1985

Washington University Magazine, Spring 1985

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Some time ago we learned about a conference between American and Chinese writers that was held in China this past fall. Our interest increased when we discovered that one of the participants was a faculty member at Washington University, William Gass.

Gass has been featured in *Washington University Magazine* on a number of occasions, and generally we make an attempt to be evenhanded in representing the work of faculty, but when the person in question is one of the world's most distinguished writers an editor may be forgiven for throwing policy to the winds. Gass on China.

All we could think was, "Wow!" We located him in the campus phone directory and punched the number with a trembling finger.

We were too late. Gass had already written a piece on his Chinese trip for another magazine and, understandably, did not relish the idea of doing the same job twice. What about journal entries, letters? Wasn't there anything we could publish?

Professor Gass told us regretfully that there was not. He wasn't much of a journal keeper, preferring to store impressions in mental form until needed. Except for photographs, of course. He had taken about 1,000 color slides.

We deliberated quickly: would Gass the photographer resemble Gass the writer? Would the images he recorded on film reflect the same philosophical depth and transcendent craftsmanship that critics have found in his prose? Surely the author of *Omensetter's Luck* and *On Being Blue* would not give us snapshots of Aunt Gertie with a pagoda growing out of her head. We asked Gass if we could take a look at the slides, and he graciously promised to bring them over.

He arrived with a full carousel under one arm. Up went the screen, down went the blinds, and the viewing commenced. What we saw more than fulfilled our hopes, for here were thoughtful, probing studies of pattern, color, and texture; views of Chinese life that quickened our senses and stirred our imaginations; telling details that brought a moment of cultural history into sudden focus. There was no question but that we wanted to publish these photos, and Gass generously told us to pick what we liked. We made our selections and began to plan a layout.

But no matter how we arranged the photos, something seemed missing. One picture is worth a thousand words, a remark that should have been doubly true in China, but there are words and words, and in our opinion those produced by Gass possess such value that we could not happily see their place usurped by any pictures, even his own.

So why not words to go with the pictures? Could we bring ourselves to ask? Part of being an editor is a talent for making outrageous demands. We asked. And, amazingly, the answer was yes.

And so in this issue of *WU Magazine*, we proudly present what may be William Gass' first published photo essay, accompanied by a fine essay in words on the blossoming of freedom and self-expression in present day China.

Thanks, Professor Gass, for your contribution. And to our readers: enjoy.
Openers/2
Phones of the future, a fashion dynamo, and a poet who punches cows; we hope our lead-off section will startle and enlighten you.

Ads and Alcohol/6
Does wine and beer advertising increase consumption?

China Through a Writer’s Eye/10
A distinguished writer’s visit to China in words and photos.

When a Parent Dies/18
Don’t shield your kids from reality if you’re a surviving spouse; a new study shows they may be able to handle it better than you can.

The Thief of Minds/22
Someday, doctors will be able to cure Alzheimer’s disease. But what they need now is more information.

Could This Be the End of Mr. Tooth Decay?/28
Kids of the future will be immunized against cavities.

K Street Exposé/30
What effect do Washington lobbyists have on the governing process?

The Case Against Secrecy/32
Can too much threaten national security?

On the Cover:
Alzheimer’s disease is slowly pilfering the minds of a million and a half Americans. WU’s Memory and Aging Project is closing in on the thief’s identity. Cover illustration by Richard Meyer.
Alvin J. and Ruth Siteman of St. Louis have made a donation to the Alliance for Washington University to endow a chair of marketing in the Business School.

The chair will be named in honor of Siteman's late father, Philip L. Siteman, founder of Site Oil Company and a graduate of the Engineering School of Washington University.

Alvin J. Siteman is president of the Siteman Organization, a real estate management and development company, and of Site Oil Co. and Flash Oil Corp. chains of gas station/convenience stores in the midwest and south. He also is vice chairman of Mark Twain Bancshares, Inc.

In his announcement of the gift, Chancellor Danforth said, "Al and Ruth Siteman have given much of themselves to making St. Louis and Washington University better, as did Al's father Phil. This magnificent commitment reflects their conviction that having a distinguished business school at the University will be an important asset to the St. Louis business community. It will allow us to attract a top scholar and teacher in marketing."

If you're a science fiction fan, the concept of total global communication is probably familiar to you. That's where television, telephone, and computer are combined in a single compact unit so you can chat face-to-face with anyone on the planet, access any database, or sit back and watch a Marx brothers film, all without moving from your anti-gravity recliner.

Thanks to a patented invention by WU professor of computer science Jonathan Turner, that dream may be well within the realm of possibility.

Turner has designed a communications system that achieves greater efficiency by fitting more into less. He has done it by making some improvements on an idea that has been around for a number of years—packet switching.

Packet switching is a technique of gathering digitalized information into blocks and zapping it through a wire whenever there is a free microsecond. Highly sophisticated switching devices detect when these gaps in transmission occur and instantly take advantage of them. It is a little like a rail-road system so automated that every mile of track is continuously utilized.

Compared to packet switching, a conventional phone hookup is like having vast stretches of empty track waiting for the passage of an occasional train. These under-utilized tracks correspond to the "dedicated path" of conventional phone communication which must remain open whether the callers are speaking or silent. Packet switching fills the silences.

Previously, however, packet switching was not suited to voice transmission because, at a speed of 50,000 bits per second, callers would have noticed lapses in their conversation while the switching device routed their words. But with Turner's system, which transmits about one and a half million bits per second using only 30 to 40 percent of the bandwidth, conversations can be carried without noticeable delay while the spaces between words are used to transmit data.

With the addition of fiber optics instead of conventional wires, the system can be expanded to include television. Welcome to the 21st century.

How long do we have to wait to be plugged into such a system? Turner, who developed his packet switching technology while working at AT&T Bell Laboratories in Murray Hill, New Jersey, says the technology already exists to bring it into being.

The only problem is cost. "The capital involved would be tremendous," he says. "But once the system is implemented, the cost per user would be reasonable, probably no more than ordinary phone service. It's probably inevitable one way or another, but whether it will be five years, 10 years, or 20 years is hard to guess at."
Mrs. Danforth Honored

This year the Woman’s Club of Washington University celebrated its 75th anniversary. A gala dinner auction took place on March 16 in the new Field House, featuring dinner, dancing, and a silent auction to raise money for a new Wednesday morning lecture series sponsored by the Woman’s Club. But the event that generated the most warmth and enthusiasm was the honoring of Elizabeth Danforth, wife of Chancellor William H. Danforth, for her 20 years of service to the Woman’s Club and to the University.

Dina Feldman, president of the Woman’s Club, calls Mrs. Danforth “a very gracious, caring person who is a real friend to all of our members. How she manages to keep track of everyone is absolutely incredible, but she does.”

Marcia Bernstein, a Woman’s Club president emeritus, refers to Mrs. Danforth as “the first lady of the University,” and says that the public recognition given to her on March 16 is an honor that was long overdue. “It’s always been a source of wonder to me that with her incredibly busy schedule she still has time to do all the things she does. She hosts our annual coffee for newcomers, she opens her home for functions, she’s there greeting students at freshman orientation, she participates in homecoming, she’s at every football game, and she’s always available to the Woman’s Club.”

At the gala, a series of speakers representing different aspects of the University community took turns praising Mrs. Danforth. Hadley Griffin represented the Board of Trustees. Provost Ralph Morrow spoke on behalf of the administration. Kitty Drescher, a close friend of the honoree, spoke for the community, and Chancellor Danforth spoke as a member of Mrs. Danforth’s family.

Salamon To Head AAC

Linda B. Salamon, dean of the College of Arts and Sciences at Washington University, will become chair of the Association of American Colleges in 1986. Her ascendency to the top post in AAC will follow a year’s term as vice chair and chair-elect, to which she was elected earlier this month at the organization’s 71st annual meeting in Washington, D.C.

Salamon was instrumental in AAC’s three-year effort to propose solutions designed to return integrity to undergraduate curriculums at American colleges and universities. She was one of three AAC leaders who explained the project and its findings at a press conference held in Washington, D.C., on February 11, the first day of AAC’s annual meeting.

The report, titled “Integrity in the College Curriculum,” says curriculums have become so diverse that bachelor’s degrees have lost their value. It recommends that schools concentrate on developing opportunities for basic intellectual experiences available to both liberal arts and professional program students.

Washington University’s undergraduate curriculum already includes some of the “experiences” suggested by the AAC report. Among them is the emphasis on multi-cultural studies, particularly in foreign languages.

Salamon’s AAC board membership and participation on the baccalaureate degree committee led to Washington University’s involvement as one of eleven institutions whose self-assessments formed the report and its recommendations.

The AAC is the only national organization which promotes liberal learning at U.S. colleges and universities. Its 560 members include public and private universities, four-year colleges, and community colleges.

Salamon hopes the AAC report “will be taken as a benchmark. We’re providing a comprehensive description of experiences that every undergraduate ought to have if college teachers are doing their job. We’re emphasizing concern for undergraduate teaching as genuine communication with students, assuring that they engage the intellectual challenges and capacities we think they should have.”
Fresh Ideas for Fashion

There is probably no more powerful motivation for change than the simple question, "Why not?" It is a question Henry Swartz, the new head of the fashion design area of the School of Fine Arts, finds himself asking quite frequently. "I'll try anything once," he says. "That's part of the creative beast in people in the fine arts."

It also comes from a secure ego. "One time I wore a purple shirt, yellow and purple tie, and yellow silk sports coat to a business meeting where everyone else was in blue and gray pin-striped suits," he says. "At first I was self-conscious, then I decided to enjoy being the center of attention."

He says that his childlike curiosity and zest for new experiences may also reflect "the Peter Pan attitude of not wanting to grow up or old." As a father of three, he is constantly inspired to view life creatively, without conventional assumptions: "One time one of my daughters came home from kindergarten with a picture she had painted of a girl with a blue-colored face. The teacher had marked the picture with a frowning face and I wanted to go up to the school with my face painted blue and ask the teacher what was wrong with a blue face!"

The associate professor of art came to St. Louis from Dallas, Texas, the third largest fashion center in the country, where he taught at North Texas State University in October with Swartz and saw two museums, two fashion shows at the market, and several apparel factories.

- That same month, Swartz asked his elective students (freshmen and sophomores) to buy six pairs of men's boxers shorts and create new garments from them. The results ranged from sun dresses to kimono robes.
- The students just about died when I gave them the assignment," Swartz told St. Louis Globe-Democrat fashion editor Lucyann Boston. "But then they began to see the possibilities." Why not?
- In early February, he called the producer of the nationally-syndicated "Sally Jessy Raphael" morning talk show, which is taped in St. Louis, to invite Ms. Raphael to help judge the spring fashion show. Because the host jets between New York and St. Louis every week, she would not have been in town for the judging. However, a few weeks later, another producer called to say that Coty-Award-winning designer Alexander Julian would be taping a fashion show with Ms. Raphael on President's Day and invited Swartz and his students to the studio to help dress the models. When Ms. Raphael met the students, she said she would like to use them for a fashion show or design competition on her half-hour show. Why not?
- As for the annual spring fashion show, which will be featured at 6 and 8 p.m. Thursday, April 25, in Bixby Gallery, Swartz has not made any major changes this year, but already is gearing up for a larger, more extravagant show at a local hotel in 1986. He wants the show to be a major annual event which the public will look forward to. "My goal is to have the best possible showcase for the students' work," he says. And why not?

Engineering Index Centennial

In 1883 a young man from Ohio named John Butler Johnson came to Washington University to take a position as professor of civil engineering. It was his first teaching job, and he felt a certain amount of insecurity about his ability to acquaint students with the latest engineering developments. His greatest failing, he believed, was that he lacked a systematic knowledge of engineering literature.

Here, at least, was an inadequacy that he could take concrete steps to remedy. Little did Butler realize that the work he began simply to make himself a more effective teacher would, in the space of 100 years, evolve into an institution on which engineers throughout the world would come to depend.

Johnson began compiling notations and abstracts to bring some kind of order to what he saw as a random and appallingly unscientific method of collecting engineering periodical literature. The guiding ideas behind his index were: 1. to index only
New Writers’ Program
Director

Poet Diane Ackerman has been named director of the Washington University Writers’ Program by the Department of English faculty. Ackerman, who also holds the appointment of writer-in-residence, was a visiting writer at the University last spring.

“Washington University has a wonderful constellation of writers,” says Ackerman. “I’m delighted to be joining such a distinguished group.”

Ackerman is the author of three books of poems: Lady Faustus (1983), Wife of Light (1978), and The Planets: A Cosmic Pastoral (1976). Her experiences working as a cowhand on a cattle ranch in New Mexico are reflected in a prose memoir, titled Twilight of the Tenderfoot (1980).

Two new works, On Extended Wings, nonfiction prose based on her airplane piloting experiences, and Reverse Thunder, an historical play centered on the life of Sor Juana Ines de la Cruz, a 17th-century nun, natural scientist, and poet, will be published in late spring and fall of 1985, respectively.

“Sor Juana was an extraordinary woman who had the bad fortune to live in an era that demanded that its women be ordinary,” says Ackerman, who discovered the historical personage in an anthology of Mexican poetry translated by Samuel Beckett. “I admire her poetry enormously, but I also was stunned by all of the commotion and controversy in her life,” she says.

Ackerman was assistant professor of English at the University of Pittsburgh from 1980 to 1983. She was a visiting writer at Cooper Union last fall, and has taught at Ohio University and the College of William and Mary. She received a doctorate in English at Cornell University, where she also earned a master’s degree in English and a master’s of fine arts in creative writing.

A Rockefeller Graduate Fellow in Humanities, Science, and Technology, Ackerman is the recipient of numerous awards and prizes, including the Pushcart Prize VIII: Best of the Small Presses, in 1984. She was associate editor of Epoch magazine from 1971 to 1977 and has served on numerous advisory boards and literary panels.

AMPHIBIANS

All season we’ve tried to keep frogs from diving deeper into the chlorine-laced pool. We run, skimmers twitching, to scoop them out; but no use. Three frogs dead in the filter again today. Weightless things, water-pithed, their limbs cast open (wider than in fieldlife), each muscle lax as a broken shade. Wan eyes hug shut, as if in light contemplation. And out of sight, beneath the limp, leathery skin, a genetic code mixes like alphabet soup, each tiny ladder split rungless now for this final climb down to earth.

Is there a connection between broadcast advertising of alcohol and abusive drinking?

The beer and wine producers who spent $750 million last year to advertise their wares on radio and television clearly count on the advertisement-consumption link. The big advertising houses that prize those lucrative accounts aren’t trying to change producers’ minds. Certainly the networks that sell the air time are happy to have the millions in revenue.

A coalition of consumer groups—including the National PTA—believes the connection extends to abusive drinking, and that years of viewing broadcast ads socializes youth to believe that ours is a drinking society. They want broadcast advertisements of beer and wine banned, or equal time for counteradvertising. Spurred on by the Center for Science in the Public Interest, which is heading Project SMART (Stop Marketing Alcohol on Radio and Television), they’ve succeeded in thrusting the issue into the federal public policy arena. SMART hopes to collect one million signatures for a petition it will present to Congress. The House Telecommunications Subcommittee plans spring hearings on whether such advertisements encourage consumption and abuse, particularly by teens and young adults. The Senate Subcommittee on Alcohol and Drug Abuse conducted a hearing in February. Meantime, the anti-ban group warns of First Amendment infringements. Clearly, both sides have dug in for a long fight.

Included in the Senate subcommittee hearing record are results of a survey conducted by Donald E. Strickland, a sociologist at Washington University. Co-principal investigator on the largest study ever conducted on alcohol advertising’s effect on individual consumption and problem drinking, Strickland says his research shows that such advertising increases consumption less than one percent. Instead, he says, all those mil-

Do TV and radio ads increase alcohol consumption?
lions of advertising dollars primarily affect market share. In other words, advertisements affect the number of beer drinkers who decide to "taste the high country" as opposed to spending their weekends sipping a competing brand. The stakes are high—beer industry analysts have shown that a one percent shift in market share can boost a brand's revenues by $380 million.

Based on his own four-year study of 1,650 teenagers—and his familiarity with virtually every other relevant scientific inquiry—Strickland says: "There is simply little evidence to support the notion that alcohol advertising affects levels of consumption and—more important—problem drinking associated with excessive consumption."

Strickland's study involved St. Louis students, in grades 7, 9, and 11, their parents, and older siblings—a total of 1,000 families. The questionnaires, which differed for each target group, focused on a number of factors known or presumed associated with alcohol use and abuse.

Strickland studied alcohol use patterns, including alcohol abuse and frequency and quantity of consumption; exposure to televised alcohol advertising; family communications with respect to drinking; parental and peer drinking patterns and attitudes; and social-psychological aspects of the children, such as self-esteem.

Strickland says the study showed parents' and peers' attitudes and behavior regarding alcohol have far more influence on teen drinking behavior than TV advertising of alcohol products. Given that finding, Strickland says educational and peer activity programs like Students Against Driving Drunk—with an emphasis on peer and parent involve-
drink; you don't need television to tell. Dishes, or that you brush your teeth more. Detergents, the more often you wash your shares. The tactic is similar to advertise and product preference seems to be the economists have failed to find that ex­

consumption, but shifting the market con­

sumption in the United States, Brit­

ties for advertising have much

impact on per capita or aggregate alcohol consumption in the United States, Britain, Australia, and Canada. The Addic­

tions Research Foundation in Toronto studied partial advertising bans in two Canadian provinces and found no effect on alcohol consumption.

Many groups are opposed specifically to the use of sports figures and other famous personalities in alcohol advertis­

ing because they are strong role models for children. “There is a theoretical reason for us to suspect that these models can have an influence that’s greater than other kinds of advertising,” Strickland says, “but we do not have scientific evidence to back that assumption.”

For now, however, Strickland says, efforts to control the content of the ads are also shortsighted. “We literally are wasting a great deal of money and effort thinking that we’re really going to make a dent in alcohol problems of teenagers either by tinkering at the margins of advertising by controlling its content or by banning it. I think that’s simply a wrong-headed approach.”

Strickland’s study was funded largely through the U.S. Brewers Association, although he also received government and non-profit support. The sociologist answers criticism that industry funding implies a bias in his findings by pointing to the fact that of the 10 to 15 papers pub­

lished from the research, most have been subjected to rigorous peer review and none

has been rejected as biased. He also notes that strength of evidence is never derived from just one study. Moreover, his results are consistent with results of research asking the same questions, but carried out in different disciplines, using very differ­

tent methods and supported by a variety of funding sources.

Strickland’s study—and those of other social scientists whose research points to the same conclusions—can be useful as the debate over banning alcohol ads continues. But whether the resolution of such public policy issues will be in­

fluenced by objective studies—par­

cularly as a wave of prohibitionist senti­

ment gathers force across America—remains to be seen.

PROHIBITION, 80’s—STYLE

Is America headed for another bout with Prohibition? It seems unlikely that bootleggers and speakeasies will abound in the last decades of the 20th century, yet there are signs that booze is sliding toward a nadir of popularity.

The Prohibition movement, which culminated in the 18th Amendment in 1919, was largely a product of religious reformism. It attacked alcohol as a moral evil, a threat to the values of home, family, and community.

Today’s prohibition movement, by contrast, is inspired more by concerns of health and safety than by religious considerations, but the results may be similar.

The fitness craze has undoubtedly contributed to alcohol’s drop in popularity. More and more of us are rejecting the cocktail hour and the three-martini lunch in favor of lighter alcoholic beverages or none at all.

Sales of distilled spirits have dropped more than eleven percent since the mid-1970s while those of soft drinks and low-alcohol products like wine coolers have risen dramatically.

Meanwhile, groups such as Mothers Against Drunk Driving (MADD) have succeeded in pressuring many states into raising their legal drinking age to 21 as well as beefing up drunk driving laws. The federal government has gotten into the act as well, imposing massive excise tax increases.

True, no one is seriously suggesting that alcohol once again be made illegal, but there does seem to be a trend toward making alcohol more expensive, harder to get, and less socially acceptable. Certainly, when the question of whether beer and wine ads should be banned from radio and television finally comes to be decided by the federal legislature, the current anti-alcohol trend is sure to have some effect on the way our representatives will cast their votes.
Last fall David May Distinguished Professor William Gass travelled to China to participate in a conference of American and Chinese writers. Here is what he saw, in words and photographs.

We went out to the Wall. Everybody does, the Chinese particularly, because they can travel around their own country now. During the Cultural Revolution a regiment stationed near this sacred (one would think) wonder of the world, tore a section down to build its barracks. That same regiment, I was told, is presently putting all the stones back. Temples which were desecrated by the Red Guard have been, or are being, restored. In Guangzhou, the French and Victorian dress in the garments of gods and made of it a European enclave are being rescued from the slums they had become and given back their grandeur. The great gardens of Suzhou and Hangzhou are green again, and lovely despite their crowds of visitors. One can still turn a corner in them and disappear. While looking innocently through an oddly shaped doorway, the self may simply slide away. The stones in the paths and walls around one turn into Time itself to slow down its ticking, while the sun, symbol of the day, seems to seep across the stones and slabs as though it were moisture becoming moss. Perhaps one sees it most completely in the faded but complex hues of the temple tiles. How long have these faces been turned to the skies? Here is a history as vast and troubled and triumphant as any in the world contained in the colors of a simple roof.

At the opera, singers and dancers dress in the garments of gods and emperors. The old stories are back, along with the traditional skills they demand. A man in a long gown and a tall headdress, wearing a mask and waving a sword, can still keep his hat on and his gown from tripping him while doing a somersault. In Beijing, the bakers are recreating the ancient court cakes and cookies of kings. Mao’s picture is no longer everywhere; it is nowhere at all. The billboards and posters, which once called for unity and sacrifice, although they do ask couples to be satisfied with a single child, now also utter a traditional New Year’s wish of the Chinese: Get Rich! People are drifting back to the countryside now that the farmers (provided a quota of staples is met) can plant pretty much what they wish, market their produce as they see fit, and pocket the profits. The newspapers carry approving reports of peasants who have spent their new monies on small houses, cameras, and Sonys. The frugality of the Chinese — a virtue for a long time so needful — does not go well with the new mood.

It is spring in China. Shops dot the streets like dandelions. They weren’t there yesterday. And new ones will arrive tomorrow, licensed or not. What Napoleon said so scornfully of the English, is, for the Chinese, a happy prediction: it will become a nation of shopkeepers.

The Chinese embrace change, for they know that the illusion lovers lie with is always the same. The blue uniforms of the masses (actually quite sensible, comfortable, attractive clothing tailored with an eye to subtle social differences) are being replaced, as they wear beyond repairing, by brighter, more obviously individualized, Western garb. The writers with whom I went to China: we warned the Chinese writers of ourselves, and what we represented; we wagged many a finger at them; but they were not alarmed by the foreign devils any longer; that hatred had been hung out of sight like a pistol in its holster — not fit for the front room. Maxim’s has opened a branch in Beijing, we said. Yes, wasn’t that nice, they calmly replied. Fast food chains are moving in, along with computer firms, soft drinks, T-shirts which say WISCONSIN or show the silhouette of a rampaging hog. Foreign experts of all kinds have been invited, including the once hated Japanese. Above all: capital. Jesus. To build the Great Wall Hotel. So that a visitor to Beijing can feel at home in Atlanta. Jesus again. Actually Jesus is more in evidence than Mao or even Marx. The Russian Orthodox Church in Shanghai is back in business. The Buddhist temples in Beijing are busy. Monasteries are being restored ... for the sake of the tourists — who else? Meanwhile the Chinese are considering ways of becoming a cupcake king for US kids.

Like signs of malignancy, discos are appearing in many hotels, even ones as far away in the world as the one I lay awake in in Guilin, cursing the din which we in the West had, in effect, brought with us to the essentially quiet land. The hotels are filled with businessmen and Gray Hair Tours, so it must be the Chinese who dance in the rackety lights, in the garish blare, and whose delighted giggles can be heard to the left of the rapper or crooner ascending like a lark. The Chinese have an unhappy fondness for kitsch, and Chinese kitsch (which Hong Kong has several hundred surfeits of) is probably the worst in the world; but they do not understand, yet, what happens to a society when its people no longer create their own culture, but only consume it (although it may seem grand like having a cook in the kitchen); what happens when its people purchase their own faces.

A monk at work within the compound of a Buddhist temple in Suzhou.
personalities, and watch lies with drugged eyes every evening; when lovers make love the same relentlessly fashionable way they jog, because it is healthier for you than not to do so, and because they want their lives to be as long as a hotel corridor, even if, like those same corridors at three A.M., they are suicidally silent and empty. The entrepreneurs of the West look at China and see a billion people awaiting the coming of The Three Stooges, Big Mac, and Leave It to Beaver; they see a billion people eager to bag their brains in celluloid like everybody else; while the Chinese believe they can eat such cake and not have it too.

China felt full. And not merely of Folk, although a bus would seem to be bursting with elbows (once in, one felt, never out), and the streets of some cities were jammed with pedestrians and cyclists to such a degree we wondered how a wheel turned or a foot fell without falling on another foot or colliding with another wheel. There is always the risk of romance. The traveler sees mostly negatives at first (the positives of his pictures come later): less crime, no filth, healthy busy people, an order imposed by the purposes of work, the gift of silence and space given by the absent

(above) A sidewalk cobbler makes on-the-spot repairs. (left) These plastic dolls are popular, perhaps because of the State's limit of one baby per family, at least until further notice. (below) Shadows of the author and his wife fall across drying rice.

(right) Laundry is hung from poles and flown like flags from second story windows.
motor car — and what a gift that is! China is a grateful haven in history. And
unless you have gone to bed in a Soviet built hotel where every room resembles a
dungeon, you can let the music of the bicycle bell persuade you that you have
awakened in paradise.

Cleanliness and order are neighbors of necessity, however, for every spare piece
of paper, wood, or plastic finds another
use, and then another. China is a country
where no dogs foul the street. They
cannot afford to feed them. And the
absence of the dog is almost as liberating
as the absence of the car. They age their
own dung to fertilize their fields, and
since proper ripening reduces the risks
we worry about in the West, their
methods are probably safer than the
chemicals we use. As in Portugal,
another poor country, the weeds and
grasses that grow along any roadway are
harvested for their farm animals. The
country is mountainous, the cities huge,
and so tillable land is tended to the last
inch, and where water for the fields
collects, ducks also await their destiny.

An old man sits in a sunny Shanghai
doorway and slices slivers he will sand
into chopsticks and lacquer a rich red;
another repairs shoes while his customer
waits like a waterbird on one leg;
furniture is hauled out for an airing on a
clear day, and wash fills the street with
its peaceful flags. Men, girls, boys,
hunker back on their heels to read books
and magazines around a public rack; at a
cardtable covered with smoking glasses
of tea, a woman waits on you, but knits;
a chicken is plucked, the feathers
bagged; rice is spread out to dry like
gold upon the ground; there are
newspapers covered with silver fish,
pies of cabbage, mulberries upon which
butterflies light; there are cages of birds,
locusts, monkey meat, all kinds of fowl,
all sorts of winged things, and tables
thickly layered with dried bats. I did
miss the acrid smell of grasshoppers
which I remember hanging in fried
strings like firecrackers along the
Shanghai streets I visited 40 years
before. The food market in Guangzhou is
truly another wonder of the world, fully
as exhilarating as the Wall, equally
crowded, but so clamorously sensual,
since the eye lights on everything like a
fly, you leave unsteadily, as though drunk
and honey-legged, also like the fly.

Life is lived in plain sight; objects
have dignity when their need is fully
recognized and they are irreplaceable;
repairs become history and history has a
use. The human back is busy and bears
everything the bicycle doesn't. Here and
there a horse hauls what grandmother
can't. And as you click your camera to
carry away its shallow images of things
and no one flinches from it or begs you
for change but perseveres in dignity and
patience, you are inclined simply to lie
down in your illusions and there dream
of better, simpler, less alien, more
dedicated times.

Nevertheless, all warnings duly made
and noted, China feels full — full of a
sense of renewal, full of friendship, of
freedom. The ardent as well as arduous
efforts of the Communist revolution have
knitted the country together. This
sweater has, perhaps, a few holes made
of wear and tear, a few ravelings at the
ends of its ample sleeves, but this
unification is real, and an immense,
amost unbelievable achievement. Maybe
now all that anger against the world
(most of it justified) which China turned
so desperately against itself during the
Cultural Revolution, has been discharged
without further fatality, and a final period
put to its mortification from any source.

Certainly the writers whom our
delegation met in China, despite the
suffering they almost all underwent
during "the rampage of the Red Guard,"
seem less resentful of their government
and more at peace with their people,
content to be Chinese, than the
Americans who, though they have their
locales and constituencies, among
minorities mostly, have never been more
like uncomfortable aliens, awkward
strangers in a familiar land. I remember
coming home from college for the first
time after having been away for only a
few months to find I hadn't any home. It
wasn't that I realized that I had changed,
but rather that I had been homeless all
along. If that is true, and somewhat the
feeling, then American writers may at
least be becoming dangerous, while the
Chinese writer, let back into the country
after having been sent away inside it, is
becoming honestly valuable again. One
can only hope they will regain their great
tradition and make it come alive in the
coming century — the century which
fate seems to have promised them.

There is a wall within the compound
which comprises the Temple of Heaven
in Beijing. It is quite long and encircles
a building called, like an oriental
restaurant, the Imperial Vault of Heaven.
One might guess that the dome is
decorated, and it is, gloriously, but not
so grandly as the Hall of Prayer for Good
Harvests. We did not dare omit such a
wall or these skies either. In this place
two speakers, a full diameter apart, can
lean against the curving surface of the
wall and, talking in a normal tone, hear
one another. Speak and your own voice
will return, as from a Magellan-like
journey; and I felt that China itself was
resting against that wall, ear to the old
stones, listening to its voice return from
far away, soliciting wise advise for its
present journey.

William Gass is the author of many highly
acclaimed works, including Omensetter's
Luck, In the Heart of the Heart of the
Country, Willie Master's Lonesome Wife,
Fiction and the Figures of Life, On Being
Blue, The World Within the Word, and
Habitations of the Word.
According to a new study, children show unexpected resiliency in dealing with a parent's death. The one who really needs help is the surviving spouse.

What do children feel when a parent dies? Certainly they feel bad, but how bad? How long should it take for the bad feeling to go away? What do they need to get over it?

These seem like straightforward questions, but they have not been easy to answer, perhaps because those who must grapple with them most urgently are those with the least objectivity—the adult survivors. The grief of losing a loved partner can be massive and prolonged. While staggering from the death of a spouse, a person may not be capable of judging how the same loss might be affecting the children. Children, meanwhile, may be unable or unwilling to verbalize their feelings, or, if they do express themselves, the parent may be incapable of listening to them.

Sometimes a parent, out of desire to shield the child from the terrible impact of loss, may even lie or try to paint a pain-free, idealized picture: Mommy's gone away on a long trip; Daddy's up in heaven. Having to maintain that cheery front places an even greater burden on the survivor.

Now a study has been done that sheds much needed clinical light on this painful, problematic situation. Michele Van Eerdewegh, M.D., an assistant professor in psychiatry at the Washington University School of Medicine, recently completed two studies on the short term effects of a parent's death on young to adolescent children. "Although they are saddened by the parent's death," Van Eerdewegh says, "children suffer less than the widow or widower. The child adapts better to death, and the intensity of the reaction is generally a lot less than..."
that of the surviving parent." Difficulties for the child occur when the surviving parent makes extraordinary demands or is seriously depressed.

Children cope better with the loss because they don't have to shoulder so much responsibility. The surviving parent must take on the additional functions of his or her partner and, in most cases, make sweeping readjustments in lifestyle as well. Children, especially young children, are not expected to contribute significantly toward keeping the family afloat.

The greatest stress, Van Eerdewegh says, is rooted in finance: a family used to living on two incomes now has only one; a widow (in the majority of cases the surviving spouse is female) often with little or no work experience must now become the sole breadwinner. According to Parents without Partners, a national support organization for single parents, the median income for single-parent families headed by women is less than $9,000 per year. Thus, many newly widowed people must not only face the powerful and unsettling emotional experience of being left behind; they must also deal with the shock of moving abruptly from the middle class to near or below the poverty level.

In contrast with the surviving parent's grief, which is usually compounded by the additional burdens of day-to-day survival, Van Eerdewegh and her associates found that the immediate reaction of a child to the death of a parent is usually mild and short-lived. The child might suffer from a mild sadness lasting a month or two, with some lingering symptoms for up to one year. There will be some regret and guilt—very young children may fear that their behavior was the reason for the death.

An older child may feel guilt about not having been a better son or daughter.

Other responses might include increased anger, irritability, difficulty in sleeping, or a change in appetite. Many children become withdrawn.

Van Eerdewegh's study showed a problem with bedwetting by girls between six and 12 who had lost a parent. In the bereaved group, 17 percent had difficulty with bedwetting, compared with none in the control group.

Perhaps the most significant response to a parent's death is a noticeable drop in school performance, Van Eerdewegh says. "What's going on in school is a very good barometer of what's going on inside the child." But all of these responses are normal grief reactions and should diminish as the child works through the grief process.

Among the 105 bereaved children in Van Eerdewegh's initial study, only six suffered from severe depression, and most were adolescents. Focusing on these six severely depressed children, Van Eerdewegh discovered what may be a significant correlation. The parents of five out of the six children were severely depressed as well. Van Eerdewegh distinguishes between this mutual depression and a simple grief reaction. Although depression is a normal part of the grief process, it is usually not as severe or prolonged as the kind of depression that psychiatrists classify and treat as mental illness. The evidence from several epidemiologic studies on depression in children seems to support this finding of increased morbidity in parents of children with an affective disorder, particularly if the parent is a mother. A "contagion" effect as well as genetic vulnerability might be operating simultaneously in triggering major depression in the children.

"Children probably have differential responses according to their developmental age," says Van Eerdewegh. "The older the child is, the more likely he or she is to show a reaction similar to an adult reaction."

What can a parent do to keep feelings of grief and loss from getting out of hand and settling into the intractable syndrome of depression? Van Eerdewegh finds that the key factor is the tendency of some parents to depend too much on a child emotionally, to make the child a confidant, a counselor, or to burden the child with too much adult responsibility.

Such parents are most likely to place those burdens on children of the opposite sex. Fathers, for example, may expect a young daughter to assume the same housework and childcare responsibilities that were formerly those of the wife.

If parents take appropriate steps to cope with their own grief, then perhaps they will gain the emotional balance necessary to relate to what their children are feeling.
Surviving mothers often make comparable demands on their sons.

Lack of regard for the child’s natural limitations may cause psychological harm in the years to come, Van Eerdewegh says. “An overly demanding parent could cause the child to become compulsively responsible or, to the other extreme, totally irresponsible later in life.”

Moreover, these children face the psychological problems that result from not having a parent of their own sex. “You need a person of your own sex to show you the normal roles expected of your sex,” Van Eerdewegh says. She suggests that the surviving spouse try to find a substitute for the missing parent, such as a member of the child’s extended family—an uncle or aunt, perhaps. If the child needs professional counseling, she recommends choosing a therapist who is the same sex as the child.

But most important, the surviving parent should remember that he or she is the one undergoing the most severe stress and consequently is the one most in need of help. Too often, Van Eerdewegh says, grieving parents don’t seek help from psychiatrists, therapists, or support groups. “Since death is a natural event, most adults assume they should know how to cope,” she says. They should remind themselves that while death is natural, it is not trivial, and to an extent the assistance offered by the human services professions comes as a modern substitute for the family and community support networks that could be mobilized in traditional society.

If parents take appropriate steps to cope with their own grief, then perhaps they will gain the emotional balance necessary to relate to what their children are feeling. This is important too, Van Eerdewegh says. “Very often parents are grieving so much that they might not be aware that the children are experiencing grief too, even though it doesn’t show itself as dramatically as in the adult.”

*Joseph Schuster is a freelance writer and associate editor of St. Louis Magazine*
THE THIEF OF MINDS

by Ken Gewertz

There is no illness quite like Alzheimer's disease. Other afflictions may torture our bodies, sap our strength, wreck the equilibrium of our delicate regulatory systems, rob us of our senses, sabotage the connection between our muscles and our will, or terrorize our tissues with fevers and dehydration. They may even exhaust us emotionally and spiritually. Not everyone rises above his misfortunes. Mind and body are integrally related, inseparable for all practical purposes. But the connection implies hope as much as it does despair. Love and laughter may banish pain just as pain may banish love and laughter. There is mind over matter as well as matter over mind.

But Alzheimer's is different. Here it is the mind itself that is under attack. The disease begins by blunting the very weapons that are indispensable for doing battle with misfortune: memory that allows us to recall who we are and what remains to be valued, wit that helps us put our troubles in perspective, and understanding that allows us to maintain our hold on faith. But this blunting is just for starters. As the disease progresses, the mental apparatus breaks down more and more completely, until, in the end, the personality itself is all but obliterated.

And yet the disease bestows compensation of a sort, for by destroying the
faculties that help us gird ourselves against suffering it also destroys our capacity to experience that suffering. After an initial period when he can still grasp the fact that his mental resources are being eroded, the victim of Alzheimer’s ceases to be a victim. As he loses his grip on those mental acquisitions that made him the person he was, he lapses progressively into a childlike bewilderment, and the true sufferers become those for whom he was once much more.

Alzheimer’s disease existed long before the turn-of-the-century German doctor who gave it its present name. We recognize the symptoms in many a description of advanced senility going back to ancient times. What Alois Alzheimer did was to identify a pathology, a physiological deviation associated with the behavioral abnormalities. He published an article in 1907 describing his experiences with a woman of her brain had become deformed in a way with these neurological abnormalities.

He published an article in 1907 describing his experiences with a woman patient in her 50s who had been under his care. Her illness was characterized by progressive forgetfulness, deterioration of her ability to take care of herself, and by occasional fits of irrational jealousy and suspicion. After she died, Alzheimer performed an autopsy and discovered that many of the nerve cells in the cortex of her brain had become deformed in a characteristic manner. He hypothesized that her strange behavior and waning mental capacity were connected in some way with these neurological abnormalities.

The strange thing is that in a century of medical breakthroughs, Alzheimer’s 1907 monograph still represents the clearest description of the recognizable hallmarks of the disease. Alzheimer’s disease is classified as a degenerative disorder, which means, essentially, that the body is progressively breaking down in some way and that we do not understand why.

There are diseases that used to be categorized as degenerative but which, as a result of research, have been reclassified. Wilson’s disease, for example, characterized by deterioration of the brain and liver, has been found to be the result of copper intoxication caused by an enzyme deficiency. Kuru, a paralyzing neurological disorder of certain New Guinea tribes, is now understood to be spread by a slow-acting infectious agent. Will Alzheimer’s disease join the ranks of these other illnesses that have been transformed from puzzling mysteries into manageable maladies?

Unquestionably, the cause or causes are there to be found, but there will be little progress unless our woefully inadequate knowledge of the illness is considerably enlarged. It is toward this goal that the Memory and Aging Project at the Washington University School of Medicine was brought into being.

The project is now in its fifth year and has recently received a grant from the National Institute on Aging which will allow it to continue for five more. It has also recently become a program project, which means that it now comprises several different research efforts. The investigators hope that in the near future the project will gain additional funding which will enable it to become a center for Alzheimer’s disease studies.

The project is not directly engaged at present in finding a cure for the disease. First, says program director Leonard Berg, M.D., “We’re aiming for a better understanding of the clinical picture of Alzheimer’s disease over time. We’re conducting a longitudinal study, seeing at what rate patients with the disorder change, and what are their prominent manifestations as the disease goes on.” If the WU Medical Center is designated as an Alzheimer’s disease research center, it will join with other centers in the long task of research that may lead eventually to finding the cause and cure.

The project began in 1979 with a group of about 120 subjects, half of them impaired and half healthy elderly. Approximately 90 continue in the research and return yearly for a series of tests that include a brain wave test or EEG, a CT scan to measure brain shrinkage, a physical examination, a standardized test to measure performance on activities of daily living, and a battery of psychometric examinations designed specifically to measure memory loss. A small number of subjects are also being tested with positron emission tomography to measure brain metabolic activity. All of these test results are being compared with the responses of healthy elderly subjects.

The project’s chief aim, as Berg describes it, is to compile a natural history of Alzheimer’s disease. There are several reasons why this is an indispensable step in the search for a cure. “For instance,” Berg explains, “if some truly promising treatment comes along, and we want to know whether it really does any good, we need quantitative data on what the clinical picture without treatment looks like to know whether or not the progression of the disease has really been halted.”

Another result of the longitudinal approach is that it has enabled Berg and his colleagues to make a positive diagnosis of senile dementia at a much earlier stage than was previously possible. Strictly speaking, Alzheimer’s disease can be diagnosed with absolute certainty only upon autopsy, when the characteristic neurofibrillary tangles are found in the brain. Before this, the disease is properly referred to as senile dementia of the Alzheimer’s type (SDAT). But as a result of data compiled by the Memory and Aging Project, a reasonably confident clinical diagnosis can now be made early on by means of a carefully taken history and an examination by a clinician. Additional data are obtained by psychometric testing. “We were able to show that in the mildly affected population there was a significant difference in performance on the psychometric battery between those mildly affected people and healthy, elderly controls,” Berg says.

This discovery is significant for a number of reasons. First, it allows physicians to more easily identify those pa-
tients whose symptoms of mental deterioration are caused by something other than Alzheimer's disease. There are a number of conditions that can mimic Alzheimer's, and several of these are reversible. Second, the pattern of psychometric test results has a bearing on one persistent theory about the disease, namely that it is an accelerated form of normal aging. The differences between the test results of the SDAT patients and those of the control group provide fur-

memory tests that supplement the clinical assessment of the disorder. “My testing points out to these people what they still can do, and that's a very positive thing for them. They’re very grateful for that,” LaBarge says.

Psychological testing, as LaBarge explains it, is hardly the cold, impersonal process one might imagine. Particularly with subjects whose condition can produce feelings of confusion and frustration, a sense of tact and empathy is indispensable. “It’s very embarrassing to lose your memory,” LaBarge says. “People react in many different ways. They have feelings of loss, first of all, for something that’s a very valuable part of themselves, and they grieve that loss when they realize it’s happening. They may be frightened because they think they’re losing their minds. Some of them react in anger. Some feel very guilty because they have to be dependent on somebody. If they’ve been the mainstay of the household, they’ll wonder who’s going to take care of their spouse. Physically, they don’t change very much at first, and caregivers may think the person with Alzheimer’s is just fooling them. They don’t realize what the process is until they’ve caught on that this is a disease. Then they’re the ones who really feel guilty.”

LaBarge says that her battery of tests can distinguish between the demented and non-demented with 98 percent accuracy. She is now working on determining the particular deficits for each individual. “Alzheimer’s disease,” she explains, “is a process first of losing categories of memory. Frequently, they can still comprehend, but they can’t depend on their memory to remind them what they’re going to do in the next few minutes or what just happened a few minutes ago.” Usually, she explains, short-term memory is the first to go, followed by the ability to execute learned tasks like driving or writing. Long-term memory and awareness of non-verbal information survive longest.

LaBarge’s office shelves are crammed with dozens of miniatures—a plastic bed, a broom, a saw, a boat, a car. They are part of the Boston Naming Test, one of the standard psychological exams selected by Martha Storandt and Jack Botwinick of the WU psychology department to be employed in the Memory and Aging Project. LaBarge uses them to learn which categories of memory have been affected by the disease.

Inability to understand or produce language, for example, is known as aphasia. This is considered to be a different category from agnosia, or the inability to recognize common configurations, like the collection of plastic miniatures. Still another category in which an individual may experience deficits is apraxia, or the inability to plan and execute movement. A given subject may be deficient in any combination of catego-

The strange thing is that in a century of medical breakthroughs, Alzheimer’s 1907 monograph still represents the clearest description of the recognizable hallmarks of the disease.
ries. It is LaBarge's job to find out which ones.

But while probing to find out the extent of the damage that Alzheimer's has caused, LaBarge remains sensitive to the feelings of her subjects, "I try to be positive and extend them dignity, even though they may not be able to do very simple things and even have to be shown how to sit down. I find that if I am polite and understanding and respectful because of what they were as human beings before the disease came to them, that they're still capable of responding."

Cathy Goldstein, a social worker who joined the project this past summer, is concerned with Alzheimer's disease patients within the family and social context. "The real victims are the members of the patient's family," she says. "The primary caregivers have no time for themselves. It's a 24-hour-a-day job."

Nevertheless, she speaks with awe of the ability of most families to cope with the difficulties imposed by the disease. "I am continually impressed by how families rise to the occasion, the creativity they demonstrate. They display a capacity they never realized they had before."

Goldstein's contribution to the project is to provide an outlet for caregivers' feelings and frustrations and to help them develop ways of coping that ease the tremendous weight of responsibility. Overworked caregivers can easily fall prey to stress related disorders and very much appreciate a day or even a few hours off occasionally. To provide this much-needed respite, Goldstein connects family members with resources in the community, including adult day programs and home services. In addition, she is developing support groups for families as a way of sharing experiences, learning from each other, and renewing hope.

The Memory and Aging Project is presently concerned with descriptive analysis and not with finding a cure, but one message nevertheless rings clear: SDAT is a disease; it bears no resemblance to the course of normal aging. In years past, doctors supposed that Alzheimer's was a rare disorder affecting only the middle aged. Senile dementia in older individuals was looked upon as an inevitable part of aging. We now know that this is not true. Whether it strikes a person of 50 or 80, Alzheimer's is still the same disease. It is responsible for more than 50 percent of the cases of senile dementia recorded in this country, and since the number of elderly in our society is growing, the number of cases of Alzheimer's is growing too. Nevertheless, 85 percent of those persons over 65 have little or no memory loss.

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Neurologist John Morris, M.D., believes that Alzheimer's disease may turn out to be not one disorder but several. "I don't think that all people who have SDAT necessarily have the same exact illness. For instance, we have been able to show that in our population of elderly SDAT patients, at least a third will develop signs of another neurological illness, Parkinson's disease, and the association of these two illnesses is much greater than you'll see in our control population. Also, in SDAT, not everyone has the same pattern. Some people have very rapid progression of dementia, some are very delayed, some have an inheritance factor, some do not. So SDAT may cover a spectrum of different illnesses. The reason this is important to recognize is that if there are in fact distinct categories of dementia, each may be treated somewhat differently."

Some of the most promising avenues of research begin with the assumption that Alzheimer's disease is caused by some sort of chemical imbalance in the body's neurological system. Parkinson's disease, also a neurological disorder, has been found to be caused by a deficiency of a neurotransmitter called dopamine. Treatment with the replacement drug L-dopa has resulted in improvement of Parkinson's disease patients.

Studies have shown that Alzheimer's patients seem to be lacking in another neurotransmitter, acetylcholine. Giving such patients acetylcholine replacement treatments, however, has not resulted in notable improvements. Nevertheless, many researchers believe that further work along these or similar lines will eventually produce results. The Memory and Aging Project is planning to add neurochemical research to its spectrum of programs in the near future.

A major difficulty in conducting laboratory research on Alzheimer's is that the disease by its very nature precludes the use of animal experimentation. As Morris says, "Alzheimer's disease is a uniquely human disorder. It affects exactly those things that make us human. And that's why there is no animal model of Alzheimer's disease. No animal has ever developed any of the pathologic hallmarks of the disease."

This confinement of Alzheimer's exclusively to the human condition seems to increase even further the terror it instills. Not only are we helpless before it, we are alone with it as well. Even the medical profession is not immune from this sense of helplessness.

"It's very frustrating," Berg says, "because you have this feeling that doctors are supposed to help reverse diseases, help people get over problems." And yet, he maintains, it is a mistake to call Alzheimer's disease untreatable, as some doctors have done. "That's wrong, and it's very bad for the image of the medical profession because there really isn't any disease which is untreatable. You can always do something to help a person tolerate a disease and help a family to adapt, even if it's just by education and helping people to cope with what's going on."

The Memory and Aging Project is still seeking participants, both those experiencing memory loss as well as normal elderly to serve as controls.

Photo at right: Leonard Berg, left, tests a participant in the Memory and Aging Project.
Could This Be the End of Mr. Tooth Decay?

Dentists of the future may immunize us against cavities

by Paul Dusseault

In as little as three to five years, children may be immunized against dental cavities just as they are against polio and whooping cough. Roy Curtiss III, chairman of biology at Washington University, says he's found a way to keep the bacteria responsible for tooth decay from sticking to teeth. This breakthrough, Curtiss believes, will lead to an effective anticavity vaccine.

Although two advances—fluoridation and dental sealants—can provide temporary protection, a vaccine would be the ultimate weapon against tooth decay. And a vaccine could also put a big dent in the amount Americans spend each year to have their cavities drilled and filled. The American Dental Association says the tab runs more than $3 billion a year.

Curtiss and his research team are focusing on Streptococcus mutans (S. mutans)—a bacterium which operates in the mouth by accumulating around and between teeth to form plaque. The bacteria in the plaque convert sugar in food and beverages into acids capable of dissolving the minerals in tooth enamel. Stripped of their protective enamel, teeth decay and cavities form.

Curtiss has developed a way to interrupt this process by preventing S. mutans from attaching itself to teeth. He has
discovered that certain proteins on the surface of \textit{S. mutans} provide the mechanism by which the harmful bacteria achieve their hold. The most prevalent of these surface proteins, called \textit{SpaA}, is responsible for \textit{S. mutans}' initial adherence to teeth. Other proteins convert this loose hold to a tenacious grip that renders tooth brushes and fluoride incapable of dislodging the bacterium from its nest.

Without these surface proteins, the \textit{S. mutans} do not attach to teeth, form plaque, and produce decaying acid.

"This discovery gives us cause for considerable optimism that these proteins can be used as part of a vaccine against dental cavities," says Curtiss, a pioneer renowned for using genetic manipulation to develop harmless microorganisms for research. At Washington University, he is also professor of cellular and molecular biology in the School of Dental Medicine.

Gene cloning and other biochemical techniques have enabled Curtiss to produce large amounts of very pure \textit{SpaA} protein. This gene product provokes an immune response to produce antibodies that block the adherence function of the \textit{SpaA} protein in the mouth. After immunization the \textit{S. mutans} drift aimlessly, doing no damage to teeth.

When a vaccine is perfected, it will probably be in pill form, taken orally. Its best patients will likely be children.

Since the damaging bacterium begins colonizing the mouth as soon as "baby" teeth arrive, the earlier the immunization, the better. The most likely time is before the second, permanent teeth come in. Laden with bacteria-repelling antibodies, the saliva of immunized children should prevent tooth decay.

But there are still unanswered questions. Some are being addressed by the same research team Curtiss led during his last assignment at the University of Alabama-Birmingham. "The issue of delivery is still very controversial," says Michael Russell, assistant professor of microbiology there. "Some questions have been raised about the safety of streptococcal vaccines in general, especially in relation to heart and kidney damage."

Curtiss, who continues to work closely with the Alabama lab, agrees that there is cause for caution. "If you take whole \textit{S. mutans} and inject them into a rabbit, that animal eventually will get damage to heart and kidney tissue," says Curtiss. Indeed, it's clear that some surface component of this bacterium elicits an immune response which could hurt the heart and kidneys. "The question is," says Curtiss, "are the proteins we're working with responsible for that?"

Though all indications are that the \textit{SpaA} protein is not responsible for such damage, Curtiss is proceeding cautiously. "When you're talking about giving this to kids, you want to be 100 percent sure."

Russell agrees. "Our animal experiments on rats and monkeys have been very promising in the way of producing protective immunity," he says. "But the bottom line is that dental cavities won't kill you. Since we're working toward a vaccine against an infection which is \textit{not} life threatening, we have a clear responsibility to be totally intolerant of detrimental side-effects."

Because \textit{S. mutans} is implicated in heart and kidney damage, Curtiss couldn't use it to produce vaccine. Instead, he genetically engineered a harmless strain of \textit{Salmonella} because he knew \textit{Salmonella} have the natural ability to attach themselves to the lymph nodes of the small intestine. That's a quality that proves key to their effectiveness as a vaccine.

After the vaccine pill is taken, the \textit{Salmonella} are released to grow for a short time in the intestinal lymph nodes. Soon the decay-causing proteins from the \textit{S. mutans} genes stimulate certain white blood cells—lymphocytes—to make antibodies against cavity-causing bacteria.

To be effective, however, the antibody-producing lymphocytes must reach the mouth. They do so by migrating through the lymph system to lodge in the salivary glands, where they provide active immunity against tooth decay.

Beyond the vaccine's obvious potential to prevent tooth decay, Curtiss talks with enthusiasm about the potential to use similar techniques to prepare vaccines against tuberculosis, herpes, and a wide range of other diseases caused by viruses and organisms that attack the body through its mucous-producing surfaces.

"Probably 90 percent of all infections come from inhaling or ingesting the disease-causing organisms, or their landing on some mucosal body surface," says the Washington University scientist. "The potential for preventing diseases is tremendous, especially in underdeveloped countries where such vaccines could be dispensed by unskilled practitioners."

Curtiss says researchers are fairly certain the vaccine will work for children. But its effect on adults is harder to predict.

"We know that the vaccine should stop the bacterium from adhering to the teeth in the first place," says Curtiss, "but we're not sure of the effect of the vaccine on teeth where \textit{S. mutans} have already attached, as in adults. Will the vaccine arrest the plaque build-up? Will we reverse it? We just don't know."

Human trials of the vaccine are scheduled to begin shortly.

Curtiss suggests that the vaccine may be effective on adults if given in conjunction with a dentist's thorough teeth cleaning. But he cautions that even a very effective vaccine would not give sugar addicts the green light to splurge on soft drinks and candy canes. "There are a lot of reasons for good oral hygiene besides the prevention of cavities," he says. "Regular brushing, fluoride treatments, and flossing would still be necessary to keep your breath fresh, your teeth white, and your gums healthy."
K STREET EXPOSÉ

Want a career in a hot new growth industry? Be a Washington lobbyist. Perhaps you’re a trifle hazy about who lobbyists are or what part they play in government. Well, read on . . .

by Regina Engelken

If you’re planning a tour of the policy-making institutions of Washington, D.C., you should visit the White House, Capitol Hill, and the K Street Corridor, says Robert H. Salisbury of the WU political science department.

The first two sites probably would be obvious choices, but the third might not.

The K Street Corridor—north and west of the White House—is where lawyers, lobbyists, and others who attempt to influence elected or appointed policy makers hang their hats. Their numbers have been growing so rapidly in recent years that political scientists and other observers of the policy making process can hardly ignore them.

The litany of statistics, often couched in lamenting tones, reminds us that nearly 30 percent of all national non-profit associations have made Washington their headquarters, employing some 80,000 people. More than 4,000 individual corporations retain representatives in Washington; 1,200 firms employ permanent government affairs staffs there; membership in the District of Columbia Bar more than tripled between 1973 and 1983. Despite the attention garnered by this now-entrenched network, little in the way of systematic research has been undertaken to examine its members’ roles and activities. Until now.

Robert H. Salisbury, Sidney W. Souers Professor of Government at Washington University, and three associates have undertaken a massive study of the ever-more-massive K Street phenomenon and how it is transforming the federal government. Salisbury delivered an introductory report, “Soaking and Poking Among the Movers and Shakers: Quantitative Ethnography Along the K Street Corridor,” this fall at the 1984 annual meeting of the American Political Science Association. Within a week of his presentation, an account of the study was published in The New York Times, prompting calls from all over the country for copies of the report.

Political scientists have been aware of the size and probable significance of the K Street crowd, but the prospect of a systematic investigation had seemed difficult and expensive. “They had trouble getting a handle on it,” Salisbury says.

Yet that missing base of sound, empirical data had to be acquired if some fundamental questions were to be answered about the role and impact of Washington representatives as they seek to advance the interests of their clients or employers regarding present or prospective policies of the federal government.

“Do they wield impressive power, moving and shaking, making rain, and generally manipulating policy outcomes? Or is their impact primarily at the margins, sometimes significant on details but on major issues subordinated to larger forces of public opinion and political leadership?” asks Salisbury. “What, in fact, do these people do?”

With financial support from the American Bar Foundation and the National Science Foundation, Salisbury and his co-authors—John P. Heinz, professor of law at Northwestern University, executive director of the American Bar Foundation, and a 1958 Washington University political science graduate; Edward O. Laumann, professor of sociology and dean of social sciences at the University of Chicago; and Robert L. Nelson, research associate with the American Bar Foundation—began exploratory interviews in November, 1980. They limited their scope to the fields of energy, health, labor and agriculture.

The result was, as described in the paper, “some 1,400 lengthy, highly structured interviews with client organizations, Washington representatives, and government officials concerning how and with what effect interests are represented in Washington policy making.”

True to the “Soaking and Poking” title, the interviews constituted a “relatively open-ended exploration of a social terrain . . . a research style more often associated with anthropology than with political science,” says Salisbury.

Although all of the material has been collected, the team will be analyzing it for “the next several years.” Salisbury says. The preliminary report, “Soaking and Poking” (a phrase coined by Richard Fenno, the distinguished Congressional scholar who developed the information-gathering technique of “hanging around” to the level of an art form), brings out several facts that the investigators found surprising:

- Lawyers are not as prominent in the community of Washington representatives as has sometimes been suggested.
- This elite community is recruited from throughout the nation.
- Elite universities do not dominate as training grounds. Only 10.8 percent of the college graduates come from the eight Ivy League schools and only one-sixth of the law degree-holders come from Harvard, Yale, Columbia, Penn, and Cornell.
- This national pool is rich in political experience. Fifty-seven percent have held positions in the federal government. One-fourth have held leadership positions at some level of party organization and more than 40 percent have been more than casually active in election campaigns.
- Yet three-fourths of the representatives say party politics is seldom or never a factor in their work. It appears that this highly political elite operates with surprisingly little day-to-day entanglement with the ebb and flow of partisan dispute.

Co-author Heinz says the American Bar Foundation supported the study because the ABF “has a long history of doing research on the legal profession and on national policy making, and the project seemed like a natural extension of both.”

He and Laumann had just completed a study of Chicago Lawyers, also with ABF support, and were able to further explore some theoretical issues in Washington, where lawyers make up about 40 percent of the K Street population.

“Lawyers are reputed to have special
"access to people in positions of power," Heinz says. "They also are considered to be quite autonomous, because they have special expertise, which their clients lack, so their clients have difficulty evaluating the lawyers' performance. That implies great freedom of action for lawyers; they are able to call the shots."

The Chicago study shows that the supposition is not true for corporate lawyers, Heinz says, because their clients are highly sophisticated. "But that question takes on special significance in Washington, where lawyers can influence national policy," he says.

Salisbury hopes the study will help reshape textbooks and other literature about the American political scene to include K Street representatives, such as lawyers, public relations firms, ad hoc coalitions, and other issue-oriented networks.

"I hope our words will serve as cautionary notes to textbook writers, journalists, and others who report on Washington activities to be wary of some of the shorthand devices they have employed in the past to express how things are done, by whom, and to what extent," he says.

Looking ahead to further useful revelations from their study, Salisbury notes that he and his colleagues will not hurry their analyses: "As with all investigative puddings, the proof of this one will be in the eating, and we anticipate that the full preparation, cooking, and presentation of this particular dish will take at least as long as it did to grow the ingredients. Empirically grounded social science takes time. Soaking and poking is a process that can rarely be truncated—the microwave is no substitute for the baker's oven."

How lobbyists influence the federal government is a subject still very much in darkness.
The Case Against Secrecy

Concealing information isn’t always in the national interest.

We have now survived the year 1984, despite the fact that George Orwell’s 1948 novel described full-scale atomic war in 1954. But we survive at great risk, having created a nuclear arms race in which we continue to eschew the openness essential to scientific advance and credible deterrence for the secrecy born of fear, suspicion, and misunderstanding. We badly need to learn the lessons of history if we are to survive and to minimize secrecy to what is necessary for military and technological security, rather than to what is convenient for political purposes.

Military secrecy is often necessary for national security. But the advance of scientific knowledge essential to that security is often retarded by secrecy when it limits peer review, publication, and open discussion of new ideas and evidence. The democratic political process is likewise undermined by secrecy when it constrains informed debate, covers up political misdeeds, or results in bad policy decisions.

The balance between national security through secrecy and national security through open scientific achievement is historical and frequently debated. But it has become ever more acute since the hydrogen bomb decision and the Klaus Fuchs case of atomic espionage in 1950 helped start the Soviet-American thermonuclear arms race.

Thirty-five years ago, on January 31, 1950, President Harry S Truman announced his fateful decision to build the hydrogen bomb—the “Super”—and the Soviet-American nuclear arms race began in earnest. In August 1949 the first Soviet atomic bomb test had signaled the end of the four-year American monopoly of what Bernard Baruch called the “winning weapon.” Coming on the heels of the Berlin Blockade and the fall of China to the communist armies of Mao Tse-tung, the hydrogen bomb decision seemed almost inevitable, a logical technological consequence of a political strategy to resist Soviet aggression. That decision pushed us further along the road to political secrecy and classified military research, and away from open, public, and published science.

Three days after Truman’s announcement, a political bomb exploded in a London courtroom, when the German-born British physicist, Emil Julius Klaus Fuchs, 38, confessed that from 1941 to 1949 he had systematically betrayed American and British nuclear weapons secrets to the Soviet Union. The policy of security through secrecy seemed justified.

The hydrogen bomb decision was made in deepest secrecy, but it was not unopposed. Military leaders, supported by the Hungarian physicist Edward Teller and Atomic Energy Commissioner Lewis Strauss, led the charge for the Super, and Truman appointed an advisory committee likely to listen to them. But J. Robert Oppenheimer and the scientists of the AEC’s General Advisory Committee (GAC) were unanimously against the new thermonuclear weapon, both strategically, because it diverted limited resources away from “conventional” atomic weapons, and morally, because a weapon one thousand times the yield of the Hiroshima and Nagasaki bombs seemed genocidal and immoral. They were joined by George F. Kennan of the State Department’s Policy Planning Staff, David Lilienthal, retiring chairman of the AEC, and Hans Bethe, leader of the wartime theoretical division at Los Alamos. Yet the American public was kept ignorant of the H-bomb debate until the GAC report was declassified in 1976, 26 years later.

Because Fuchs’ confession remained secret, the press speculated that he was an “H-Bomb Spy.” In fact, Fuchs’ confession was largely of historical interest by 1950. Fuchs confessed that, while working at Los Alamos in 1944-1946, he had passed on information about the plutonium implosion bomb to the Russians, but was able to offer little guidance on early work on the hydrogen bomb.

Fuchs may have been lying. But because his confession remained secret, he was widely believed to have given the Russians the secret of an as yet nonexistent weapon, the hydrogen bomb. His confession—or at least those parts of it divulged at his trial—served to justify and accelerate Truman’s decision on the hydrogen bomb, and to generate support of a new weapon, still untested and undesigned, all without public debate.

Secrecy fed upon itself. A secret confession by a wayward scientist accelerated a secret decision to proceed in secret with a new weapon whose power, purpose, and rationale were unknown. The Fuchs case stood as a warning to scientists that secrecy was essential to national security, and that security through scientific achievement was a dangerous dream. The Fuchs case promptly resulted in stricter classification, tighter security, and suspicions of the political loyalties of other scientists.

Fuchs himself was quickly silenced. He spent nine years in a British prison for violating the Official Secrets Act before being released in 1959 to East Germany, where he still lives and works as an honored nuclear physicist. In America the courier identified by Fuchs, the Philadelphia chemist Harry Gold, turned out to be a member of an atomic espionage ring centered around Julius Rosenberg. The Rosenberg case, not the Fuchs case, became the American “crime of the century,” as J. Edgar Hoover called it. Yet Fuchs had done far more damage by purveying nuclear secrets to the USSR through his British contacts, mainly German refugee communists working for Soviet military
intelligence.

Thus, while America worried about the loss of technological atom secrets, the Fuchs case actually threatened to reveal even more damaging political secrets: that America had already given away nuclear information to Great Britain under the secret 1943 Quebec Agreement which made possible Fuch's work at Los Alamos, and that British intelligence was riddled with Soviet agents, the as yet undiscovered Kim Philby, Donald Maclean, Guy Burgess, and Anthony Blunt.

The legacy of the Fuchs case runs deep in the American national security establishment. Fuchs was a German communist, a British traitor, and an American atom spy. But the secrecy surrounding his activities, his confession, and his trial only made him seem larger than life. He may have saved the Soviet Union a few months time in its race for the plutonium bomb, but provided virtually no help with its development of the hydrogen bomb. But Americans did not know that. Fuchs' violation of security as a scientist was, in the end, less significant than his contribution to the policy of secrecy as a central part of the national security state and the Soviet-American arms race. In 1950 he helped father the fears of 1985.

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North pavilion at Xi'an Hua Qing hot springs. Filled with water, bowls such as this one sit near historic buildings in case of fire. Photo by William Gass. See page 10.