was shot entirely on location in Czechoslovakia and has never been shown outside that country. Jireš will be present for the showing.

Beckerman's efforts have resulted, in part, in the formation of an international Czechoslovak Music Society at Washington University (of which he is co-founder and president), but it is the opportunity to hold worldwide discussions on the scholarly aspects of Janáček's work that pleases him most.

Beckerman expects more than 50 scholars to take part in the conference activities of the celebration, including nine musicologists from Czechoslovakia, the largest contingent of Czech music scholars to travel to a foreign conference.

For more information on the conference and festival and a complete schedule of events, write: Janáček Conference, Campus Box 1032, Washington University, One Brooking Drive, St. Louis, MO 63130.

Michael Beckerman

Louis Symphony Orchestra) and a film biography of the composer by Czech filmmaker Jaromil Jireš. Also included in the festival schedule is a performance by the acclaimed Czech pianist Rudolph Firkusny, and an opera, such as Jenýfa and The Cunning Little Vixen — that are becoming standard repertoire for leading companies throughout the world.

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Monkey business: When Anatomy Professor Glenn Conroy wanted to get a better look at the dental development of a fossilized skull several years ago, he was stumped. Breaking open the jaw reveals the teeth, but dismantles the skull. Conroy brought snapshots back on floppy disks.

Serendipitously, Conroy moved soon thereafter to Washington University, where he and Vannier began a collaboration that resulted in their traveling to South Africa to scan the renowned Taung skull, remnant of a human-like child that lived two to three million years ago and died in early childhood. The skull, discovered in 1924, is considered a national treasure and not allowed to leave South Africa, so Conroy and Vannier brought snapshots back on floppy disks.

Home in the lab, reconstructed images revealed the Taung skull to have dental development comparable to a three- or four-year-old chimpanzee, in contrast to its other, more-human features.

"We are not implying Taung is a chimpanzee;" Conroy insists. "Taung represents a mosaic of ape and human features, and that's exactly what one would expect from an animal quite close to the common ancestor of both apes and humans."
Jesse Jackson’s Candidacy

Hindered by Black Support?

"If the nation could close its eyes to his color, Jesse Jackson would be in a strong position to win the Democratic nomination for president in 1988, with a broad cross-section of people jumping on his bandwagon," says Lucius J. Barker, political scientist and author of a recently published book on Jackson’s 1984 campaign.

Barker, the Edna Fischel Gellhorn University Professor of Public Affairs, adds, "Jackson’s strong backing among Democratic voters, normally a plus, is downplayed with an asterisk-like observation that Jackson’s lead among Democrats can be attributed mainly to his wide support among black voters."

While acknowledging that Jackson’s support comes mostly from the black community, Barker says the constant repetition of this observation reflects an insensitivity to race relations in America. And that is bound to hurt Jackson.

"It suggests that he is the ‘black candidate’ and makes it more difficult for him to broaden his base among white voters. These harmful effects of racism, couched under the less odious but no less devastating ‘he can’t win’ label, continue to limit and frustrate Jackson’s entire effort."

Barker was elected a Jackson delegate to the Democratic National Convention in 1984. His book, Our Time Has Come: A Delegate’s Diary of Jesse Jackson’s 1984 Presidential Campaign, was published in late 1987 by the University of Illinois Press. In it, collecting rare books on semeiology, his collection has grown into one of the largest and most extensive of its kind in the world. He began collecting books while an undergraduate at Washington University and began donating his collection in the late 1960s.

In 1983, the University recognized Arnold’s unique contribution by awarding him an honorary doctorate in science.

Jesse Jackson’s Candidacy

Semeiology: Deciphering Symbols, Signs, and Secrets

O n display in the Rare Books Collection of Olin Library this spring and early summer will be nearly 60 examples of semeiology — the study of signs and symbols — drawn from the library’s Philip Mills Arnold Semeiology Collection, an extensive and ongoing project currently numbering more than 2,000 volumes. The focus of the collection, according to Holly Hall, director of the rare books collection, is "the nonverbal aspects of human communication and their relationship to both written and oral expression."

The example illustrated at right — a visual alphabet demonstrating techniques for systematizing memory, taken from Ars reminiscendi by G. B. Porta, published in Naples in 1602 — is characteristic of the collection, which contains volumes from the 15th century to the present with an emphasis on books published before 1850.

The field of semeiology has become of great interest in recent years, an interest attested to, Hall says, by the large number of faculty members using the Arnold Collection to conduct research in linguistics, art history, classical studies, musicology, and other humanities disciplines.

The current exhibit will focus primarily on four areas of study:

- sources of written language, including ancient alphabets and pictorial writing;
- special communication systems, such as those for the blind and deaf, telegraphy, and artificial languages;
- symbols, emblems, and devices used to convey abstract concepts;
- cryptography, the study of secret codes and concealed messages that play a significant role in both diplomacy and espionage.

In the nearly 60 years Arnold, B.S. ’32, M.S. ’41, has been

...
**Origins of Solar System Seen in Grains of Silicon Carbide**

Scientists at the McDonnell Center for Space Sciences at Washington University have found the first evidence of silicon carbide in the form of microscopic grains that were formed before the solar system existed — in a primitive meteorite. The find comes less than a year after University of Chicago scientists announced another discovery of pre-solar system material — diamonds — in what is known as the Murchison meteorite.

According to Thomas Bernatowicz, senior research scientist at Washington University and one of the authors of a paper published as a cover story in *Nature* describing the find, the silicon carbide may provide scientists a link between the early stages of our solar system and stellar systems that predated it.

Washington University, Monsanto Company, and the University of Chicago collaborated on the research. In addition to Bernatowicz, the other authors are Ernst Zinner and Brigitte Wopenka, senior research scientists at the McDonnell Center for the Space Sciences at Washington University; Tang Ming and Edward Anders, of the Enrico Fermi Institute and Department of Chemistry of the University of Chicago; and Gail Fraundorf and Phil Fraundorf of Monsanto Company Research Center in St. Louis.

Silicon carbide is very scarce in meteorites. In the Murray meteorite, so named because it fell near Murray, Kentucky, it is present at the level of only a few parts per million, and in grains so small that they are invisible to the naked eye — one silicon carbide grain weighs a few millionths of a billionth of a gram. The mineral also is rare on earth, but well known in its man-made form as carborundum, a synthetic industrial abrasive.

The silicon carbide and diamonds from the Murray and Murchison meteorites most likely survived the violent processes that formed the solar system because they are extremely resistant. "Diamonds and silicon carbide are both very tough," Bernatowicz says. "They have survived both the formation of the early solar system and, billions of years later, the chemist's crucible, which allows us to extract them from meteorites."

"For years, astronomers have been observing what they thought was silicon carbide in stars with the use of infrared spectrometers," Zinner explains. "Because the isotopes of carbon, silicon, and nitrogen are present in abundances so different from the usual, and also because there was too much oxygen in the early solar system for silicon carbide to form, the indications are clear that the source for these grains is the extra-solar system."

The Washington University and Monsanto researchers subjected these residues to an array of sophisticated microanalytical instruments. Zinner measured the isotopes of silicon, carbon, and nitrogen in mineral grains with an ion microprobe and found them present to a degree atypical of solar system materials. Wopenka observed a spectrum corresponding to silicon carbide in an optical device called a laser Raman microprobe. Then Bernatowicz and the Fraundorfs, using transmission electron microscopes, conclusively showed that the crystal structure was identical to that of silicon carbide.

The Washington University scientists believe the silicon carbide was formed in or around stars before the formation of our 4.6-billion-year-old solar system. The silicon carbide probably was expelled from these ancient stars and incorporated into the mixture of gas and dust that eventually collapsed to form the sun, planets, comets, and meteorites.

—*Tony Fitzpatrick*

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**Agent Provocateur: The Playwright Cometh**

One of America's leading contemporary playwrights, John Guare, visited campus late last fall, spending a day of conversation with faculty and students.

Guare is perhaps best known as the author of the Tony award-winning play *The House of Blue Leaves*, the lyrics and libretto for the Tony-winning adaptation of *Two Gentlemen of Verona*, and the Academy Award-nominated screenplay for the film *Atlantic City*.

Guare's visit included an extensive interview with Henry Schwey, performing arts department chairman, an appearance before Performing Arts Professor Herbert Metz' modern drama class, and a lengthy informal discussion with aspiring writers in The Writing Program.

Schwey's interview, part of a series on which he is working (others completed include Arthur Miller, LeRoi Jones and David Mamet), preceded Guare's dramatic monologue improvised for the modern drama class. Guare's appearance took place in a darkened studio in Mallinckrodt Center, with the playwright seated center-stage, alone with only the microphone before him.

Holding a meditative pose, bottle-thick rimless glasses continually sliding down his nose, Guare improvised a stream-of-consciousness reflection on the influence of Chekhov and Ibsen, the two playwrights being studied by Metz' class, calling them "the two great rivers that run together to form the basis for all contemporary drama."

In the afternoon, the proceedings were more casual but no less intense, as Guare gathered young writers in a close circle in Hurst Lounge for a non-stop session of shop talk, focusing primarily on the role of the playwright's "voice" in writing for the theater. Animating the discussion was Guare's careful and thorough attention to the students' concerns.

Schwey said he found Guare's visit "provocative, in the deepest and truest sense of that word. What struck me was his lack of pretension, his willingness to address the students' needs. Throughout the discussion of contemporary drama he never once mentioned his own work. That exemplified the entire day. He left behind the impression of a remarkable modesty and a genuine and pure interest in educating."—*Roger Hahn*
Shuttle Setbacks Delay
Hope of Glasnost in Space

In a pact signed last April in Moscow, Russia and the U.S. agreed to work together in space. The new pact serves as both an olive branch and a switch, says Raymond Arvidson, professor of earth and planetary sciences and a key consultant to NASA. “The agreement is a great opportunity for science and peaceful collaboration between the world’s major space powers,” says Arvidson, who directs one of 12 NASA Regional Image Facilities. “It’s also our biggest challenge since the days of Sputnik.”

The two countries have agreed to exchange imaging information and ideas about future space missions, paving the way for more extensive mutual studies. “Both the Soviet Union and the United States can benefit from mutual exploration of space, and we would be foolish not to cooperate,” Arvidson says. “Our remote sensing technologies, more specifically our imaging spectrometers, are much more advanced with higher resolution and more distinct images than Soviet systems. But they have the Proton rocket and some aggressive ideas about missions that could benefit us. Mutual cooperation could also reduce space exploration costs for individual countries.”

While the means for cooperation between the two space giants are not yet firmed up, Arvidson speculates that information probably will be shared equally. The dramatic agreement between the United States and the Soviet Union has unfolded gradually over the past two years, according to Arvidson.

Whether the new Soviet stance is a reflection of glasnost, a reaction against Star Wars, or a combination of both, Arvidson doesn’t speculate. But he says the “New Deal” of the space age appears as a potential springboard. “The 1990s could be a really exciting time for space studies, a new era of cooperation, and new discoveries,” says Arvidson. “Or if you want to be pessimistic, from the U.S. perspective, it could be the era that never got off the ground. We have to straighten out our program in order to be competitive, even cooperative, in the future. Our first priorities should be to develop a mixed fleet of launch vehicles and to get planetary launches back on schedule. Sole reliance on the space shuttle for launching planetary spacecraft has been a disaster.”

If, indeed, timing is everything, U.S. space scientists find themselves in an awkward position. All systems are not “go” at NASA, where the January 1986 Challenger tragedy has delayed major missions to Venus (Magellan) and Mars (the Mars Observer) two years each at NASA’s last reckoning.

“The shuttle is simply overbooked and incapacitated,” Arvidson says. “We (scientists) find ourselves at a time of opportunity where ironically we can’t act, or at least can’t act quickly enough. What is needed are rocket launchers of variable size and capability that can get us on the mark again. We have the capability to launch the Mars Observer on time in 1990 if NASA uses a Titan III rocket. And the space science community has strongly urged NASA to do so.”

Titan rockets have been used by NASA on several missions in the past with a high success rate. Both Vikings I and II, in 1975, and Voyagers I and II, in 1977, were launched by Titan II rockets with Centaur upper stages.

At the American Institute of Aeronautics and Astronautics International Conference on Solar System Exploration, held last spring at Pasadena, California, the Soviet Union announced bold plans for the 1990s that include a more extensive study of Mars than the proposed U.S. Mars Observer mission. The Russians plan to orbit 60,000 pounds of equipment around Mars — compared with about 5,000 pounds for Mars Observer — beginning in 1992, the first of a three-pronged quest of two launches each in 1992, 1994, and 1996. The payloads will be powered by the large Proton rocket, the bread and butter of the Soviet program.

Rovers, possibly one powered by a nuclear plant, will be able to roam as far as 250 miles from their landing site, collecting samples from the planet and returning them to a launch vehicle. Other devices, meanwhile, will poke and probe Mars for soil samples while balloons hover in the planet’s atmosphere, landing at night to collect data and then ascending the next day as they are warmed by the sun. The Soviet plans come on the heels of two successful orbiters — Venera 15 and 16 — placed around Venus in 1984 and 1985. On these missions, the Soviets obtained radar images from 30 degrees in latitude all the way to the planet’s North Pole.

Russian scientists, according to Arvidson, are interested in sharing these data with the implicit understanding that U.S. scientists will swap their radar imaging of Venus from the Magellan mission in 1990. Magellan will be a Venus orbiter that will map 70 to 80 percent of the planet with 10 times better resolution than the Venera orbiters had.

Arvidson and his research team at Washington University in St. Louis have critical roles to play in both the Magellan and Mars Observer missions. Through the use of computer imaging techniques, Arvidson’s group strives to understand the nature of surface materials of planets, information that can reveal weathering or how gases react with surface materials. What he learns about Mars and Venus may provide clues to the earth’s development and evolution.

— Tony Fitzpatrick
Research on Blinking May Reveal Clues to Nodding Off

"We don't blink at random," says John A. Stern, professor of psychology and chairman of the psychology department. "We blink at times that are psychologically important. You have listened to a question, you understand it, now you can take time out for a blink. Blinks are punctuation marks. Their timing is tied to what is going on in your head."

The physiological impulse to blink in order to moisten and cleanse the cornea occurs only once every two minutes, according to studies of infant blinking. But adults blink an average of 10 to 15 times a minute, Stern says.

A leader in the blossoming field of blink research, Stern became interested in blinking during the Watergate hearings. "President Nixon's blink rate markedly increased when asked a question he was not prepared to answer," Stern says. "His speech was well controlled and did not manifest other symptoms of anxiety, but you could see it in his eyes. Most politicians have learned to disguise feelings except in ways they cannot inhibit."

In a lab, Stern studies blinks with a video camera monitoring corneal reflection or electrodes, conducting tests both in St. Louis and on location with his clients. In an early application of his techniques, Stern monitored the blinks of pilots in flight simulators to detect signs of decreased performance. Now the Air Force is testing pilots in real flights.

In one of the studies conducted for a dissertation at the Air Force School of Aerospace Medicine, pilots were awakened in the middle of the night and stayed awake to fly a four-and-a-half hour simulation 12 hours later. Using aspects of blinking and eye movement, the researchers found a high correlation between the blink measures and errors in flight performance.

In Stern's St. Louis lab, a subject is asked to make decisions about tones that differ in duration. "If someone blinks while listening to a tone, he is more likely to give a wrong answer," the researcher says. "As his concentration shuts off, he blinks."

If a subject has to make a decision during a task, he blinks more frequently. When he hears long and short tones and has to distinguish between the two, he blinks at some point in the decision-making process. If he is asked to multiply 12 x 15, he may blink as each point of the problem is solved and stored mentally.

Blinking while driving varies according to traffic, Stern says, based on research that he and others have conducted with drivers.

In city traffic, you blink less frequently than the eye closure is of shorter duration. If you are stopped at a traffic light, waiting for the light to change, you will inhibit your blinks.

A blink also varies according to the importance of an event, Stern says. To routinely check your speed, you blink as you shift your eyes to the speedometer and blink again as you register the information, but if a police car is behind you, you do not blink as you turn your eyes to the speedometer.

In other words, "when information acquisition is important, you actively inhibit your blinking," Stern says. "You blink when you are not processing information."

Tests show, for instance, that pilots blink less frequently than their copilots. When they change roles, the converse happens. "The difficulty of the task is reflected in what they are doing with their eyes," Stern says. "They blink less frequently when the task is visually demanding."

By monitoring blinks, Stern can determine whether a pilot's work load is too heavy or too light. "When a pilot is either overtaxed or bored, he is more likely to miss important events. We want to determine what we can do to reduce the likelihood of pilots, air-traffic controllers, automobile and truck drivers, and nuclear plant operators missing important events." —Regina Engelken

Disease-Free Tomatoes Yield a Harvest of Applications

Results are excellent for 280 tomato plants genetically engineered for resistance to tobacco mosaic virus (TMV) in field trials conducted at a research plot near St. Louis by Roger Beachy, professor of biology. (Beachy's breakthrough, using techniques of biotechnology, was profiled in a feature article in last summer's issue of Washington University Magazine.)

The transgenic plants yielded good harvests and the first conclusive proof of resistance to TMV.

While successful genetic manipulation of tomato and tobacco plants for resistance to a herbicide and an insect has been previously accomplished, Beachy's work is the first of its kind to produce viral-disease resistance. He worked in collaboration with researchers from Monsanto Company in St. Louis.

Beachy's success with tomatoes is expected to open the door for higher yields in commercial tomatoes. More importantly, the method of inducing virus resistance, developed by Beachy and Monsanto scientists, should be applicable to other viruses afflicting a wide range of crops, including the cereal grains, although the grains have proved difficult to work with in genetic engineering experiments.

"Plant viruses can be major factors in reduced crop yields, especially in developing countries where sophisticated agronomic techniques are unknown or not affordable," Beachy says. Many virus diseases thrive and reduce crop yield throughout the Mediterranean, Asia, Africa, and the tropics of the Americas with no known method to combat them.

In the United States, TMV can cause an estimated annual $50 million in damage to the tomato crop, while other viruses cause an estimated $95 million damage to the wheat and $30 million to the potato crops. —Tony Fitzpatrick
If redemption requires memory, preservation is a spiritual imperative.

**Slow Fire: Insidious Enemy of Books**

The scene: Olin Library, year 2048.

A Washington University undergraduate, approaching the LUIS (Library Use Information Service) terminal, hoping to find a book her grandmother had told her about. She enters "Frank, Anne"; response—"No entries found." She tries a title search, "Diary of a Young Girl"; response—"Item is not owned by this library." Disappointed, she turns to the librarian for information. He explains that the book no longer exists; like millions of others, it self-destructed at the end of the 20th century. Much of our written heritage was forever lost at that time because adequate measures were not taken to preserve it.

A fanciful example? Consider this fact: 14 years ago the Library of Congress surveyed its collection of 16 million volumes and discovered that 40 percent of them, some six million volumes, were too brittle to withstand any further use.

The responsibility for preservation extends not just to the classics but to the whole spectrum of materials which comprise our collective memory. James Billington, Librarian of Congress, called preservation of libraries' collections a moral imperative for our society. He views preservation as not only a primary responsibility of a civilized nation, but as a human imperative, in concert with our deepest need to seek spiritual renewal through the pursuit of truth.

He said, "If, indeed, the secret of redemption is memory, then libraries and museums provide fragments of the secret—parts of the cosmic jigsaw puzzle. Each piece acquires more beauty and suggests more order as it is fitted in with others. We must remain at the forefront of the struggle to preserve memory lest we join the ranks of those who live off the laurels of the past rather than its cumulative wisdom. If free people do not preserve and celebrate humanity's memory, others may end up limiting and controlling it."

Library materials are composed of a variety of components. The durability of books, paper, and other items in library, archival, and personal collections depends on several factors: the inherent characteristics of the components, the manner in which the materials are handled, and the environment in which they are stored.

Many early printed books, parchment, and papyrus documents, and ancient clay and stone tablets have survived until today because they were made from chemically stable and physically durable materials.

In the early 19th century, changes occurred in the paper manufacturing process; alum-resin size was widely adopted as the ingredient used to keep ink from feathering (or leaching) into the paper. It was not then known that alum produces sulfuric acid when moisture is present in the atmosphere.

Proper care and handling practices and a favorable storage environment are essential for library materials. Books contain the cellulose of paper, as well as proteins and carbohydrates in the form of glue, paste, and other organic substances. Maintenance of proper temperature and humidity ranges, and protection from both excessive light levels and destructive gases, such as sulfur dioxide, will significantly prolong the useful life of library materials.

In 1985, the Olin Library System formed a preservation unit to improve our efforts to protect our library materials, which are estimated to have a monetary value of $100 million, but, in fact, encompass many materials that are irreplaceable at any price. Last summer, the Olin Library System received a $200,000 grant from the Burlington Northern Foundation, the charitable arm of the Burlington Northern Railroad Company. The grant was provided in support of our expanding program designed to preserve the library collections.

During the next few years our efforts will provide restoration and preventive treatment for thousands of library books; however, our most important objective is alerting the university community to the inevitable self-destruction of our written heritage if preventive actions are not taken. As with the conservation of our natural resources and the preservation of historic buildings and artifacts, we have a responsibility to future generations to preserve the written record of our cultural heritage.

—Otha Overholt

The author is director of technical services and library systems for the Olin Library system. This article is reprinted from *Student Life.*
Three members of the class of 1966—
Michael Shamberg (producer of *The Big Chill*),
Harold Ramis (co-writer of *Animal House*,
co-writer and co-star of *Ghostbusters*),
and Arthur "Buzz" Hirsch (producer of *Silkwood*)—
tell how movies get made in Hollywood today.

*by Don Crinklaw*

Hollywood producer Michael Shamberg, A.B. '66, is sitting in his Santa Monica office, talking about a motion picture he helped bring forth in 1983. The film is *The Big Chill*, that gently satiric—and wildly successful—look at the 1960s a decade later. Shamberg first wants it made clear that he *produced The Big Chill*; the "vision," as he puts it, was that of writer-director Lawrence Kasdan.

"Larry was always saying that he wanted to make a movie about what people were talking about on their way to the movie," Shamberg says. "He wanted to take it from life, so he took all those ideas that were in the wind at the time and put them into the film. Even insider trading."

Audiences loved to speculate on the film's various meanings; Shamberg, from the inside, offers this:

"It was about coming to terms with maturing," he says. "It wasn't meant to imply that these people—the journalist, the TV actor, the businessman—had failed because of what they were doing; they were just growing up. I'm continually amused by critiques of the film. One says that it's just too Hollywood, too glib. But it draws from people's lives; what better thing could you possibly do a movie about?"

"Another criticism is political," Shamberg continues. "It says the film is about a whole generation that sold out. I reject that: It's just romanticism. It's ironic that people committed to the struggle of making the world a better place to live in refuse to accept a movie that says life is ambivalent; you make your choices and do the best you can."

Then there's the matter of the title, *The Big Chill*. Layer upon layer of meanings in there.

"Larry Kasdan actually has two meanings for the term," Shamberg says. "His primary meaning was personal: you have a shared background with someone, you meet after a separation of 10 years and sit down and start talking as friends and realize that you no longer have anything in common."
And the secondary meaning? Shamberg says it's in a remark made by William Hurt's character in the film: "It's a cold world out there." That's the meaning that's slipped into the vernacular: "It was on the cover of *Time*, referring to AIDS, and *Newsweek* applied it to Soviet and U.S. relations. Larry always thought that if the film worked the term would become part of the culture."

Michael Shamberg's office — spacious, brown-toned, with a big ceiling fan and pop-art posters on the wall — is on the second floor of a corner building on Santa Monica's trendy Main Street, just above a shop offering custom-cut glass. There's a bronze plaque announcing *Ocean Pictures* next to the ground-level door that opens onto the wide, carpeted stairwell. There's no such company, Shamberg says. "My friend Harold Ramis" — he of *Animal House* and *Ghostbusters* and now *Baby Boom" — "and I share this floor, and we needed a name to answer the telephone with. We thought of Ocean Pictures because it sounds like Motion Pictures. And we can see the ocean."

Those who know Michael Shamberg describe him, with whatever mixture of envy and admiration, as an astute businessman, as one who fits into the new Hollywood easily and well. No one agrees on what exactly the term "new Hollywood" refers to; Shamberg's chum Harold Ramis thinks it means that the studio executives keep getting younger. But it isn't the old Hollywood. Those days, when the studios kept everyone involved in filmmaking on the payroll — actors, producers, directors, writers, even composers — ended in the confusion that followed World War II.

Television arrived, audiences were younger, the old moguls got older, and actors were willing to put up their own money to have a say in production.

How golden the earlier "golden age" was is disputed. Film historian and critic Leslie Halliwell says that "those of us who are old enough and who still care about the movies sigh frequently for the halcyon days when Harry Cohn and Louis B. Mayer sat in their front offices." But humorist S. J. Perelman, who put in his time in the old Hollywood as a screenwriter, remembered it "as a dreary industrial town controlled by hoodlums of enormous power, the ethical sense of a pack of jackals, and taste so degraded that it befouled everything it touched." Perhaps he was bitter.

Hollywood tea party: The trans-Atlantic cast of producer Michael Shamberg's latest project strikes a pose for publicity cameras. From left: Shamberg, Michael Palin and John Cleese (of the infamous British comedy troupe Monty Python's Flying Circus), Jamie Lee Curtis, and Kevin Kline.

Cleese co-wrote the movie with director Charles Creighton, the 78-year-old veteran of Britain's revered Ealing Studios, makers of, among others, *The Lavender Hill Mob*. Shamberg's project, *A Fish Called Wanda*, is scheduled for summer release.

Since the late 1970s the film studios have been owned by conglomerates: Columbia by Coca-Cola, Paramount by Gulf & Western, Warners by Kinney Leisure. And they don't make films; they distribute — and sometimes finance — films brought to them by independent producers. Like Michael Shamberg, whose account of his entry into the film business and how he goes about getting a film made is an instruction in the ways of modern Hollywood.

After graduation, Shamberg got a job as a police reporter for a Chicago news agency. He worked briefly for a newspaper there, then went to New York for the Luce magazines: *Time* and then *Life*. He quit to found a West Coast company, *TVTV*, that produced television documentaries. "Around 1976, because there were stories I thought would make interesting films, I began assimilating the skills I needed — financial, creative, management — to get them made," Shamberg says. That meant getting money. "But you must understand that in a lot of situations the financing is secondary. What's primary is the talent to make the film; if you develop ideas that are interesting enough to appeal to good actors or directors, then you can line up the financing."

Shamberg began with an idea for a film on Jack Kerouac and the Beat Generation, "because I always felt that the subject matter would appeal to the 'I look for something I think the audience understands — a universal hook," says producer Michael Shamberg. "People understand the transition from college to real life: that's The Big Chill.'"
Modern Problems followed in 1981 with a “bankable star,” as the lingo has it: Chevy Chase. “It was a financial success,” Shamberg understates. The Big Chill was next, and it may say something about modern Hollywood that this most successful of Shamberg’s productions almost didn’t get made. “I’d become friendly with Larry Kasdan around 1980,”

“It’s part of the internal contradiction of show business,” says writer, director, and actor Harold Ramis, “that it has an artistic component but it is also a business, and the industry needs to support itself with high-grossing movies.”

Shamberg says, “and we used to have these philosophical conversations about what happened to the 1960s generation, the baby boomers. Then he told me he was writing the script for The Big Chill; would I care to get involved?”

Kasdan was a name then: he had written and directed 1981’s Body Heat and co-written the last two films in the Star Wars trilogy. “But we ran out of studios,” Shamberg said. “They all said it was too personal a script and there’d be no audience for it. They didn’t get how funny it was. Then Carson Productions, Johnny Carson’s company, got interested. They had a deal where Columbia owed them a movie, and they used the deal to get The Big Chill made.”

The Ramis-directed Club Paradise in 1986 had been designed for Bill Murray and John Cleese of Monty Python, Shamberg says. It was filmed instead with Robin Williams and Peter O’Toole, but the contact with Cleese led to Shamberg’s latest production: A Fish Called Wanda, just finished in London. Cleese co-directs and stars in the comedy, along with Kevin Kline and Jamie Lee Curtis.

“There are three things a producer can do on a film,” Shamberg says. “Raise money; develop the idea or the screenplay; actually manage the production. I do all three, but on some films the functions are split.” He says that in choosing material to produce, “I look for something I think the audience understands—a universal hook. People understand the transition from college to real life: that’s The Big Chill. They understand vacations: that’s Club Paradise.

“You have to be in the movie business either because you really love movies, or because you want to make a lot of money. If you fall in the cracks you’re screwed, because if you don’t have a passion for a certain subject matter and try to shade it to be commercial, it just comes out watered down. Conversely, if you want to make money and not worry about the aesthetics, you can probably speak to the audience that way.”

H arold Ramis, A.B. ’66, was eating a salad in his office down the hall from Michael Shamberg’s and spending a few seconds contemplating a question. How come, he’d been asked, that in a town where so many people want to make movies and never do, Ramis actually does it? “It certainly makes life easier,” Ramis answers between crunches, “when your first film breaks all box-office records.”

He is speaking of 1978’s Animal House, the John Belushi blockbuster he co-wrote, whose success caused many imitations. Some of them had Harold Ramis as co-writer. Or director. Or co-star. Or some combination thereof. Indeed, there are plenty of hyphens in the biography of this ex-teacher, ex-reporter, ex-Playboy editor, ex-gag writer, enough to make his entry in Who’s Who a challenge to the reader. Filmgoers probably know him best as Dr. Spengler in Ghostbusters (ditto), and Diane Keaton’s starchy boyfriend in Baby Boom.

Ramis also co-wrote and directed those audience-pleasing, critically scorched films Caddyshack and National Lampoon’s Vacation, as well as the more kindly received Club Paradise. He was coewriter on Back to School, Meatballs, and Armed and Dangerous, also liked only by those who buy tickets.

“I don’t think there are any quantum leaps,” Ramis says now. “Every overnight success will tell you that it was not overnight, that they took slow, careful, plodding steps along the way. And it was pretty much that way for me.” Which means that, for Ramis, it all began with Animal House. Which, in turn, grew out of his time with Canada’s SCTV and, before that, his work as actor and writer with Chicago’s Second City.

But his interest came earlier, when he was growing up in Chicago. “The big urban ritual for kids in those days was to be dumped at the movies on Saturday afternoon,” he recalls. “Double, often triple features with up to 25 cartoons. There was a certain excitement in going to the theaters then. Performing looked like fun. And it seemed like entertainers got all the good things in society.”

Ramis says that no one he knew then believed that careers in show business were possible, “but I was launched from college at a good time: the late 1960s. Everyone was taking chances, no one knew what the next year would bring: whether war or urban riots, mass hysteria or LSD in the water supplies. Everything seemed up for grabs, and it was a good time to attempt a bohemian-life style. I don’t know if it would have been so easy two years before or even five years later.”

Ramis’s introduction to Hollywood was the Animal House screenplay; directing followed because, he says, “Screenwriting is like making a film. If you can hold a long form like a screenplay in your head, you can hold a film in your head, in terms of shooting one. And screenwriting requires vision; you must conjure up a vision of every scene and how it might be shot or played.”

Like his friend and partner Michael Shamberg, Ramis is a citizen of this new Hollywood of agents and percentages and “track records.” And deals. Billy Wilder complained that he spends 80 percent of his time making deals and only 20 percent making pictures. Joan Didion, putting it another way, observed that the deal, not the film, is the Hollywood art form. The amounts of money involved stagger outsiders. The average film costs $16 million, the lowest of low-budget productions costs $4 million, and $1 million, according to screenwriter William Goldman, “is what you pay the star you don’t want.”

Goldman has another saying, popular with people in Hollywood: “Nobody knows anything.”

“And most films don’t work,” Ramis elaborates. “There are many more bad films than good ones. So when you’re talking about being a successful filmmaker, you’re really talking about two different things. In terms of making good films, there are very few of them, here or anywhere, and no one knows what makes that kind of genius.”

“Then there are people who play the game very well and are well connected politically or here, who are owed favors and have friends in high places.
Star quality: Script writers Dan Ackroyd and Harold Ramis took to the screen (along with chum Bill Murray) in the wildly successful Ghostbusters, in which all three played defrocked professors of parapsychology hoping to rid society of delinquent demons. Above, Drs. Stantz and Spengler plot their next move.

Or if they're writing trash, at least it's mainstream trash. Or they're producers who know how to make a film for a certain middle-of-the-road quality that will at least return investment.

The investment is likely to come from a place that can write a check for $16 million. Like a studio. "People will tell you that there's a certain imbalance in the film business now," Ramis says. "Studios are much more aware of profit and loss in the short run because they come with large conglomerates, which don't only make movies. If you're running Columbia as a division of Coca-Cola, you won't have a bunch of artists on the board of directors."

How does Ramis survive in this world? "Because I haven't positioned myself as a rebel in the system," he answers. "I don't function like a pure artist. It's part of the internal contradiction of show business that it has an artistic component but it is also a business, and the industry needs to support itself with high-grossing movies."

"It would be nice," he says, "if the studios could find a way to keep the profit base and spend a little more money on the high side. But it's a capitalist free market; you can't devise a system that compels people to do art."

There is now, as Ramis puts it, a "tremendous movie-consciousness in the society." That's why the film schools are crowded. Ramis's counsel to beginners is intriguing. "Get to Hollywood by moving in the opposite direction," he says. "Develop expertise, maturity, self-confidence in another area, then come to Hollywood with some experience. Michael Shamberg had his production company before he hit this community. I'd written professionally for seven years before doing a screenplay. A lot of people just try to get ahead by playing the game, but they come with no chips."

Ramis says he decides on projects to take up "when something in my own fantasy life or real life connects with something in the real world. For instance, I've recently given up cigarettes. Then I gained a lot of weight and had to lose it through behavior modification. That's happening a lot, and it struck me that I could do a film that deals with the middle-class, middle-level substance abuser, who makes promises to himself, tries to kick it, and somehow manages to do so. I see the comedy in that, yet it's still a serious subject."

Others saw the possibilities, too. "I'm good at telling stories," Ramis says, "and therefore good at selling them." So it was with the substance-abuser story. "It's contrac ted. In fact, it's in partnership with Michael Shamberg. He'll produce it, I'll direct it. For Universal Studios. Such things come about when you have some credibility with a studio: You tell them your idea, and they're willing to finance the writing."

"I was lured to this industry because I felt that motion pictures were a synthesis of all other art forms," Arthur H. Hirsch, A.B. '66, says. "It was the medium to which real talent was going to be attracted, because you could say something in a motion picture you couldn't in any other medium, and you could reach a broader audience with it. I felt, and still do feel, that the film medium holds great promise for the best artists of our time."

The 1983 film Silkwood, an account of the last year and the mysterious death of nuclear-plant whistleblower Karen Silkwood, did attract artists. Meryl Streep had the lead, Mike Nichols directed, and the script was co-written by Nora Ephron. It said something—nuclear energy is extremely dangerous. And as for that broad audience: Silkwood made $40 million domestically, with foreign returns and cassette and cable sales bringing the tally to around $65 million. It turned up on most critics' top-10 list that year.

Arthur Hirsch's name appeared on the credit-roll as executive producer, and those who noticed might have wondered: What did he do?

"I'm the one who developed the project," Hirsch says. "I acquired the rights to Karen Silkwood's story, wrote the original treatment, brought in Nora Ephron, got Meryl Streep to commit to the project, and sold the package to ABC. I think," Hirsch adds, straight-faced, "that a producer has more to do with a film than is generally realized."
Arthur Hirsch is nicknamed “Buzz”; a family legend has it that when he was an infant in the early 1940s he made a noise like the buzz bombs being dropped on Europe. Like Michael Shamberg and Harold Ramis, he operates out of Santa Monica, which is, he says, “dominated by people who work in the entertainment industry. The population’s transient. People come out here, stay from one to three years, then go back home because they haven’t become stars.” But Hirsch doesn’t have an office. He works out of his apartment, all white walls and low furniture and a blinding western exposure to the afternoon California sun, in a complex on residential Euclid Avenue.

Hirsch ran a film series when he was at Washington University. “I was always interested in movies,” he says, “and in the mid-1960s movies were just beginning to become recognized as an art form. I’d read about certain movies, and then I’d want to see them. And since there was no theater in town showing them, I organized my own series and used the University’s money to send off for them.”

He remembers that during his time at Washington University—roughly the mid-1960s—nearly everyone he knew was in liberal arts and “the favorite thing to do was sit around Holmes Lounge for hours on end talking about literature and politics and art. A lot of the professors would come in and sit with us; I did most of my learning there, over cups of coffee.

“As students we wanted to change things,” he says. “We wanted to do away with the war machine, with the corporations that were supporting the war in Vietnam. We wanted to create alternate lifestyles and get back to what was natural and purer and good. There was a lot of talk about going to live on communes and raising your own food, stringing your own beads. We had something called the Free University, where students themselves taught classes at night on things they thought were more important than the regular course load.”

While Hirsch had his film course, Michael Shamberg, who was known as “Mickey” by his friends then, wrote a humor column for Student Life. He used a pen name, borrowed from a real pen—John Esterbrook. The 1960s, according to Shamberg, “were great. There were people like me, who never took seriously that we’d have to get a job someday, so you actually brought to your academics less desperation about what you were going to do after college. This had a down side. I didn’t take it that seriously, and I had terrible grades in college. But the upside was that there was a real curiosity there. A real freedom.”

Harold Ramis says that in the early 1960s, “St. Louis was about as dull as a major city could be. But we were in school in very important years. In the first semester of our second year President Kennedy was assassinated, then civil rights demonstrations began in earnest, and then the war in Vietnam started to heat up.

“What was happening in the country started to fuel what was going on on campus,” Ramis says, “so by the time I left, there was a full-blown cultural revolution. Hippies. Protest. Draft evasion. Resistance of all kinds.”

He enjoyed it. “For better and worse. It was a good time to be young.”

After the three graduated together in 1966, Shamberg and Ramis found jobs in Chicago. Shamberg as a reporter, and Ramis as a teacher in an inner-city school. Buzz Hirsch went there as a student. He took courses in film technique at Columbia College and there created a 20-minute film called Matinee. It won festival awards and got him into UCLA’s film school. He graduated with a Master of Fine Arts.

In 1974, he began reading newspaper accounts of Karen Silkwood’s death. He researched nuclear energy. “I came to the conclusion that this might be the basis for a very interesting motion picture,” he says now.

Dealing with the Silkwood story, working each day with the likes of Streep, Ephron, Nichols—sounds like fun. But getting the film under way was, as Hirsch tells it, a punishing process.

The easiest part was getting the rights to Silkwood’s story from her father, the executor of her estate. “I flew down to visit Bill Silkwood in Nederland, Texas, and spent three weeks sitting and drinking vodka with him,” Hirsch says. “I learned he’d been approached by Jane Fonda, Michael Douglas, people of that caliber, and turned them all down; he felt that if they weren’t willing to spend some time letting him get to know them, he didn’t want them to tell his daughter’s story.” Finally he agreed, and Hirsch, living on money he’d attracted from an investor and checks from his parents in Webster Groves, Missouri, began assembling his movie. He interviewed anyone who knew Karen Silkwood; was sued by her employer, Kerr-McGee, for his files (he won); prepared a screen treatment; and came back to Hollywood “with my rights package in hand,” he says.

“I tried to get a studio interested, and was turned down by everyone. ’Too controversial, they said. ’Too adult. Not commercial. There’s a winner philosophy around this town,” Hirsch says. “They want to make movies that will generate sequels—that’s their bread-and-butter. There’s a formula they stick to: Rocky, which was probably the original of its type, was repeated in Flashdance, in The Karate Kid, in Vision Quest. “There’s an underdog about to enter a big competition,” Hirsch elaborates. “There’s a girlfriend, a guru, and one person who believes in him. He has obstacles to overcome. There’s lots of music, lots of MTV-like visual dynamics, and in the end, you’ve got a movie that is more a visceral experience than a story, which the audience knows anyway.”

Michael Shamberg observed that in getting a movie made, finding the money is often the second step; the first is lining up some famous names. Hirsch puts it this way: “There’s a Catch-22 for a producer,” he says. “You go to a studio with a screenplay and the first thing you find out is that studios don’t buy screenplays; the only way they’re going to take yours is if some big star wants to do it. But how do you get a star? You’ve got to call their agent, and the agent’s first question is: ‘What studio do you have this set up with?’—because agents don’t want their clients to read a script unless there’s a firm offer attached. How do you get around it?”

In Silkwood’s case, Meryl Streep was how.

“When I approached her in 1980, she was not a big star,” Hirsch recalls. “She’d had supporting roles in Julia, The Deer Hunter, and Manhattan. She expressed interest, then Kramer vs. Kramer was released. Suddenly she was the star of the ’80s. Then all of the studios who turned me down wanted
Going to the source: To secure the story rights for *Silkwood*, producer Buzz Hirsch—photographed on the set, above, with Karen Silkwood's father, Bill Silkwood—flew to Nederland, Texas, and spent three weeks sitting, talking, and drinking vodka with the elder Silkwood, who was wary Hollywood would not do his daughter's story justice. The reward for Hirsch's diligence was beating out such rivals as Jane Fonda and Michael Douglas.

Hirsch says that promoting the finished film kept him busy until 1984; then he found that he'd "made enough money on *Silkwood* that I can cruise as long as I like. I'm financially secure." So is he a filmmaker or isn't he? He is, with two projects under way that are giving him almost as much trouble as *Silkwood*. One is a film treatment of the late Earl Thompson's novel *Caldo Largo*, the story of a Brownsville shrimp fisherman's adventures with his work, with gunrunning Cuban revolutionaries, and with other men's wives.

Harrison Ford and Haskell Wexler "were after *Caldo Largo*, but the author wasn't giving it up, and after his death it went into limbo." Hirsch bought the rights "with money raised mostly in Texas," he says mysteriously. A writer was commissioned to do a screenplay, "and a year and a half later we finally have a draft that is about as good as we can get it." Wiser now in the ways of Hollywood, Hirsch observes that *Caldo Largo* will need a star—"an affordable, rising star. And a director who isn't yet a million-a-picture director but who has talent."

A second project is a film based on Claude Brown's classic, *Manchild in the Promised Land*. "My major concern right now is raising the $140,000 that I need to buy the book outright so I don't lose the option, and I'm well on my way to getting it. I went to a wealthy lady in town and she put up $20,000; she also agreed to devote full time to approaching friends of her family for money. They'll be limited partners, buying shares in the total amount we're raising and taking profits when the property is sold." This "development financing," Hirsch explains, is usually a matter of hundreds of thousands of dollars and usually raised through such partnerships. "Production financing involves millions, and to get it you've got to go to the studios."

It's said that Irving Thalberg, one of the heroes of Hollywood's "golden age," spent a lot of time trying to think like a 14-year-old because he was convinced that was the mental level of movie audiences. Hirsch suspects Thalberg's successors in the "new Hollywood" are still convinced of this. "They underestimate the audience," he says. "Anyone who wants to make films has to remember that out here it's 'show business' with the emphasis on 'business.' They're not interested in film—that's a film school term. They don't even call 'em 'movies' here; it's 'product.'"

Still, Hirsch says, things are changing in Hollywood. "More and more films are being financed by independent companies, like George Harrison's Handmade Film. They're willing to take a chance on you if you can deliver films on a lower budget. And the major studios are doing 'pickup deals,' distributing films already paid for by these independents."

And, blessedly, that apparently endless run of teenage movies has, after all, ended. Hollywood is also on its way to the most profitable year in its entire history. Perhaps there's a connection; Buzz Hirsch hopes so. He recently came to terms with show companies on high-toned TV projects. The first project, *Voices of the Angels*, for Warner Brothers Television, involves a film biography of composer Robert Schumann intended, Hirsch says, to be a "Hallmark-Hall-of-Fame-type" presentation. The other, for HBO, would result in a high-tech thriller about Star Wars research, to be called *High Security*. "I'm pleased to see that movies like *Fatal Attraction* and *The Untouchables*—adult films—do well," Hirsch says. "It makes me feel very optimistic about my projects, which have been adult movies all along."

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The ROSETTA STONE of Human Biology

A complex, intimate knowledge of human genetic structure may soon become reality.

by Tony Fitzpatrick

By the beginning of the 21st century, mankind may well have the genetic correlation to Socrates' centuries-old counsel, "Know thyself." It could be possible by then that tests of DNA from a newborn infant will yield a complete map to that child's physical traits as well as his or her predisposition to a whole range of genetic diseases, such as muscular dystrophy, Huntington's disease, cystic fibrosis, many inherited cancers, and much more. Such an encyclopedia of knowledge would consist of an estimated 46,000 documents, each the size of a large telephone book. Enthusiasts point out that such information would greatly enhance the ability of all biomedical researchers to determine the basis of diseases and design rational, effective treatments.

This complete library of the myriad genetic instructions that constitute the human species may come about as the result of intense worldwide activity currently being carried out to develop techniques that hope one day to isolate human DNA, sequence its base-pairs, and then fit the pieces together to form an enormous jigsaw puzzle of life. In the process, biology, long considered a scientific "cottage industry," has quickly become "big science." The mapping and sequencing of the entire genome (the name for the quantity of genetic information contained in human DNA) is today becoming to biology what the Apollo Project was to space science.

An awesome task that raises both apprehension and hopes, the genome project most probably will involve governmental agencies such as the Department of Energy (DOE) and the National Institutes of Health (NIH); research universities around the globe; and private organizations, such as the Howard Hughes Medical Institute. Current estimates of the total cost run as high as $3 billion. While there is not yet a clear-cut, mainline source of funding for the project, two governmental bodies, DOE and NIH, already are laying the groundwork for the massive funding required for such a project.

Arranged on 23 paired chromosomes in the nucleus of every one of the body's millions of cells, the amount of DNA, or deoxyribonucleic acid, a human possesses is enormous. If stretched out, the entire sequence of DNA in one cell—more than 100,000 genes composed of varied combinations of four chemical units called nucleotides or base-pairs—would look like a microscopic strand of hair approximately a yard long. A long, linear, thread-like molecule, DNA consists of four units, the "bases" adenine (A), thymine (T), guanine (G), and cytosine (C), with A always pairing with T, and C with G. Each couple, or base-pair, links with other pairs to form a long chain that looks like two strings twisted together. One human gene is usually made from the order of 20,000 base-pairs, strung together in an extended double-helix. Thus, the entire genome has about three billion base-pairs.

A human being results genetically from the expression of the unique arrangement of A-T and G-C along the DNA, stacked side by side in various orders, but always paired together. Only four basic ingredients, therefore, contribute to the differentiation of every individual of the species. While this may seem incredible, consider that only 26 letters constitute the English alphabet and from that alphabet are rendered complex written works ranging from the complete Shakespeare to Mad magazine. On the average, two unrelated humans differ from each other by one base-pair per thousand. Within the three-billion-base-pair genome, that amounts to millions of differing base-pairs.

Maynard Olson is a tall, spare, utterly relaxed man, middle-aged and youthfully blond. It may be his devotion to running (he's a former cross-country athlete at CalTech and has run several marathons) or simply his own genetic makeup that gives him such a calm demeanor. Despite his apparent placidity, Olson is a relentless researcher whose gene-cloning technique has made him a widely sought-after scientist.

Working with his graduate students David Burke and Georges F. Carle, Olson, professor of genetics, has designed an artificial chromosome combining two small regions of a natural chromosome from yeast, a third bit from another...
Breaking the code: Genetics Professor Maynard Olson's cloning experiments with yeast have opened a new avenue in the worldwide effort to determine the way in which strands of DNA program human characteristics.

microbe, and large fragments of human chromosomes. Once introduced into yeast cells in a test tube, the artificial chromosome is "adopted" or maintained biochemically by the yeast cell, as though it were one of the natural yeast chromosomes.

The yeast artificial chromosome (YAC), containing the newly introduced human DNA, replicates, producing exact copies, or clones, of itself. This enables geneticists to recover from the yeast human DNA clones much larger than available through previous cloning methods. By increasing the scale at which they are able to work, scientists now hope to make more rapid progress toward fulfilling the promises that an intimate knowledge of the human genome holds.

As a leader in the global charge to delineate the human genome, Maynard Olson is something of an anomaly. He has worked devoutly with simple brewer's yeast for more than a decade, deciphering its genetic composition, while searching for ways it can be used to house vectors, or carriers of genetic material, in recombinant DNA experiments. When he started yeast experiments in 1974, few in the scientific community ever thought a route to the composition of the human genome would be found through yeast research. But Olson never lost his curiosity for the organism and his fascination for molecular genetics. A "premature mid-life crisis," he says, drew him away from his professor of chemistry post at Dartmouth in 1974 to the University of Washington in Seattle to work in a yeast genetics laboratory. He stayed five years, then joined the Washington University School of Medicine as assistant professor of genetics in 1979.

Olson's technical breakthrough is one of the major factors that contributed to the funding of a $1.8 million grant from the James S. McDonnell Foundation to establish the Center for Genetics in Medicine at Washington University. The Center has been created with several components, one a collaborative arrangement with the Institute of Physical and Chemical Research (RIKEN) of Japan that involves sharing Olson's cloning techniques and the advanced gene-sequencing capacity at RIKEN, currently the best in the world. One of the functions of the new Center will be to store a genetic library of human DNA. By virtue of Olson's research and the strength of the University's genetics department, created just 12 years ago, Washington has become one of the prominent research institutions working on the genome in the world.

Despite generally good will among the world's biologists in the race to catalogue the genome, there are some who think the project is misguided. Since it is known that only five to 10 percent of DNA is coded to make protein—the substance that gives "expression" to genes—some scientists believe uncovering the full sequence of DNA is not the best use of research dollars.

But at the department of genetics, under the leadership of Daniel Hartl, chairman and professor of genetics, hopes are high and spirits are rising. American and foreign researchers including Japanese, Italian, German, and British scientists, are contacting the young department on a daily basis. Much of this excitement can be attributed to the Olson group's discovery which now allows scientists to work
routinely with large fragments of human DNA. Many scientists think his breakthrough will provide the quickest route of all to achieving the ultimate goal of mapping and sequencing the entire genome, while reducing the project's costs.

"Trying to find the genetic basis for disease has always been like searching for a needle in a haystack," Olson says softly. "Because the YACs provide large, unbroken segments of DNA, the needle we are searching for has gotten larger."

Olson's technique, in fact, allows scientists to clone human DNA in segments 10 times larger than previous methods permitted. Scientists cloning genetic material have been limited for years to viruses or bacteria, such as E. coli, that take up no more than 50,000 base-pairs at a time. Olson's yeast artificial chromosome can carry up to one million base-pairs in a cloned section.

"I look at mapping DNA as any other sort of mapping," Olson insists. "We can use the DNA information to find clues for diseases and to isolate genes of interest such as growth hormones or genes that control the organization of the developing embryo. Also, we may be able to analyze more closely multigenic diseases like schizophrenia, heart disease, and inherited cancers—highly complex problems that are dependent on the relationship between genes and, in some cases, the environment."

T
t he genome project, once finished, would present biologists with extensive information on life processes. Some critics of the project, however, question whether a large-scale, crash program is necessary. Some fear the price tag for the genome project is too high, that its expense will cause other research to be slighted or shortchanged. Others argue the present state-of-the-art in gene mapping is adequate. That state-of-the-art consists of restriction, fragment-length, polymorphism (RFLP) maps. The markers that make up these maps are bits of DNA that scientists have been able to locate, through years of observation, on chromosomes. Having markers along every chromosome insures scientists that at least one such marker will be relatively close to most genes they are searching for—somewhat like a marker flare or flag.

Olson's cloning technique will have an enormous impact on the quest to produce a highly detailed and complete index to every bit of human genetic material by helping researchers refine the RFLP map more efficiently down to the base-pair level. This would involve considerable study of much DNA that does not directly code for proteins. Many scientists call this DNA "junk DNA." Some have even said, once mapped and fully sequenced, the junk DNA will reveal less about human biology than is presently known. But David Schlessinger, professor of microbiology and immunology in the department of genetics and newly named director of the McDonnell Center for Genetics in Medicine, has a more positive view of the uncoded DNA.

Schlessinger is the genetics department's most direct link to DNA; as a predoctoral fellow at Harvard (where he earned his Ph.D. in biochemistry at the tender age of 24), Schlessinger was in the first group of graduate students of James D. Watson, who, along with Francis Crick of Great Britain, discovered the double-helix pattern of DNA—a discovery often cited as the seminal discovery in modern biology. In student work and later at Washington University in the 1960s, Schlessinger devoted much of his research to ribosomes—he was the first scientist to make pure preparations of this cytoplasmic factory for protein formation; he contributed well-known studies of their formation and function.

"The uncoded portions of human DNA include many evolutionary souvenirs, of vital interest to many scientific problems," Schlessinger says. "It's clear that at least part of the DNA is important in various functions, whether it be regulatory or enzymatic in replicating and expressing DNA in various tissues. In fact, some biologists speculate it's all useful. The farther along we get in mapping and sequencing, the more we'll know."

Schlessinger, because of his years of international collaborative research, was able to take the lead in forging the agreement between RIKEN and Washington University. The Japanese and American researchers will begin their joint studies by sequencing a yeast chromosome; if successful, they plan to proceed to human DNA. The RIKEN gene-sequencing technology involves an integral system that can analyze up to 30,000 base-pairs of DNA a day—more than 10 times the rate currently available at other locations around the world. The monumental problem of storing and analyzing the information derived from the cloned DNA—the first time any such library has been attempted in the world—will be handled by new software developed by Will Gillette of the department of computer science, with input from Jerome Cox's Biomedical Computer Laboratory.

Extroverted and loquacious, Schlessinger is one of Maynard Olson's biggest fans. Like most of the scientists in the genetics department, he is upbeat, eager to embark on the new beginnings Olson's discovery has provided. "Maynard Olson has spent most of his career studying the problems of DNA mapping, and he's provided a major route to the exploration of complex genomes through his vector system;" Schlessinger says with conviction. "We are now the stewards of a new technology."

Olson, in his gimlet-eyed manner, foresees a future in which studies of the structure of the human genome will be closely integrated with other forms of biological research.

"It's a remarkable fact," he says, "that in a single fertilized egg there are two copies of every chromosome, one from the mother, one from the father. It's genetically specified that in this one cell there is everything needed to make one human being. There also are two molecular copies of each gene. All DNA molecules divide and replicate forming cells with genes that differentiate into characteristics like eye and hair color, muscle, fat, etc. The goal of modern molecular research is to understand how this happens."

Leaning against a workbench in his laboratory, biological paraphernalia neatly stacked in the cabinet behind him, he stares shyly at the floor as if a question were poised from it.

"There's going to be a lot of pressure on getting this thing done and there will be a lot of discord along the way," he says. "I'm leery of setting ambitious goals for the mapping and sequencing to the detriment of technology being developed and its application to genetics right now.

"Ultimately, our most profound understanding of the physical nature of life will come from the study of cells, their structure, how they work. An old tenet in biology is that to understand function you study structure. While knowledge of the exact structure of the human genome may not tell us precisely how human beings function, it will change the way that function is studied in all areas of human biology."

Tony Fitzpatrick is the science features writer for Washington University.
When we launched the ALLIANCE FOR WASHINGTON UNIVERSITY in 1983, I said, “Washington University's contribution is to the world and to a day that is yet to come. Graduates will make their special contributions in their home communities. Books the faculty write will travel the globe and be read and pondered not only today but by scholars of future generations. Discoveries made in the laboratories and clinics will benefit the children and the grandchildren of peoples and nations far beyond our borders. This contribution will be not to Washington University, but by Washington University and its friends. No lesser goals are worthy of our heritage.”

I would not have imagined that five years later we would exceed our campaign goal by 110 percent. In so doing, we created more than 35 endowed chairs to attract and retain talented teacher-scholars, we constructed three extraordinary facilities in support of research, teaching, and student activities, and we added greatly to the support available for scholarships and student programs. The faculty have announced major discoveries in diabetes, heart disease, virus-resistant plants, proteins and peptides, and noninvasive diagnostics. Major awards have been bestowed on our faculty-scholars. And our enrollment picture is excellent.

This happened not just because of our teacher-scholars and the promising young people who are immersed in the work of the institution, but also because so many friends have joined with Washington University to sustain our progress and provide the impetus for new, well-planned initiatives. I am deeply grateful to all who have helped to make Washington the world-class University it is today.

More than ever, I am optimistic about the future of Washington University. We have made a great beginning by expanding our resources, yet there is much to be done. As you read about the conclusion to the ALLIANCE campaign of the 1980s, the story of Washington University’s contributions to the world continues, thanks in great part to the support and confidence of our alumni and of our friends.

William H. Danforth
Chancellor
Washington University

Never before had Washington University embarked on a more ambitious effort than the ALLIANCE FOR WASHINGTON UNIVERSITY—and never before have we achieved greater success in building support among our alumni, parents, and friends. And why have we done so well? Because we began from a position of strength, we sought the wise counsel of our 270-member Commission on the Future of Washington University, we attracted outstanding leadership, and we received the help of our alumni, friends, and students—more than 5,500 of whom volunteered their time and efforts. Our accomplishments include:

- Largest amount raised by a university and perhaps by any organization in a single campaign.
- First to top the half-billion-dollar mark and the first to exceed $600 million.
- More than 233,000 gifts from more than 60,000 donors, including 71 gifts of $1 million or more.
- A final total that is more than double our original $300 million goal.

In meeting the challenge of the ALLIANCE FOR WASHINGTON UNIVERSITY in the 1980s, the great alliance between Washington and its alumni and friends has been strengthened. This alliance, which has brought such great success in this campaign, will also allow us to take on new challenges in the years ahead, so that we may continue the substantial contributions the University has made to St. Louis, to the region, and to the world.

George H. Capps
General Chairman
ALLIANCE FOR WASHINGTON UNIVERSITY
THE ALLIANCE FOR WASHINGTON UNIVERSITY: A CHALLENGE SURPASSED.

Special Report

The most successful fund-raising campaign in the history of American philanthropy has been completed by Washington University in St. Louis with a grand total of $630.5 million.

The ALLIANCE FOR WASHINGTON UNIVERSITY campaign was publicly launched on May 2, 1983, with a goal of $300 million—an amount exceeded by 110 percent. According to George H. Capps, campaign chairman and president of Capitol Coal and Coke Co., the record-setting $630.5 million is the result of 233,115 gifts and commitments from 60,752 donors. A total of 71 gifts of $1 million or more were received.

The campaign is also the first in the nation to exceed $500 million—an achievement announced by Capps on Oct. 9, 1986. On Dec. 13, 1987, the campaign became the first to exceed $600 million.

Capps noted that the ALLIANCE campaign has generated more than $387.1 million for endowment, $55.5 million for facilities, and $187.9 million for operating purposes.

W. L. Hadley Griffin, chairman of the executive committee, Brown Group, Inc. and chairman of the University’s Board of Trustees, said, “The $630.5 million raised will help provide Washington University with the resources to meet the challenges of the 1990s. Although our full needs are still dependent primarily on support from tuition, fees, and research grants, this tremendously successful campaign provides the margin of excellence that will allow us to continue the growth and progress of our institution.”

Sixty-eight percent of campaign support—$430.4 million—has come from the St. Louis community, according to Herbert F. Hitzeman, Jr., Senior Vice Chancellor for University Relations and director of the ALLIANCE campaign. The total amount raised includes commitments of $83 million from alumni, $160.7 million from parents and friends, $65.4 million from corporations, $282.8 million from foundations, and $38.6 million from other sources. Included in the above amounts are $55.6 million from members of the University’s Board of Trustees and $4.5 million from the faculty and staff. No funds from government sources nor from research contracts have been applied toward the ALLIANCE goal.

“Our work is far from finished,” Hitzeman added. “Several objectives—scholarships and fellowships, construction and renovations, and endowments for professorships, for research, and for teaching—are all areas that still require continuing attention and support,” Hitzeman said.

Washington University Climbs to 7th in Top 10 Endowments

Listed below are the 10 largest university endowments, as of June 30, 1987. Washington University's endowment has climbed steadily in national size rankings over the past decade, rising from 14th to 7th. A significant factor is the ALLIANCE campaign's gift support to the endowment, as well as a successful investment management program. For example, the Washington University endowment for fiscal 1980 was $245.5 million. By June 30, 1987, the endowment had increased nearly fivefold to a value of $1.218 billion.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Institution</th>
<th>Endowment (June 30, 1987)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Harvard University</td>
<td>$4.02 billion</td>
</tr>
<tr>
<td>2</td>
<td>University of Texas</td>
<td>$2.919 billion</td>
</tr>
<tr>
<td>3</td>
<td>Princeton University</td>
<td>$2.1 billion</td>
</tr>
<tr>
<td>4</td>
<td>Stanford University</td>
<td>$1.8 billion</td>
</tr>
<tr>
<td>5</td>
<td>Yale University</td>
<td>$1.7 billion</td>
</tr>
<tr>
<td>6</td>
<td>Columbia University</td>
<td>$1.282 billion</td>
</tr>
<tr>
<td>7</td>
<td>Washington University in St. Louis</td>
<td>$1.218 billion</td>
</tr>
<tr>
<td>8</td>
<td>Texas A &amp; M University</td>
<td>$1.175 billion</td>
</tr>
<tr>
<td>9</td>
<td>Massachusetts Institute of Technology</td>
<td>$1.169 billion</td>
</tr>
<tr>
<td>10</td>
<td>University of California System</td>
<td>$1.159 billion</td>
</tr>
</tbody>
</table>

(Unofficial data collected by Washington University, December 1987)
Top: John E. Simon Hall, new home of the John M. Olin School of Business, was dedicated in April 1986. It is now the largest academic building on the Hilltop Campus.

Left: The School of Medicine's Clinical Sciences Research Building—the largest construction project ever undertaken by Washington University—was dedicated in October 1984 during an outdoor ceremony. The 10-story, $55 million structure took three years to complete.

Above: The first major improvements in the University's athletic facilities in 50 years, made possible by the ALLIANCE FOR WASHINGTON UNIVERSITY, are apparent in this recent aerial view. Historic Francis Field (foreground) and Francis Gymnasium (left) are the nostalgic cornerstones of the expanded and modernized complex. The new campus center for sports and recreation was dedicated in the fall of 1985.
A REASON FOR CELEBRATION, 
BUT NOT COMPLACENCY
A letter to the Washington University Faculty and Staff from William H. Danforth, Chancellor

On May 2, 1983, Washington University announced the ALLIANCE FOR WASHINGTON UNIVERSITY, the largest campaign in the history of our institution. At the time, the goal of $300 million seemed very ambitious even though preliminary solicitation had yielded commitments of $142 million. The greater Washington University community responded to the challenge with a generosity that amazed even me. Now, less than five years later, the campaign has concluded with $630.5 million in gifts and pledges, the largest amount yet raised by any university in a single campaign.

I am very grateful to all of those who made this success possible. There are so many that one hesitates even to begin mentioning names. George H. Capps led the 5500-strong volunteer leadership. The Board of Trustees, chaired by W. L. Hadley Griffin, provided the vision and the impetus. Herbert F. Hitzeman, Jr., and his colleagues in University Relations planned and executed the campaign. Over 60,000 donors responded with inspiring generosity. The ALLIANCE was an example of American volunteerism at its very best. Altruistic individuals, putting the common interest above their own, worked for and gave to an institution in which they believed.

This belief in the value of our institution is a side of the successful campaign that should not be overlooked. The ALLIANCE has been a vote of confidence in Washington University and, more specifically, in the abilities of the faculty and of the staff and in the promise of the students. Without a conviction that the intellectual work of the faculty was important and was being well conducted, those who supported the campaign would have had little reason for enthusiasm. Without widespread belief that the educational programs are contributing importantly to the future leadership of the nation, our enterprise would have lacked a sense of purpose. Without an able support staff, neither the educational nor the research function would flourish.

Many of our friends first had an opportunity to hear from faculty and staff during meetings of the Task Forces of the Commission on the Future of Washington University. It was in these settings that the work of the University was set forth and the meaning of that work explained. Members of the Task Forces responded with seriousness of purpose to the challenges and hopes that were articulated clearly and convincingly.

In other settings, I have had occasion to thank our donors and our volunteers. This is my opportunity to thank the faculty and staff who spend most of their waking lives on the campuses of Washington University and whose work gives life and meaning to the institution. Without them there would be no ALLIANCE and, in fact, no Washington University.

Now that we have come to the conclusion of the campaign, I should like to give you a brief report on the results.

### ALLIANCE CAMPAIGN

| Total Goal | $300.0 million |
| Total Actual | $630.5 million |

Even excluding the grants of $200 million from the Danforth Foundation, the ALLIANCE surpassed the original goal by over $130 million.

Gifts for:

| Endowment & Facilities | $442.6 million |
| Current Operations | $187.9 million |

Gifts from:

| Alumni | $83.0 million |
| Individuals | $160.7 million |
| Corporations | $65.4 million |
| Foundations | $282.8 million |
| Other sources | $38.6 million |

(Included in the gift totals are $55.6 million from the Board of Trustees and $4.5 million from faculty and staff.)

Number of Volunteers | 5,500
| Number of Donors | 60,752
| Number of Gifts | 233,115

The total number of volunteers, of donors, and of gifts exceeded anything in the experience of Washington University. The most significant legacy of this endeavor is, in all probability, the formation of the alliance itself. All of those who have joined together to make the campaign a success—alumni,
community leaders, faculty, staff, students, and friends—have been a great stimulus to the growth of Washington University. The process that they have started can continue on into the future with ever-growing effect.

Because of this enthusiasm and interest, giving has increased among all groups of donors. For example:

Growth in Annual Support from FY 1982 to FY 1987

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumni</td>
<td>217 percent</td>
</tr>
<tr>
<td>All Corporations</td>
<td>136 percent</td>
</tr>
<tr>
<td>St. Louis Corporations</td>
<td>221 percent</td>
</tr>
</tbody>
</table>

To compare ourselves with other universities, we have used the years 1979 through 1986 since the data from 1987 are not yet collected. The results are as follows:

Growth in Total Giving to Selected Universities Between 1979 and 1986

<table>
<thead>
<tr>
<th>University</th>
<th>Percentage Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Washington</td>
<td>122%</td>
</tr>
<tr>
<td>(total)</td>
<td></td>
</tr>
<tr>
<td>(excluding Danforth)</td>
<td>785%</td>
</tr>
<tr>
<td>Foundation)</td>
<td>9. Tulane 113%</td>
</tr>
<tr>
<td>2. Princeton</td>
<td>179%</td>
</tr>
<tr>
<td>3. Cornell</td>
<td>263%</td>
</tr>
<tr>
<td>4. Stanford</td>
<td>197%</td>
</tr>
<tr>
<td>5. Emory</td>
<td>178%</td>
</tr>
<tr>
<td>6. Vanderbilt</td>
<td>173%</td>
</tr>
<tr>
<td>7. Brown</td>
<td>172%</td>
</tr>
<tr>
<td>8. Pennsylvania</td>
<td>197%</td>
</tr>
<tr>
<td>(total)</td>
<td>111</td>
</tr>
<tr>
<td>9. Johns Hopkins</td>
<td>109</td>
</tr>
<tr>
<td>10. Harvard</td>
<td>108</td>
</tr>
<tr>
<td>11. Duke</td>
<td>95</td>
</tr>
<tr>
<td>12. Yale</td>
<td>92</td>
</tr>
<tr>
<td>13. Northwestern</td>
<td>48</td>
</tr>
<tr>
<td>14. Chicago</td>
<td>37th to 8th in the nation.</td>
</tr>
<tr>
<td>15. Yale</td>
<td>37th to 8th in the nation.</td>
</tr>
<tr>
<td>16. Rochester</td>
<td>37th to 8th in the nation.</td>
</tr>
<tr>
<td>17. Case Western</td>
<td>37th to 8th in the nation.</td>
</tr>
</tbody>
</table>

At the time our campaign was announced, some expressed concern that Washington University might draw much of the gift money out of St. Louis. I am pleased to report that those fears proved groundless. For example, annual giving to the United Way of Greater St. Louis has increased at about the same rate as that to Washington University. Saint Louis University has surpassed its fund-raising goal, as have other major St. Louis institutions. A successful campaign seems to encourage philanthropy generally.

The success of the ALLIANCE is reason for celebration, but not for complacency. We still have a long way to go. We started from a lower financial base than many of the nation's great universities. Moreover, many of those universities receive significant aid from their home states. We have done well, but we can relax neither our efforts to fund worthwhile programs, nor our exertions to make every dollar go as far as possible.

With great resources comes, just as it should, responsibility. We expect more of ourselves. The expectations of others are high as well. In recent months many people, including faculty, parents, students, and friends, have said to me the equivalent of, "A University with all of the resources that we have should at least be doing X." I try to respond appropriately, but I know that if we were doing all of the X's, Washington University would be broke. I do not want to imply that we are not well off. We are very well off. We have the resources in dollars, in physical plant, and, most importantly, in people to go on with steady
Top: Chancellor Danforth outlines the University’s achievements and aspirations to the guests at the ALLIANCE announcement celebration May 2, 1983.

Above: Trustee Mary Dell Pritzlaff, Chancellor William H. Danforth, and Trustee John F. McDonnell.

Right: ALLIANCE Annual Programs Chairman Zane Barnes sums up the task ahead for volunteers at the October 1, 1983, assembly—a comprehensive orientation and training program for those playing a key role in helping meet the annual programs goal.
The ALLIANCE FOR WASHINGTON UNIVERSITY celebration attracted 450 guests to the October 9, 1986, event at Marriott's Pavilion Hotel in St. Louis, when it was announced the campaign had exceeded $500 million—the first campaign in history to do so. Pictured (left to right) are: Mr. and Mrs. Andrew E. Newman, Mr. and Mrs. Jerome F. Brasch, and Mr. and Mrs. Harvey Saligman. Mr. Newman and Mr. Saligman are WU Trustees, and Mr. Brasch was Vice Chairman of the Alumni Board of Governors.

Above: Shown in one of the modern research laboratories of the Clinical Sciences Research Building is medical scientist Timothy Ratliff, director of urological research in the division of urology at the School of Medicine.

Above left: Key leaders in the campaign's successful achievement of its capital resources goal are (from left): W. L. Hadley Griffin, chairman of the University's Board of Trustees and a member of the Capital Resources Executive Committee; George H. Capps, chairman of the ALLIANCE; and Richard F. Ford, chairman of the Capital Resources Executive Committee.

Left: Former University athletes were given a preview of the new and renovated athletic facilities at a special lettermen's open house held during the winter of 1985. Here, an athletic department staff member explains the changes to be made in Francis Gymnasium as part of the total project.
improvement as far into the future as I can see. I do mean that we cannot do everything at once, but then no university can.

Priorities continue to be essential, both within each area and for the University as a whole. As in the past, we have to remember that Washington University is not a large institution. Emphasis will have to continue to be on quality rather than quantity. We must take seriously the idea that in many areas one needs a critical mass of people in order to mount a quality program. In some cases, the challenge of scale can best be addressed by building supporting efforts across departmental or school lines. Since we now have more options, more effort than ever before will have to go into academic planning. The ALLIANCE has not made life any more easy, but it is making it more challenging.

I believe that it is helpful to keep in mind the continuing importance of tuition as the basis of our economy as a private institution. Income from gifts and from the endowment provides the margin for our excellence, but tuition supplies most of the day-to-day operating income for most parts of the University. In 1987, at the height of the ALLIANCE, only 7.4 percent of the operating income came from gifts; another 6.8 percent came from endowment income. In other words, these two sources combined accounted for 14.2 percent of the operating income for that year.

The actual dependence on these sources and on tuition by the different faculties follows:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Tuition</th>
<th>Gifts plus endowment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>86.4%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Arts and Sciences</td>
<td>56.0%</td>
<td>24.2%</td>
</tr>
<tr>
<td>Business</td>
<td>79.8%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Dental Medicine</td>
<td>61.7%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Engineering</td>
<td>59.3%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>84.6%</td>
<td>14.2%</td>
</tr>
<tr>
<td>Law</td>
<td>80.6%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Medicine</td>
<td>3.0%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Social Work</td>
<td>65.2%</td>
<td>20.5%</td>
</tr>
</tbody>
</table>

Only the School of Medicine is not significantly dependent on tuition. That school has a large income from patient care charges and from federal and private research grants and contracts.

It is wonderful to celebrate the successes of the ALLIANCE FOR WASHINGTON UNIVERSITY. It has truly been a marvelous undertaking. However, it is well to be realistic. Most, if not all, of the honors that have come to faculty in recent years would have come without the present campaign. Honors for many of those working today will come later. The campaign is now part of the history of a 135-year-old-institution. Built on the accomplishments of the past, the campaign achievements serve as a part of the foundation for tomorrow’s improvements. The new endowment and buildings make possible larger plans for the future. The challenge is to make the most of these opportunities.

I should like to thank each of you for making it possible to come this far and to dream of even greater accomplishments in the future.

Left: During the ALLIANCE, more than 5,500 alumni and students volunteered their efforts, including many who made phone calls on behalf of the Annual Fund. Shown are Deborah Niederman, LA90, and Aaron Bisno, LA90, at a phonathon.
THE CAMPAIGN LEADERSHIP

General Chairman
George H. Capps,
President,
Capitol Coal and Coke Co.

Chairman: Capital Resources
Executive Committee
Richard F. Ford,
Managing General Partner,
Gateway Associates, L.P.

Chairman: Annual Programs Executive Committee
Zane E. Barnes,
Chairman and CEO,
Southwestern Bell Corp.

Chairman: Alumni, Friends, and Parents Committee
Stanley L. Lopata,
President, Lopata Research & Development Corp.

Chairman: Business, Industry, and Foundations Committee
David C. Farrell,
Chairman and CEO,
The May Department Stores Co.

Chancellor
William H. Danforth

Director of the Campaign
Herbert F. Hitzeman, Jr.,
Senior Vice Chancellor for University Relations
Capital Resources Executive Committee

Chairman
Richard F. Ford,
Managing General Partner,
Gateway Associates, L.P.

August A. Busch III,
Chairman of the Board
and President,
Anheuser-Busch Companies, Inc.

W. L. Hadley Griffin,
Chairman of the
Executive Committee,
Brown Group, Inc.

Edwin S. Jones

Charles F. Knight,
Chairman and CEO,
Emerson Electric Co.

Donald E. Lasater,
Chairman of the Board
and CEO,
Mercantile Bancorporation Inc.

Lee M. Liberman,
Chairman, President
and CEO,
Laclede Gas Company

I. E. Millstone,
President,
Millstone Construction,
Inc.

Edward J. Schnuck,
Chairman of the
Executive Committee,
Schnuck Markets Inc.
(Deceased)

Elliot H. Stein,
Chairman,
Stifel Financial Corp.

Schools Capital Resources Chairmen

Architecture
George F. Hellmuth,
FAIA,
President,
Datacom, Inc.

Arts and Sciences
William E. Cornelius,
President, CEO and
Director,
Union Electric Co.

Business
Hubert C. Moog,
Chairman Emeritus,
Moog Automotive Inc.

Business
Vernon W. Piper,
Retired Former President,
ACL Haase Co.

Dental Medicine
Dr. Earl E. Shepard,
Professor Emeritus,
Washington University

Fine Arts
Donald N. Brandin,
Chairman and CEO,
Boatmen's Bancshares,
Inc.

Law
William M. Van Cleve,
Chairman,
Bryan, Cave, McWeeters
& McRoberts

Social Work
James L. Johnson, Jr.,
Vice President,
Stifel, Nicolaus and
Co., Inc.

Engineering
Stanley L. Lopata,
President,
Lopata Research &
Development Corp.

Medicine
Zane E. Barnes,
Chairman and CEO,
Southwestern Bell Corp.

Medicine
Richard F. Ford,
Managing General Partner,
Gateway Associates,
L.P.

Special Report 11
Annual Programs Executive Committee

Chairman: Alumni, Friends, and Parents Committee
Stanley L. Lopata, President, Lopata Research & Development Corp.

Chairman: Business, Industry, and Foundations Committee
David C. Farrell, Chairman and CEO, The May Department Stores Co.

Chairman: Alumni, Chairman and CEO, Southwestern Bell Corp.

Chairman: Business, Industry, and Foundations Committee
David C. Farrell, Chairman and CEO, The May Department Stores Co.

Schools Annual Programs Chairmen

Architecture
King Graf, Vice Chairman, Hellmuth, Obata & Kassabaum, Inc.

Arts and Sciences
Henrietta W. Freedman, Vice President, SEMCOR

Business
Sam Fox, Chairman, Harbour Group, Ltd.

Dental Medicine
Dr. John E. Gilster

Engineering
Jerome F. Brasch, President, Brasch Manufacturing Co.

Fine Arts
Frances T. Martin

Law
Fred L. Kuhlmann, Vice Chairman of the Board (Retired), Anheuser-Busch Co., Inc. and Executive Vice President and CEO, St. Louis National Baseball Club, Inc.

Medicine
Dr. Robert C. Drews

Social Work
Richard J. Modde

ALIIANCE  
WASHINGTON UNIVERSITY

12 Special Report
In honor of the Year of the Reader, Olin Library's Special Collections, under the direction of Holly Hall, last fall organized an exhibition of books that had, according to the exhibit's invitation, "helped to shape the thinking of our distinguished faculty and administrators."

Fifty-five individuals responded to that invitation and took part in the exhibit, from which the 11 selections presented here were chosen as representative.

The Year of the Reader, which occurred during 1987, was initiated by the Center for the Book at the Library of Congress as a national program to encourage and reaffirm the importance of reading. Specifically, Olin Library's invitation expressed the belief that this exhibit would help demonstrate "the centrality of the book within the academic community."


The enthusiastic response to the exhibit and the impressive variety of thoughtfully chosen books helped to remind us both of the vitality of the intellect on campus and of a sentiment expressed in the essay by Harold Brodkey (who was writer-in-residence here during the fall 1986 semester): "Over a period of centuries," Brodkey wrote, "ignorance has come, justifiably, to mean a state of booklessness."
rebuild their cities than would the Poles. They contended that the return of the former German territories was not a matter which could be discussed in terms of loss or acquisition of property, because the return of these territories was essential to the spiritual integrity of the German nation.

THE ATOMIC STALEMATE THREATENS TO BLOW ITSELF UP, 1980 TO 1985

This rather ominous political development in Europe was paralleled by an equally ominous military development the world over. As the Russian rockets increased in numbers and became capable of carrying larger bombs, the situation of the United Kingdom, France, Germany, Italy and Japan became precarious. Up to 1980, these nations had based their security on the principle that certain territories were essential to their...
Selected by Susan Rava, lecturer in French (loan courtesy of Susan Rava):

"Combray was one of the first books I tackled in French. I chose it with a stubborn 16-year-old's notion of education. It was far beyond the reach of my French and of my reading ability. But reading Proust was a sign that I was French, of my patience. I relished the chance to spend an hour on the six pages of Combray, weaving themselves into Proust's tale, adding to its always-fresh complexity."

Selected by Walter Nord, professor of organizational psychology:

"... The Two Marxisms came at a time when I was trying to understand the possible implications of the so-called 'young' or 'humanistic' Marx for the study of work in modern organizations. Marx seemed to offer a valuable perspective for understanding the necessary conditions for humanizing the workplace, but Marx's followers were so divergent from each other, that I found it very difficult to trust my own understanding of Marx. Gouldner's argument made it clear that such disagreements (and my own inability to comprehend them) were a product of Marxism itself — of its own contradictions and unexplored anomalies..."
Selected by Dolores Pesce, associate professor of musicology:

"Kramer directly confronts modern scholars’ reluctance to interpret poetry and music in the same breath—a fundamental impulse for 19th-century thinkers.

"Drawing on analytical techniques of phenomenology, psychoanalysis, and semiotics, as well as more conventional critical reading and musical analysis, Kramer examines musical works by 19th- and 20th-century composers such as Beethoven, Chopin, and Charles Ives, in juxtaposition to the poetic offerings of Woodhouse, Shelley, and Wallace Stevens.

"The book provides a valuable guide as to how we can view certain artistic creations, whether music or poetry, as fundamentally 'gestural': their shapes model and interpret lived experience. In doing so, it helps us better understand the shared aesthetic experience of words and music."

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"...From the sand and pebbles of everyday affairs, Mujii hoped to pan gold and polish jewels of religious wisdom to lead people to Enlightenment. But his often humorous and earthy anecdotes about day-to-day events in medieval Japan have also earned him a respectable niche in belles-lettres...

"...Mujii passionately defends the view that since there are numerous paths to an understanding of life, we must recognize the viability of others’ opinions even as we cherish our own..."

"...Sand and Pebbles has been more than my private academic exercise. It has brought home to me, over the years, how very similar are human aspirations and expectations behind the diversity of word-games with which we rationalize our behavior."

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Selected by Peter Riesenberg, professor of history:

"This is my choice because St. Augustine shows the enormous range and depth of human experience, and how one can change in the course of a lifetime, freeing one’s self from the limitations of original or imposed beliefs."
Right: Handbook of Composition, by Edward C. Wooley (Boston, 1907).
Selected by Thomas F. Eagleton, University professor of public affairs and political science (edition courtesy Mr. Tom Collins):

"I had a marvelous English teacher at St. Louis Country Day School, who taught us a reverence for the English language and its proper usage. Thus, the book that influenced me the most was Wooley's Handbook of Composition, a little, dark blue textbook.

"I now read biographies. My favorite is Huey Long, by T. Harry Williams. It hasn't 'influenced' me, but it is a great primer of old-fashioned politics."
The Way We Live Now, by Anthony Trollope (New York, 1975). Selected by Merton C. Bernstein, Walter D. Coles Professor of Law:

"In my judgment, Trollope is one of the two greatest English novelists, equaling Jane Austen as a commentator on the manners and morals of their times.

"The Way We Live Now probably constitutes his masterwork, a huge tapestry of business, politics, the press, the social life of the upper classes, those who aspired to their ranks, and the impostus charged by the improvident uppers and paid by the vigorous climbers...."

"Writing over a century ago, Trollope repeatedly described the unfair limitations upon women in amorous, domestic, literary and business affairs, and politics. Indeed, some of his greatest characters are women, an achievement shared by few male writers...."

"On top of that, he's a terrific storyteller."


"The processes of evolution tend to pare away unused form and discard unneeded function. The spare outcome delights the eye and the mind. D'Arcy Thompson took especial pleasure in examining and mathematically describing the sizes, shapes, and patterns of organisms and their elaborations."

"Algae, oaks, pines, amoebae, mice and whales, webs, honeycombs, shells, spicules, horns and tusks were shown to be moved and molded by the laws of physics and mathematics. All of this we now take for granted. Nonetheless this ancient (1917) insight can still surprise and delight."
"Book I contains the well-known statement, 'It will be enough for me... if these words of mine are judged useful by those who want to understand clearly the events which happened in the past and which (human nature being what it is) will, in some time or other and in much the same ways, be repeated in the future.' What follows is a compelling story of the interplay of historic forces and individual action.

"This history is not a modern story, but the similarities between the personalities and the styles of ancient and modern political leaders were striking to me as were the shifting loyalties, the hopes, the fears, the folly, and the courage of the peoples.

"I could understand the illusions and the misperceptions of the Hellenic societies, both democratic and nondemocratic, and grasp the tragedies that arose when those illusions became the basis for policy and for action."
Returning to his boyhood home of Vienna, University Professor Egon Schwarz discovers the pleasures of memory cannot always hide the sins of history.

by Egon Schwarz — illustrations by Mark Langeneckert

It's true: you can't go home again. Home isn't just a place, it's a period in time, too, and while you can look up old haunts, you can't turn back the clock. And yet, if someone were to try to recover the past, he might learn something. For example, he might find out this thing called "identity" is really a contradictory and poorly defined composite, especially if he happens to have lost his home at an early age, and since then to have wandered much about the earth.

These and similar thoughts crossed my mind when I accepted an invitation in 1985 to occupy a writers' residence that the Austrian Department of Culture maintains in Vienna, my native city. It was not the first time I had returned since the days of savage persecution in 1938 following the Anschluss, the replacement of Austria's own brand of repression by Hitler's infinitely more brutal fascism.

But I had gone to Vienna briefly after World War II, for professional reasons only, to give a lecture or attend a conference that lasted a couple of days. During these short stays, I did not force myself fully to confront the past. Practically my whole family—grandparents, uncles, aunts, cousins—had been brutally murdered. Such memories are painful. But there are, it can't be helped, also fond memories of childhood; and there is no doubt I owe to the city of Vienna certain basic orientations, a kind of cultural debt.

Like many people, I loved my home town, and continued to be nostalgic for it, even in the harsh climes of the Andes ("harsh" both meteorologically and socially) that I inhabited during the 10 years following my exile from Vienna. It took years of maturing and reflecting to eradicate these feelings. Now was my chance to "come to grips with the past," as the saying goes, to become reacquainted with the locale of my origins and to explore what connections, if any, still existed between my present being and the person I had been when adverse—or perhaps not so adverse—winds of history had blown me abroad.

When I arrive, I notice to my astonishment how relieved I am to leave behind me America where, it seems to me, a docile majority sustains a political regime busy mining
I adopted the attitude of a foreign visitor who has come to the city on business or some other innocuous pursuit.

other countries' harbors, celebrating the invasion of a defenseless island as a great victory, and supplying half the globe with lethal armaments. Despite obvious, and even profound, differences, I cannot help but be reminded of another regime, also cheered by the masses, that kept the world on tenterhooks with incessant aggressions toward small nations. I have become aware, in short, of how heavily the socio-political situation in America has weighed on me when, much to my distress, the "great communicator" follows me to Europe.

It is the time of his visit to the German soldiers' cemetery at Bitburg (with its graves of members of the S.S.), and, for the sake of "equal time," to the infamous Bergen-Belsen. What could be more obscene than the search, just to assume a studied pose in front of TV cameras, for a "photogenic" concentration camp?

My first reaction on arriving in Vienna is, therefore, one of elation at having escaped this proximity, this forced association. But then I am shocked by my own sense of relief, for it shows me how alienated I have become from the country in which I had been living for 36 years, and whose seal I bear on my passport; more seriously still, from the society to which I owe my career, where most of my friends live, and where my children were born, not to mention my grandchildren, to whom Europe will probably mean little more than the breath of a memory, a pieux souvenir de famille. These conflicts cannot be resolved. The best strategy is simply to accept them as they are.

And so I enter the second phase of my return to the place of my birth; I begin to get oriented, to move through the streets, as it were, unmoved. I enjoy being only three minutes' walk from the National Library, the Opera, and renew my acquaintance (with regrettable consequences for my waistline) with Alpenlaiben and Wachauer, Dampfbuchten, Indianerkrapfen, and Töpfenpalatschinken, all rolls and pastries from my childhood.

Before long I have come to know the system of public transportation, which is very reliable, like the back of my hand, and have learned to fight for theater tickets in the Hanuschgasse or at the box offices. In short, I adopt the role of an ordinary tourist, with the important difference that I know where everything is and have no problem communicating. I could even speak the local dialect, if I weren't held back by a certain restraint, by a reluctance 50 years' talk in other tongues has imposed; to fall so easily into Viennese dialect would seem an offensive breach of decorum.

If someone were to ask me what I most enjoy about Vienna now, as opposed to when I was young, I would have to say that it is being able to walk through the streets without fearing harassment, arrest, violence, deportation. And this much has become clear to me, that a new and different, younger generation has grown up next to the Nazis and crypto-Nazis, who are still around making a lot of noise: open, interested, young people, who, in many cases, have come to Vienna from the provinces and are aware of the problems surrounding them. To these, I owe some of the most pleasant acquaintances I have made. Personally — this I can state emphatically — I have had plenty of heart-warming experiences here.

On the "impersonal" level, however, much is left to be desired. I find the traffic situation impossible, both qualitatively and quantitatively. In some of the narrower streets, the exhaust fumes are so overpowering you can hardly breathe. In Austria, everyone quibbles about
catalytic converters, but little is done. There are too many cars and not enough parking places. To put it pointedly, you can get into your car in Vienna, but once you start driving, it will be difficult to find a way to stop and get out. I leave my car out front, unused. I am not about to forfeit my parking spot on an impulse. Once, my car was towed away. For the price I had to pay to recover it, I could have taken taxis for an entire year.

Worse still is the hysterical behavior of the drivers. Their reckless impatience surely must stem in many cases from latent psychological problems that have not yet been resolved. Even at the pedestrian crossings you fear for your life. Another blight on the terrain are the dogs; how a civilized City can condemn its pedestrians to a permanent obstacle course, letting the local environment literally "go to the dogs," is a mystery to me.

In enormous contrast to the drab city between the two World Wars, Vienna has now been cleaned up culturally. The grime of decades has been removed from countless facades and a great number of semi-dilapidated or war-damaged buildings have been restored to their old splendor. Tourism, the number one industry in Austria, is probably responsible for some of these improvements, as for the impressive cultural life. As a former Viennese living in an English-speaking world, I am delighted by the wide variety of theater offered here, all more conventional and traditional shows, including contemporary Irish, Gogol, or Saint Exupéry's Little Prince, aren't exactly new lights on the literary horizon.

And when Qualtinger goes on tour reading excerpts from Mein Kampf, I certainly admire this as an educational gesture of some importance—since one paradoxical thing about this book is that its influence was so lethal because it was so rarely read—but hardly the harbinger of new ideas.

What I experienced as most gratifying were certain personal encounters, which I found the more moving because I was, after all, a stranger from "out of town": free theater tickets procured for my wife and me by local VIPs; Viennese dishes the serving woman prepared for the palate of the elderly gentleman, even though, or precisely because, she can't figure him out; the extra effort taken by the librarians who provided me with reading and research material; the trouble the National Library took on my behalf—an institution whose practices, however, even with those of the city hospital, venerable because of its age not its treatment of the public, would require a separate essay, in all likelihood a satirical one. I am also grateful for the care provided us by a young doctor whose services we required on several occasions, and who in spite of all our ingenuous efforts would take no compensation.

It is astounding, in fact, how often my attempts to pay for services were rebuffed. Even the police on one occasion failed to collect any money for illegal parking, as they initially threatened. I would gladly have honored these debts (with the exception of the latter of course), because I didn't return, after all, as the indigent beggar who was driven out of the same city in 1938. But I am glad, nevertheless, for these experiences, since they are rare in our world. And because I can hardly imagine having myself become more attractive, charming, or appealing in the course of the last 50 years, logic forces me to explain this noticeable change in behavior toward me with the supposition that it is the others who have changed for the better.

In short, during all this time, I adopted the attitude of a foreign visitor who has come to the city on business or some other innocuous pursuit. That the Department of Culture had given me an apartment in a part of town with which I was hardly familiar allowed me to preserve my self-image as a casual traveler. In addition, I assiduously avoided exploring the Landstrasse district close to my heart, where I had once known every side street, in fact, almost every house.

But one evening, I was forced to abandon this pose of the disinterested tourist. On my return from a trip to Germany, I got into a limousine at the airport and noticed with growing emotion that the driver had turned onto a street I knew from my childhood; he was following a familiar itinerary with sadistic tenacity. Down the Schutteil, onto a well-remembered bridge by which I had escaped from my school-work countless times on the way to the Prater, to a game of soccer or other adventures on the Jesuit Meadow; then, across the Danube canal, past the Cafe Zarl, where my parents bought whipped cream on Sundays, permitting a glance into the Rastmalskygasse to the Siegelgasse, where my elementary school was.

What effect did almost 50 years passing have on the emotions stirred by this moonlit return? Mixed as they were, I could hardly have sorted them out. But the simple fact that they continued to well up in me, unabated, made me realize I was no longer one of the unsuspecting foreigners roaming through a "fancy-cake" Vienna, ignorant of its realities. This nocturnal ride taught me that, even well past 60, I still harbor the Viennese boy within me. For one does not, after all, lose one's childhood; it lives on even under the debris of years.

Indeed, I couldn't help realizing everything that had happened to me in the half-century that followed—and what times these were!—was built upon this shaky foundation. In my wandering, I discovered that the house of my childhood—the Geologengasse, with its wrought-iron gate, its stone steps, and its ornate lantern in the foyer, quite magnificent before the bombs destroyed it in the war—was reconstructed (as you can read outside on a plaque) thanks to funds allocated by the Ministry of Reconstruction only to fall into decline again. It is in a shabby state once more, a development nearly parallel to my own. I revisited all the old sites: the Franz-Josef-Realschulegymnasium (the same school that Karl Kraus had attended), now known as the Federal Gymnasium Wien I; the streets and the places where my school friends had lived; the house displaying the stone projectile from the Turkish siege in the Sterngasse, where my father's workshop had been; the bench in the city park where I once sat with my first girlfriend; the house in the Löwengasse, which once was a movie...
One evening, I got into a limousine at the airport and noticed with growing emotion that the driver had turned onto a street I knew from my childhood; he was following a familiar itinerary with sadistic tenacity.

theater where I idolized my first stars. I also went back to the Rasumofskygasse. Across from the Geological Institute is the house of Robert Musil, about which it was said in the 1920s (at a time when I was passing by there daily on my way to school) that someone was "in there, writing." Today, an inscription commemorates the years he spent there, from 1921 to 1938, pretty much the same time that I was in Vienna. On the plaque, it says that Musil died in exile, and suddenly the realization struck me that I, too, albeit without the corresponding posthumous plaque, would die in exile, too—whether in Missouri, where I was to return in a few days, or (one must be prepared for anything) even sooner, right there in Vienna.

Once the glittering capital of a world power before World War I, Vienna became the drab, impoverished center of the First Republic in 1918, a truncated dwarf state that nobody wanted and nobody thought capable of independent survival: This was my native town. In 1934, the "Austro-Fascist" regime of Dollfuss and Schuschnigg came to power, and in 1938, the overwhelming majority of Vienna's inhabitants welcomed the Nazis in a frenzy of jubilation. Terror was unleashed overnight against the Jewish population, an episode that has come to be known as the Anschluss. And yet, since it pleased the superpowers, Austria after World War II was declared a victim rather than an agent of Nazism. In 1955, the Second Republic was unveiled, and to this day Austrians remain much more unrepentant of their country's misdeeds than do the Germans.

As luck would have it, Vienna was left relatively intact during World War II. The post-war demolition, carried out so fervently after 1945, probably wreaked greater havoc than the bombs. A similar situation holds for the less tangible, psychohistorically determined quality of life. Here, too, I perceived continuities and discontinuities. Everything seems more glamorous today than it did in the oppressive gloom of the First Republic, as I remember it. Consumer items fill the display cases; nothing is a bargain, yet the theaters, concert halls, and restaurants are crowded. Everyone is well dressed and drives expensive cars, though the time has come when you see beggars again, too. There are many well-to-do people, and they communicate less resentment and seem less aggressive.

Nonetheless, some of the Viennese Schadenfreude, a malicious pleasure provoked by the misfortunes of others, an old behavioral pattern, as well as the same non sequiturs are still in evidence. Around the time of Pentecost, I was trying to find a hotel room for an acquaintance who was planning to visit the city, but I was turned away by one place after the other. A porter took it upon himself to enlighten me: "So it's a room you want, is it? Well, let me tell you something: We don't have any rooms and you're not about to find one anywhere in Vienna over the holidays!" I asked a lady on the street how to get to the nearest bank. She informed me: "I don't know any banks, but there's a post office in the Faulmannsgasse!" Another time, my wife, originally from northern Germany,
Had I come here at long last to find myself, I would now depart disappointed; but actually, I feel quite comfortable on this earth without an identity. Better than in those days when I thought I had to have one—and Vienna only reinforced this feeling.

was conversing with a grocer: "Want Styrian eggs or Austrian ones?" My wife: "I didn't know Styria wasn't part of Austria!" He: "You're right. The difference isn't all that great anyway." You feel thrown back a few decades: A mentality doesn't change so quickly. Where in the world besides Vienna would you get answers like these?

Then there's the Frischenschläger affair. A Secretary of Defense made the personal gesture of picking up a former S.S. leader at the airport after his release from an Italian prison; he greeted him with a handshake and ushered him off under the army's protection. Immediately, all the political passions that ever slumbered here rose to the surface. Was it done to spite Austria's neighbor, expressing a still extant undercurrent of contempt? Was it the naiveté of an inexperienced politician? A gesture of appeal to the militarists, the incorrigible old party guard?

Almost more riveting than the act itself were the reactions to it. Jobs were noisily offered to the released prisoner, though, considering the man's age and state of health, this could only have been meant as an act of provocation. People quibbled about the proper designation: Should he be regarded as a prisoner-of-war who only did his duty or a war criminal who let loose his fury among the population? Others were outraged when the official apologized to Israel. Most people remain set in their views; few show any sign of contrition.

I was reading the Austrian papers at the time President Reagan decided to go to the site of the Bergen-Belsen concentration camp, after his visit to the Bitburg cemetery. The popular press announced its indignation: Now the Soviets and the Jews—this coupling an old, and apparently ineradicable, cliché—would triumph, several papers claimed. Are these the voices of 1935 or 1985? Anti-Semitism is deeply rooted, so deeply in fact, that it no longer even requires the presence of Jews to nourish it.

All this has a haunting effect. I don't mean this metaphorically, but quite in the literal sense: The sinful past is a ghost that will always return as long as the generation now living hasn't come to grips with it. No one who experienced the Anschluss, regardless of which side, can believe that Austria was a victim and not an agent of fascism. The contrary view is a myth that no doubt extracted political advantages, but that in the long run promotes stultification and other psychological damage among those who suddenly begin to believe it themselves, or call themselves democrats and abdicate responsibility because they were too young at the time to have been active participants.

Anyone with a little more insight will be reminded of Alfred Polgar, who turned the maudlin saw Wien bleibt Wien into a malicious witicism, when he said (in words that echo those of Karl Kraus): "I have come to a devastating conclusion: Vienna will always be Vienna!"

There have been other absurdities, of course. So much wrong-headedness, so many scandals have been exposed in the short time I have been living here, so much corruption evident in the bureaucracy and in all of the major, political factions in the country. But that would be the case wherever I happened to be. As far as Vienna is concerned, I have come to the end of my account, and the visit that occasioned it is drawing to a close as well.

I can, in good conscience, leave this city to its own devices. It still manages quite successfully on its own. Beneath its now-ill-tempered, now-charming exterior lurks a scurrilous absurdity. The past has been repressed, but nothing new has taken its place. Even the most poisonous scandals are the proverbial mountains made of molehills and ultimately leave no mark whatsoever on the rest of the world. Had I come here at long last to find myself, I would depart disappointed; but actually, I feel quite comfortable on this earth without an identity. Better than in those days when I thought I had to have one—and Vienna only reinforced this feeling.

My birth and early upbringing marked me as a Viennese, I now understand this more clearly than ever; innumerable roots established in the course of almost 40 years of family and professional life tie me to the United States; my political beliefs, I now realize, have their origins in the Third World, or, to be more exact, in the incomparable experiences that I went through between the ages of 17 and 27, a decade of vital importance, in the Indo-Hispanic societies of South America where I grew to manhood; even though I am not religious, I belong to the Jews by virtue of our common fate, but the developments in Israel fill me with horror; from a linguistic point of view, I remain German, but have added other languages, which I handle with similar ease; culturally, I have become a citizen of the world—what sort of identity could I possibly claim?

But contact with the land of my childhood has given me great pleasure and perhaps even revitalized me a bit—like the giant Antaeus who needed to touch his mother, Earth, from time to time, so as not to be wholly drained of strength.

Egon Schwarz, Rosa May Distinguished University Professor in the Humanities, was born in Vienna. He left Austria following the Anschluss in 1938 at the age of 15, and spent 10 years in Bolivia, Chile, and Ecuador. He earned the A.B. and A.M. degrees at Ohio State in 1951, and his Ph.D. at the University of Washington in 1954. Before coming to Washington in 1961, he taught for seven years at Harvard University.

A leading scholar of 19th- and 20th-century German literature, Schwarz is widely recognized for his writing on the work of Retna Maria Rilke and Thomas Mann, among others. His autobiography, No Time for Eichendorff, was published in Germany in 1979.

In 1986, Schwarz, along with seven other classmates forced to flee Nazi rule (including former Time, Inc. editor-in-chief Henry Grunwald), were awarded honorary maters, the gymnastum (or high school) degree, in a formal ceremony held by the Austrian government.

This essay, which appeared originally in a slightly different form in the European journal Merkur, is based on journal entries made during a six-month stay in Vienna in 1985.

Mark Langeneckert, a second-generation St. Louis illustrator, is an M.F.A. candidate in illustration in the School of Fine Arts.
As one of the top-ranking couples in the Reagan administration, Mimi and Rhett Dawson share a hectic schedule along with a privileged view of government.

Capital Couple

by Kenneth J. Cooper

While politicians may come and go in Washington, there will always be the professional policymakers who remain in the capital, moving from one job to another, and keeping the federal government running year after year, presidency after presidency. You don't often see these people on the evening news or *Meet the Press,* but not much would get done in Washington without their steady work behind the scenes. Included in this group of unheralded public servants are Rhett B. and Mary Weyforth Dawson, whose careers in government have drawn them closer and closer in the last 15 years to the prominent public figures who most often get credit for running the country. Both members of this two-career couple currently hold positions of influence in the Reagan administration.

The Dawsons (J.D. '69 and A.B. '66, respectively) may have also been the original of what *The New York Times* recently called "those marrying Reaganauts," the newspaper's moniker for a dozen couples who work in the current administration. *The Times* suggested as a model the high-profile marriage of Senator Robert Dole, the presidential candidate and Senate Republican leader from Kansas, and Elizabeth Hanford Dole, a former transportation secretary in the Reagan administration. They are the couple in Washington's Republican circles, with the obvious exception of Ronald and Nancy Reagan.

The Dawsons, both veterans of top staff jobs in Congress, are still young for Washington careerists; he is 44, she is 43. Although less prominent than the Doles, the Dawsons have established track records in Washington that are sure to make them perennial prospects for high posts in Republican administrations for years to come.

Setting the nation's course: Following one of their rare shared lunches, Mimi and Rhett Dawson pause before his place of work where, as assistant in charge of White House operations, he approves every document passed to the President. Having served a seven-year term on the Federal Communications Commission, Mimi last fall was named deputy secretary of transportation.
President Reagan appointed Rhett Dawson his assistant for operations a year ago. The job title, though, does not tell what he does or just how much clout he has. In addition to managing White House support and logistics, every document—all reports, speeches, policy options, executive orders, veto recommendations—every official piece of paper Reagan sees, must meet Dawson's approval first. Modestly, Rhett downplays the significance of his role, but a political axiom holds that whoever controls access to the president, on paper or in person, controls power. "You just wouldn't want anyone sending something over to the president," he says.

Mary Weyforth Dawson, named by Reagan as deputy secretary of transportation last October, is one of the highest-ranking women in the administration. Before her nomination, Mimi, the nickname she prefers, was a candidate for the Federal Communications Commission chairmanship (in 1985, when Reagan selected another member, Mark Fowler). She had served most of a seven-year term as a Reagan appointee to the FCC, where she brought about a major deregulation of the broadcasting industry, leading the successful campaign to repeal the fairness doctrine, which required broadcasters to supply airtime to opposing editorial points of view and political candidates.

For the Dawsons, working as policymakers in Washington has its rewards: earning top salaries, getting to know those in powerful positions, helping set the nation's course. Long hours and the hectic schedule of the windup of his carpeted office on the 30th floor of the West Wing, red geraniums were in bloom on an Indian summer day.

Rhett came to the White House at the request of former Senator Howard Baker, Reagan's chief of staff. Previously, Rhett directed the staff of the Tower Board, the presidential commission that examined the Iran-contra scandal. Ironically, a key figure in the controversy, Robert "Bud" McFarlane, Reagan's former national security adviser, worked for Dawson in the early 1980s when Dawson was staff director of the Senate Armed Services Committee. (Another employee was Alton Keel, now United States ambassador to NATO.) Former Senator John Tower, a Texas Republican, chaired the Armed Services Committee then, and in late 1986, as chairman of the three-member panel, asked his former aide to oversee the investigation of the Iran-contra scandal.

Mimi became a member of the FCC commission in 1981 after eight years on the staff of Senator Robert Packwood; he was best man at their 1976 wedding in Washington.

As a two-career couple in Washington, the Dawsons work days that begin early and end late in a constant juggle of family and career. Half their vacation last August was spent in Santa Barbara near President Reagan's ranch, where the Dawsons were spared Washington's intense humidity, but Rhett was not spared the responsibilities of work. Since adopting an infant daughter, Elizabeth, who is now three, the Dawsons have limited social commitments to the politically acceptable minimum in a town of endless cocktail receptions; for recreation, they play a lot of doubles on the White House tennis court.

After more than 11 years of marriage, both Mimi and Rhett are experienced enough to manage demanding work schedules without the appearance of frenzy. "I'd say we've kind of grown used to it," Rhett says. His current job in the "super-heated" atmosphere of the White House requires 13- to 14-hour days during the week, half that time on Saturdays, and a spate of telephone calls made from home on some Sundays. His wife occasionally complains, although only mildly, that his job never ends.

Dawson's role at the White House makes him one of the last staff members to leave each night. He attends meetings of the Cabinet, National Security Council, Domestic Policy Council, and Reagan's conferences with congressional leaders. Almost daily, one of those meetings produces an issue that requires Dawson to broker a compromise among Reagan's advisers so the necessary paperwork can be prepared for his review. An example is Dawson's mediation between administration officials on what Reagan should say about AIDS in his first speech on the epidemic last May. "That was threshed out right here," he says, referring to his conference table.

At the FCC, Mimi had the flexibility to set her work schedule, limiting travel and speechmaking out of town. (Rhett, in contrast, has to accompany nearly every trip the president makes.) She was able to reserve time to eat breakfast with their daughter, and then watch Sesame Street on TV before bringing her to the nursery school at 9 o'clock. Mimi had gotten in the habit of calling her position with the FCC "a great mommy job." Less so is her role as second-in-command at the Department of Transportation, a position that requires familiarity with a whole new set of issues—from airline safety to mass transit—and a less-independent schedule at work. The Dawsons rely even more heartily on a live-in nanny, and Mimi has traded late breakfasts with her daughter for lunches, ending a habit of working through the noon hour.

The Dawsons delayed becoming parents until Mimi was well established in her career. "One of the things I tell young women," she says, "who come and talk to me about careers and timing is that you probably can have all you want in life. You just can't have it all at the same time." On that point, she disagrees with women who believe in having it all, all of the time. The Dawsons are a two-career family in a more traditional mode. On mention of a photo of Robert Dole helping his wife make the bed, Rhett shakes his head "No," even before the question is posed. "No, he doesn't," Mimi laughs.

The Dawsons were born on the cusp of the baby boom, a generation whose professional members have tried to reshape the roles of husband and wife. Mimi expounds on her philosophy about an issue many younger couples wrestle with constantly: "I don't find in a two-career marriage that the woman has any fewer responsibilities for hearth and home," she says. "I'm not sure that it isn't an emotional response in women. Maybe the next generation will be different. If our kids has to go to the doctor, I'm the one who is going to take her. I don't think that's necessarily something that Rhett may be disinclined to do; I just think that's how roles are divided by couples in their forties. I still feel a need to be responsible for a lot of those things."

"By the same token, somebody told me the Doles have a lot of TV dinners," Rhett interjects. "Mimi has never served me a TV dinner—ever."

Mimi Dawson grew up in St. Louis and attended Washington University with financial aid, majoring in political science. Her family still lives in the city. She remembers
Rhett Dawson grew up in Canton, a town in central Illinois, and Naperville, which is near Chicago. He completed undergraduate studies at Illinois Wesleyan University in Bloomington. Before entering Washington University School of Law in 1966, he spent a summer in Washington as an intern at the National Association of Counties, where he had his first brush with power. Spiro Agnew, who would later resign from the vice presidency in disgrace, was then the association's president and a respected Baltimore County official. Rhett did not meet Agnew during the internship, but worked directly for the man who later became Agnew's chief aide in the White House.

The Dawsons met in December 1967, while she was working as a welfare caseworker in St. Louis; he was attending the law school and earning his Army commission as an R.O.T.C. cadet. They were introduced by a friend of his in law school and went on a kind of blind date. There followed nine years of dating that had a more auspicious ending than the equally long courtship in the musical "Guys and Dolls." In 1969, Rhett began a three-year tour as an Army lieutenant at posts near Baltimore and Munich. During the former, he lived in Washington to be near Mimi, who had taken a job as legislative assistant to Representative James Symington, a liberal Democrat from Missouri. In 1972, they returned briefly to St. Louis, where he took the Missouri bar exam and she went to work in politics. But the sojourn proved temporary, and they have been in Washington ever since. Rhett explains: "Politically, we grew up here."

Mimi worked for Representatives Richard Ichord and William Clay, also Missouri Democrats, before joining the Senate staff of Packwood, a moderate Republican. She served first as Packwood's press secretary, then legislative aide, and finally chief of staff. Rhett held Capitol Hill jobs as counsel to the Senate's Intelligence and Armed Services committees and a House-Senate Committee on Defense Production. He had also previously worked as a lawyer at the Office of Equal Opportunity, a relic of President Johnson's Great Society legislation. After his last Senate job as staff director of the Armed Services Committee, he practiced law but left for a year to oversee the staff of Reagan's Commission on Defense Management, also known as the Packard Commission, which recommended reforms in Pentagon contracting procedures. He was back in private practice until late 1986, when Tower asked him to work for the Iran-contra panel.

The Dawsons' Washington experiences may have moved their politics to the right of center, but neither was exactly leftist to begin with. "I was never a liberal," Rhett says. "But I think I was more liberal than I am today. I've grown more conservative. Mimi has too."
Ordinarily, Rhett will walk down the hallway to the White House mess and "have a salad for about 10 minutes, and that's my lunch." As FCC commissioner, Mimi ate a lot of expense-account lunches while discussing business with broadcast executives until an ethics-in-government rule forbade the practice. She continued to work through lunch at the FCC, inviting executives to "have a cheese sandwich with me" in her office.

The simple lunches are one symbol that the Dawsons, unlike many Washington careerists, have not been seduced by the town's power and glamour. And, despite doing important jobs there, the Dawsons don't take themselves too seriously. Their social life tends to be rather simple—an occasional movie or, more often, dinners with other couples who are likely to work in government. When the Dawsons do attend one of the high-profile engagements that dominate the Washington calendar, the event usually demands a political appearance, like the House-Senate congressional dinner or Ambassadors' Ball held each year.

"When I came to Washington as a young legislative correspondent for Jimmy Symington," Mimi says, laughing at having been so impressionable, "if someone asked you to go to a reception, you thought that was the most exciting thing in the world. One assumes after a number of years you've been to just about every reception there is to go to. So you pick and choose."

At the FCC, Mimi developed a reputation for being accessible, which is not a particularly pronounced quality of the Reagan administration. Other officials limit access as a way to assert power in Washington. "My assumption is that I'm not elected, so whoever wants to come and see me, I ought to be able to see," Mimi explains. Her job, she says, was "great fun."

In Reagan's White House, Rhett fills a job once held by Richard Darman, now a Wall Street executive, who was notorious for exploiting every situation to maximize his clout. Not so with Rhett. "This was Dick Darman's office, but I am not a Dick Darman person," Rhett says. "I told them when they told me I should take this job that I wasn't somebody quite as aggressive in asserting power and influence as that."

But Rhett has begun to yearn for the orderliness of the private sector. He will probably return to his law practice when Reagan's term ends next year. It is common for Washington careerists to float in and out of government, depending upon the political tides. "The attraction of government is that it's not boring. But you don't really have a chance to sit down and plan your own schedule," Rhett says. "Some days, I say, 'Gee, to go run a tennis camp in Vermont is my ambition.'"

For her part, Mimi still enjoys public policy. But who knows what the next administration will bring? "Career planning is really a waste of time in Washington. If you're doing things, then things happen to you," she says. "I think a lot will depend on the next administration. If it's a Democratic administration, I think we'll definitely be going into the private sector." She chuckles before adding, "Then all of our friends who are Democrats can say, 'We told you so.'"

During their recent White House lunch, an aide entered the office twice, the second time offering an official document to Rhett, who glanced at it and indicated his approval. The meal ended—both were dieting and ordered a salad—with a brief repartee perhaps unique to a two-career couple working in government.

"Are you treating?" Mimi asked, playfully.

"Yeah," Rhett replied immediately. But then he remembered the conversation about FCC rules on conflict-of-interest and picked up on the game.

"I can't buy you lunch, I don't think, under the rules?" he asked, mocking concern.

"You may be an interested party," she agreed, with a consenting laugh.

Ken Cooper, A.B. '77, is a Pulitzer Prize-winning journalist formerly with The Boston Globe. He is currently a national correspondent based in Washington, D.C., for the Knight-Ridder newspapers.
Family ties: Long hours and heavy work-loads require the Dawsons to perform a juggling act of career and family responsibilities. Married 11 years, they waited until Mimi's career was well-established before adopting daughter Elizabeth, age 3, with whom they share a moment of pure domestic pleasure.

"One of the things I tell young women," says Mimi, "is that you probably can have all you want in life. You just can't have it all at the same time."
Toward the future: The success of the ALLIANCE FOR WASHINGTON UNIVERSITY campaign, thanks to the generous efforts of so many dedicated University supporters, has far exceeded goals, allowing the University to continue to pursue its high sense of mission and a long-range vision well into the future. This issue contains a special report on the success of the ALLIANCE.

Above, a winter orchid blooms in the recently completed Plant Growth Facility. One of three new buildings completed as part of the ALLIANCE campaign, the Plant Growth Facility will allow Washington University biologists now and in the future to conduct advanced research in genetic engineering as part of the recently announced Center for Plant Science and Biotechnology.