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## Washington University Record, February 22, 1990

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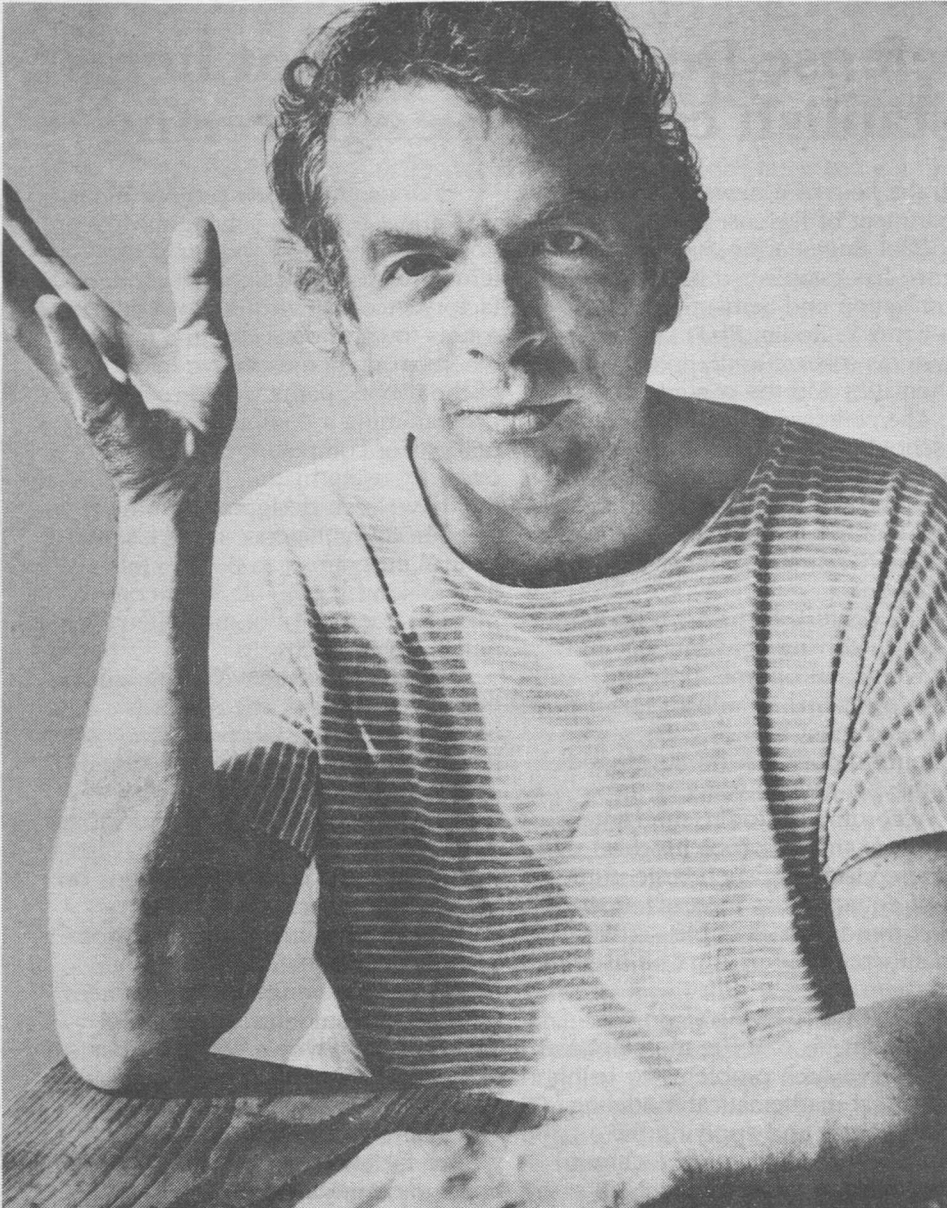
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Monologist Spalding Gray will make his St. Louis debut at 8 p.m. March 2-3 in Edison Theatre.

## Ancient art

### Monologist's conversation transformed into a 'performance phenomenon'

Spalding Gray, the definitive performer of autobiographical monologues, will make his first St. Louis appearance at 8 p.m. Friday and Saturday, March 2 and 3, in Edison Theatre.

With minimal use of props and lighting, Gray has "transformed solo conversation into a performance phenomenon," says The New York Times.

Gray is perhaps the "grand poobah" of story telling in an age that, as the large and growing St. Louis community of storytellers attests, has seen a resurgence in the popularity of this most ancient art.

Gray, who also is an actor, has appeared most recently in the movie "Beaches," starring Bette Midler and Barbara Hershey. His other films include "True Stories," "Stars and Bars" and "Clara's Heart." This past fall Gray starred in the public television version of Thornton Wilder's "Our Town" on Great Performances.

He is best-known for his OBIE award-winning monologue "Swimming to Cambodia," which was made into a critically acclaimed film of the same name by Jonathon Demme. The monologue is based on Gray's experiences while working on "The Killing Fields," a film recalling the atrocities committed by the Khmer Rouge in Cambodia from the perspective of

New York Times correspondent Sidney Schanberg.

Gray's exclusive engagement at Edison Theatre marks one of the few times he has performed live in the last year. While here, Gray will present two monologues. On March 2 he will perform "Terrors of Pleasure," which he describes as "the story of the most imperfect house in America and the perfect fool who bought it." On March 3 he will perform "Monster in a Box," a monologue that begins where "Swimming to Cambodia" ends.

In "Terrors of Pleasure," which was aired in a shortened version on HBO, he buys a lovely country home in the Catskills, only to find that the structure is a total disaster. Gray and his girlfriend proceed to be ripped off by every home repair person in the small town of Krummville.

Gray says of that experience: "Previously I had equated the word 'alchemy' with smoking test tubes and the chemistry formulas that I never learned in school. Then, as if by magical accident, I surprised myself by turning into an alchemist for a brief time. I was somehow able to spin straw into gold and turn one of the most negative experiences of my life into a good story."

"Monster in a Box" details Gray's latest exploits, which revolve around his attempts to complete an autobiographical novel for Alfred A. Knopf. Still not finished after having written 1,359 pages — in longhand — Gray views the project as his nemesis, hence the title "Monster in a Box," which refers to the manuscript.

Tickets are \$16 for the general public; \$12 for senior citizens and Washington University faculty and staff; and \$8 for students.

For information, call 889-6543.

### 120th anniversary marks admission here

## School pays tribute to nation's first women law students

In the fall of 1869, Lemma Barkeloo and Phoebe Wilson Couzins enrolled in the Washington University School of Law, becoming the first women admitted to a chartered law school in the United States. In celebration of the 120th anniversary of that event, the law school will present a program titled "A Tribute to the Nation's First Women Law Students" on Wednesday, Feb. 28, in the Mudd Law Building.

As part of the tribute to Barkeloo and Couzins, the school's spring Wiley Rutledge Moot Court Competition, in which students test their oral advocacy skills, will be judged by three women Supreme Court justices. Each is the first and only woman appointed to the highest court in her respective state. The justices are Shirley S. Abrahamson of Wisconsin and Linda K. Neuman of Iowa and Judge Ann K. Covington of Missouri. Abrahamson and Neuman also will speak during the event, which, with the exception of a private luncheon, is open to the University community.

Barkeloo became Missouri's first woman lawyer and the first woman in the United States to try a case in court. Couzins was Missouri's first woman law graduate and the country's first woman marshal. She became an orator and prominent member of the suffrage movement. Both made historic contributions to the advancement of women in law.

"Barkeloo and Couzins were pioneers who led the way for generations of women," says Dorsey D. Ellis Jr., J.D., dean of the School of Law. "Thousands have followed in their footsteps and today hold leadership positions on the bench, at the bar, in the highest echelons of government and in legal education."

More than 40 percent of the law school's 1989-90 class are women. Nearly 1,100 women have graduated from the law school since 1869.

At 11 a.m. Abrahamson will speak on "Mrs. Miniver's Mirror" in Room 316 of the Mudd Law Building. The title of her speech is based on a 1907 poem titled "Miniver Cheevy" by Edwin Robinson. The poem is an ironic character sketch of Miniver, who feels he was born out of his time. Abrahamson's speech will detail the importance of reviewing the past to prepare for the future. Neuman will deliver informal remarks at a luncheon for Washington University law school alumnae and law school faculty.

The Wiley Rutledge competition begins at 3 p.m. in Room 316, Mudd Law Building. A reception in Foote Lounge will follow at 5 p.m.

## New York's zoological society director to discuss saving species, ecosystems

Alumnus William Conway, general director of the New York Zoological Society, will present the Thomas Hall lecture on Wednesday, Feb. 28, at 11 a.m. in Graham Chapel. The zoological society operates several prominent science institutions, including the Bronx and Central Park zoos and the New York Aquarium.

The free and public lecture, part of the Assembly Series, is titled "Miniparks and Megazoos: From Protecting Ecosystems to Saving Species."

A 1951 graduate of Washington University, Conway has written extensively on zoo and conservation biology. Under his direction, the New

The competition winners will be announced at the reception and six judges will be honored. They are Abrahamson, Neuman, Covington, and St. Louis area judges Carol E. Jackson, U.S. magistrate for the Eastern District of Missouri, Jean C. Hamilton of the Missouri Court of Appeals, Eastern District, and Susan Block of the St. Louis County Associate Circuit Court. Jackson, Hamilton and Block serve as adjunct professors in the law school's pretrial and trial practice programs. Hamilton is a 1971 graduate of the law school.

Gov. John D. Ashcroft appointed Covington to the Missouri Supreme Court in 1989. Before her appointment to the Supreme Court, she was a judge for the Missouri Court of Appeals, Western District. She also has worked as an assistant attorney general and was a partner in two Columbia, Mo., law firms for a total of eight years. Covington is a fellow of the American Bar Foundation and a member of the Academy of Missouri Squires. She was a Council of State Governments' 1988 Toll Fellow and has served as a trustee of the University of Missouri Law School Foundation. She has a law degree from the University of Missouri-Columbia.

Appointed to the Wisconsin Supreme Court in 1976, Abrahamson was elected to a 10-year term in 1979 and re-elected in 1989. In 1987 William H. Rehnquist, chief justice of the U.S. Supreme Court, appointed Abrahamson as one of two representatives of the United States at the Fourth International Appellate Judges Conference in Malaysia. Rehnquist recently appointed her to a committee to plan the Fifth International Appellate Judges Conference to be held in Washington, D.C., in September 1990.

Abrahamson has a law degree from Indiana University and a doctorate in American legal history from the University of Wisconsin law school.

Neuman began her judicial career in 1980 as a part-time judicial magistrate for Scott County in Iowa. In 1982 Gov. Robert Ray appointed her to the district court bench for the Seventh Judicial District. She served as a district court judge until August 1986 when Gov. Terry Branstad appointed her to the Iowa Supreme Court. She has represented Iowa, Wisconsin and Missouri as a member of the board of directors of the National Association of Women Judges and currently serves on the association's task force on reproductive technology.

Neuman has a law degree from the University of Colorado.

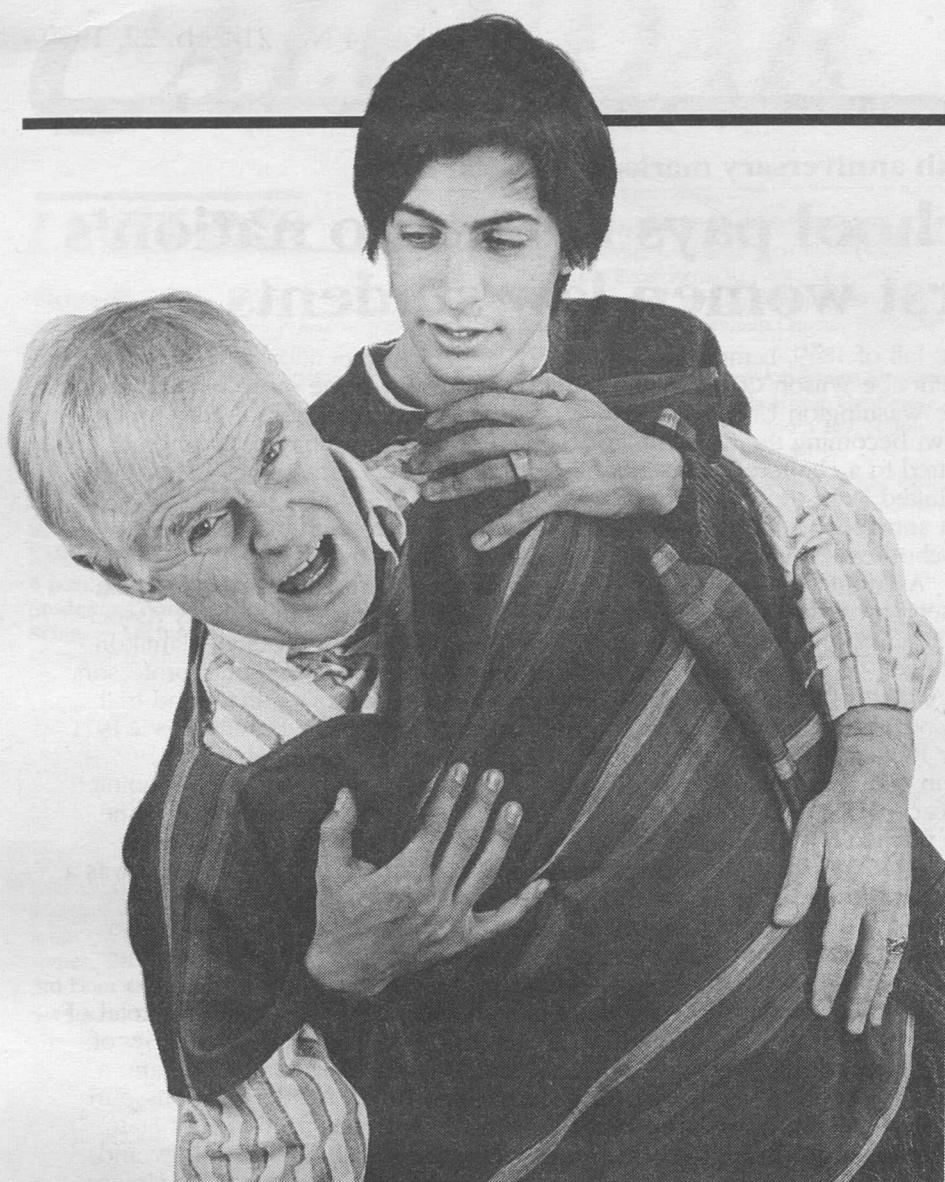
For more information on the day's events, call 889-6400.

### Inside: *MEDICAL RECORD*

• Doctors see increase in chronic airway disease. Page 4  
• Extra weight in the stomach may affect heart's health. Page 5

• Hearing device offers more sound to profoundly deaf patients. Page 6





**Local premier:** Daniel Shea, Ph.D., professor of English, portrays Nobel Prize-winning Chilean poet Pablo Neruda and student Michael Levinson is Mario Jimenez in the Performing Arts Department production of the play "Burning Patience," which will be staged at 8 p.m. Feb. 23-25 and March 2-4 in the Drama Studio, Room 208 Mallinckrodt Center. "Burning Patience," by Chilean playwright Antonio Skarmeta, a visiting professor in the Department of Romance Languages and Literatures, focuses on Neruda and his relationships with several residents of a small community on Isla Negra in Chile. Tickets are \$7 for the general public and \$5 for senior citizens, Washington faculty and staff, and students. For more information, call 889-6543.

## Arts, education fund drive is under way

"Give the Arts a Hand," the theme of the 1990 Arts and Education Council fund drive to raise \$2.6 million, underscores what the council's goal has been for 27 years: to help support the artistic and educational programs in the greater St. Louis area.

According to Chancellor William H. Danforth, the University's participation in the fund drive is key to its success.

"The University community has always given generously to support the Arts and Education fund drive," says Danforth. "It is a way of ensuring the vitality of cultural opportunities available to us here in St. Louis."

Money from the campaign will give operating support to The Black Repertory Theatre, the Craft Alliance Education Center, Dance St. Louis, KETC/Channel 9, Mark Twain Summer Institute, Opera Theatre of Saint Louis, The Repertory Theatre of St. Louis, The St. Louis Conservatory and Schools for the Arts and the St. Louis Chapter of Young Audiences Inc.

In addition, grant money to the council's 144 member organizations

like Washington University comes from the CAMELOT/Special Projects Fund, which is supported by the campaign. The departments, schools and programs at Washington University supported by the Special Projects Fund are: the Asian Art Society, the Department of Asian and Near Eastern Languages and Literatures, the Department of Music, School of Architecture, School of Fine Arts, Edison Theatre, the Gallery of Art and University College.

Target Stores, Wetterau Inc. and Commerce Bank have pledged their support by offering to match new and increased contributions of \$50 or more on a two-for-one basis, up to the limits of the grants. These matching grants will increase the value of contributions seven times. David Kemper, chairman and CEO of Commerce Bank, is the general chairman of this year's fund drive.

Pledge cards will be distributed to University employees in late February. For more information on the fund drive, call 567-6900.

## New York architect Max Bond will give Harris Armstrong Memorial Lecture

Max Bond, dean of the School of Architecture and Environmental Studies at City College in New York, will deliver the Harris Armstrong Memorial Lecture at 8 p.m. Monday, Feb. 26, in Steinberg Hall auditorium.

The lecture, titled "Building vs. Images," will focus on the recent works by the New York-based firm Bond Ryder and Associates, of which Bond is a principal.

Bond also is an active member of the National Organization of Minority Architects (NOMA) and lectures frequently on the future of blacks in architecture. Bond was a keynote speaker at NOMA's national meeting in San Francisco last October. Bond's lecture is one of many events at

Washington University commemorating Black History Month.

Bond frequently juries design competitions, serving on the Presidential Design Awards Panel in 1988 and the National Endowment for the Arts Design Awards Panel in 1989.

The lecture is funded by the Harris Armstrong Memorial Fund, which was established by the family of the prominent St. Louis architect to enhance the academic program for School of Architecture students.

The lecture, which is free and open to the public, is part of the School of Architecture Monday Night Lecture Series.

For more information, call 889-6200.

## Defense Department grant helps establish center in engineering

With the help of a new \$500,000 Department of Defense grant, the School of Engineering and Applied Science has established the Center for Optimization and Semantic Control, says Ervin Y. Rodin, Ph.D., professor of systems science and applied mathematics and the center's director.

The center, part of the engineering school's Department of Systems Science and Mathematics, also is funded through grants that Rodin holds from the U.S. Air Force Office of Scientific Research and Rockwell International.

The center's focus, says Rodin, will be on solving conventional and unconventional optimization and control problems in industry, business and government by using the semantic control theory that he developed over the last several years.

According to Rodin, the center's research examines problems that require considering such large numbers of equations — forecasting stock market trends, for example — that even supercomputers can't be used to solve them.

"What we're trying to do," explains Rodin, "is find the most optimal way to solve such problems by using the classical mathematical modeling methodologies and applying the newer artificial intelligence technologies to these numerical models. Because artificial intelligence programs are designed to mimic the workings of the human brain, these programs use language instead of numerical code to carry out their computations."

"Thus artificial intelligence programs provide us with an innovative way to construct and supplement mathematical models. A much more accurate mathematical model results, which can be used to control such large-scale data-control problems."

For example, one project under way at the center is solving navigational problems of robots in a cluttered environment, like in a modern factory. According to Rodin, using robots to carry out tasks in a factory where workers must move in and out of the robots' paths would require programming a computer to make millions of computations at a very fast pace. By using mathematical models that have been designed with the aid of artificial intelligence methods, these control programs can be streamlined, thus making it possible for a computer to control robot movements much more effectively.

In addition to developing innovative research ideas, the center is unique in another important way, says Rodin. Along with the eight graduate students individually working on projects that will lead to their doctoral dissertations, 10 undergraduates also work at the center in small groups on problems of their choice.

"With the current national problem of low graduate school enrollment in engineering and the sciences by American students, I feel it is imperative to involve young students in meaningful research together with established researchers," says Rodin.

"Here at Washington University, we are fortunate to have one of the finest undergraduate bodies in the nation — bright young men and women capable of being involved in guided research along with their regular studies. That's one of the major reasons the Defense Department was so supportive of our program. It is bringing American engineering undergraduates back to graduate programs," Rodin adds that of the 10 undergraduates working at the center, four so far have applied to graduate school.

## Essay, poetry contests open to students

A creative writing prize recently established in honor of James Baldwin, as well as three poetry prizes will be awarded to the winners of two separate contests open to students.

Gerald Early, Ph.D., associate professor of English and African and Afro-American studies, and his wife, Ida, director of special projects, information and foundations for the John M. Olin School of Business, have established The James Baldwin Essay Prize for an undergraduate student at Washington University. The prize of \$150 will be awarded annually.

Students entering the Baldwin contest must write an essay that covers an aspect of African-American life and culture. Essays will be judged for originality, rigor of intellectual content and writing style.

The Baldwin essay entries should be no fewer than five and no more than 10 typewritten double-spaced pages. Entries must be submitted by Friday, March 9, to either the English department or the African and Afro-American Studies program. The winner will be announced in April.

"The award was established to encourage writing on African-American culture and also to encourage essay writing because of my interest in those areas," says Gerald Early, who won two major national writing awards in 1988 for essays he wrote on Afro-American life. Early said he also wanted to honor James Baldwin, a "great essayist," and make a meaningful contribution to the University by highlighting African-American culture in a creative way.

The English department is holding a poetry contest and will award the following three prizes, each worth \$100: The Norma Lowry Memorial Fund Prize, to enrolled undergraduate and graduate students; The Roger Conant Hatch Fund Prize, to undergraduates only; and The Academy of American Poets Prize, to both undergraduate and graduate students.

The deadline for submitting poetry contest entries to the English department, Room 118 Duncker Hall, is 4 p.m. Friday, March 9.

A maximum of three poems, typed on 8 1/2 by 11 paper, may be submitted. Indicate on each poem whether you are an undergraduate or graduate student, but do not write your name. The departmental secretary will assign entry numbers and record your name and entry number.

Poems accepted for publication in magazines other than student magazines are ineligible. Entries cannot be return.

The judge for all three poetry prizes will be David Baker, poetry editor of The Kenyon Review and author of *Haunts, Laws of the Land* and *Summer Sleep*. Baker teaches at Denison University. Winners will be announced in Student Life in April and prizes awarded at the English department's final semester meeting.

For more information about the James Baldwin Essay Prize, call African and Afro-American Studies at 889-5690. For more information about the poetry contest, call the English department at 889-5190.



# NOTABLES

**Kevin Breault**, Ph.D., assistant professor of sociology, published a paper titled "A Reexamination of the Relationship Between Religious Diversity and Religious Participation" in the December 1989 issue of the *American Sociological Review*. The result of the largest study ever conducted on how religious diversity determines the religious makeup of a community, this paper replicates earlier findings of Breault that religious diversity hurts or reduces religious participation of all kinds.

**Raymond L. Hilgert**, D.B.A., professor of management and industrial relations, was a guest speaker at the 1989 convention of the Congress of Independent Unions held in St. Louis. His talk was on "Arbitration from an Arbitrator's Point of View."

**Charles R. McManis**, J.D., professor of law, has written an article titled "International Protection for Semiconductor Chip Designs and the Standard of Judicial Review of Presidential Proclamations Issued Pursuant to the Semiconductor Chip Protection Act of 1984" that has been published in Vol. 22 of the *George Washington Journal of International Law and Economics*.

**Meir J. Rosenblatt**, Ph.D., the John M. Olin School of Business Thomas C. Whitmarsh Visiting Professor of

Operations and Manufacturing Management, has received the New England Academic Award from his home institution, the Israel Institute of Technology (Technion) in Haifa. This award, given to Rosenblatt for his contributions in production planning and control and facilities design, is the highest recognition the Technion bestows on its faculty for excellence in research. He also received a faculty teaching award from the Technion. In addition, **Zehava Rosenblatt**, research associate in organizational behavior in the business school, received Technion's teaching award for instructors and graduate assistants within Technion's faculty in industrial engineering and management. This is the second consecutive year the Rosenblatts have received the teaching awards.

## Have you done something noteworthy?

Have you: Presented a paper? Won an award? Been named to a committee or elected an officer of a professional organization? The Washington University Record will help spread the good news. Contributions regarding faculty and staff scholarly or professional activities are gladly accepted and encouraged. Send a brief note with your full name, highest-earned degree, current title and department along with a description of your noteworthy activity to Notables, Campus Box 1070, or by electronic mail to p72245SS at WUVMC. Please include a phone number.

## Varney physics prize winners named

Uwe D. Thym, a junior in the College of Arts and Sciences, and Roger Ching-Feng Yang, a junior in the School of Engineering and Applied Science, received the 1989 Varney Prize as the best students in introductory physics.

The prize honors Robert N. Varney, Ph.D., a former Washington University physics faculty member. A fund was established in Varney's name by friends and students for "his

deep concern for the introductory physics courses."

Thym, a physics and philosophy major, has been working on a cosmic ray project with Joseph Klarmann, Ph.D., professor of physics. Yang, an engineering physics and biochemistry major, has been working on an electrophysiology project with Stanley Mislis, M.D., assistant professor of internal medicine.

## Introductions to new faculty

The Record is featuring a weekly series profiling new faculty on the Hilltop and Medical campuses. The profiles are of faculty who joined the University community between January 1989 and September 1989.

**Bernard C. DeLeo**, M.D., professor and director of clinical anesthesiology at the School of Medicine, was professor and chairman of the anesthesiology department at Albany Medical College. He also was anesthesiologist-in-chief at Albany Medical Center Hospital and medical director of its school for nurse anesthetists. He received a bachelor's from St. Vincent College in 1954 and his medical degree from St. Louis University in 1958.

**Phillip Green**, Ph.D., assistant professor of genetics at the School of Medicine, comes to Washington from Collaborative Research Inc., in Waltham, Mass., where he was a senior scientist in the human genetics department. He received a bachelor's in mathematics from Harvard University in 1972, and a doctorate in mathematics from the University of California, Berkeley, in 1976. His research focuses on developing mathematical and computer methods for analyzing the genomes of humans and other organisms.

**Paul D. Olivo**, M.D., Ph.D., assistant professor of medicine and molecular microbiology, comes to the University from the National Institute of Allergy and Infectious Diseases, part of the National Institutes of Health, where he was a medical staff fellow in the laboratory of viral

diseases. He earned his bachelor's in anthropology from George Washington University in 1972. He received his medical degree in 1981 and a doctorate in microbiology in 1982, both from the University of Florida, Gainesville. He studies herpes simplex virus and how it replicates its DNA genome.

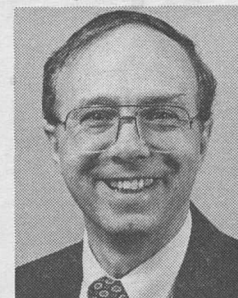
## RECORD

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**Photographers:** Joe Angeles, Tom Heine, David Kilper and Herb Weitman  
**Record** (USPS 600-430; ISSN 1043-0520), Volume 14, Number 21/Feb 22, 1990. Published weekly during the school year, except school holidays, monthly during June, July and August, by News and Information, Washington University, Box 1070, One Brookings Drive, St. Louis Mo. 63130. Second-class postage paid at St. Louis, Mo.  
**Address changes and corrections:**  
**Postmaster and non-employees:** Send address changes to: Record, Washington University, Box 1070, One Brookings Drive, St. Louis, Mo. 63130.  
**Hilltop Campus employees:** Send to: Personnel Office, Washington University, Box 1184, One Brookings Drive, St. Louis, Mo. 63130.  
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## Libraries' top-level staff reorganized; ready to face challenges of the '90s

In order to prepare the Washington University Libraries' staff for the challenges of the 1990s, Shirley Baker, dean of University Libraries, has announced a reorganization of the libraries' top-level staff, effective immediately.

As part of the organizational change, Nicholas C. Burckel, Ph.D., formerly director of public services and collection development, has been appointed associate dean for collections and services. Virginia F. Toliver, formerly director of library personnel and administrative services, has been named director of administration and planning.



Nicholas C. Burckel

A third senior position, director of computing and telecommunications, has been established to reflect the increasing importance of technology and computers in library operations. A national search to fill this position has begun. The person chosen for the position will plan for and oversee the use of the libraries' computers for delivery of services as well as for internal operations.

"The administrative restructuring will help us respond more effectively to the challenges facing us, and to focus on the objectives that will be most important to us in the coming decade," says Baker. "We are moving into an era where support for a strong technological foundation is critical."

As associate dean, Burckel is responsible for all activities in collections and in technical and public services. He came to Washington in 1986 as director of public services and collection development. Burckel has a bachelor's degree in history from Georgetown University and a master's degree and doctorate in history from the University of Wisconsin-Madison. He also has a master's degree in library science from the University of Wisconsin-Milwaukee.

In her new position, Toliver coordinates long-range planning for



Virginia F. Toliver

the library system and oversees the recruitment, hiring, evaluation and training of library personnel. She began her career at Washington University as an academic library management intern in 1981 and was appointed director of library personnel and administrative services. From October 1988 through 1989 Toliver was acting director of Technical Services and Library Systems. She has a bachelor's degree in English literature from Jackson (Miss.) State University and a master's degree in library science from the University of Illinois-Champaign.

Burckel, Toliver and the new director of computing and telecommunications will serve as members of the Dean's Council, the senior management team that reports to Baker.

## Two wind ensembles to present concert

The Washington University Wind Ensemble and the Southwest Missouri State University Wind Ensemble will present a joint concert at 3 p.m. Feb. 25 in Edison Theatre.

Washington's Wind Ensemble performance will showcase "Piece of Mind," by Dana Wilson. Published last year, the piece won the 1988 Sudler International Wind Band Composition Contest and the ABA/Oswald Prize. The ensemble is conducted by Dan R. Presgrave, director of the University's wind music program.

Southwest Missouri State University Wind Ensemble, directed by

Michael Casey and Robert Scott, will perform "Fantasia in G," by Timothy Mahr; "William Byrd Suite," by Gordon Jacobs; and "Symphony No. 2," by John Barnes Chance.

Presgrave, who invited the Southwest Missouri ensemble to perform at the University, plans to start a tradition of inviting other major bands to perform joint concerts with Washington's Wind Ensemble.

The concert, which is free and open to the public, is sponsored by the Department of Music. For more information, call 889-5574.

## NEWSMAKERS

Washington University faculty and staff make news around the globe. Following is a digest of media coverage they have received during recent weeks for their scholarly activities, research and general expertise.

**The size and shape of the defense budget** is a pressing issue as Eastern Europe and the Soviet Union change our views of military need. The coming defense debate should focus on strategy, argues James W. Davis, Ph.D., professor of political science, in an editorial about having forces ready for tomorrow's military challenges that appeared in the Dec. 6 *Waterbury American*. But thoughtful reductions are not, he says, a likely outcome.

**Size has emerged as the key factor determining survival in the brewing industry**, says liquor industry

expert Robert S. Weinberg, Ph.D., in a Dec. 5 *Washington Post* article that deals in part with the Stroh-Coors buyout. The Associated Press article that quotes Weinberg also appeared in the Nov. 27 *Minneapolis Star Tribune* and the Nov. 20 *Hot Springs (Ark.) Sentinel Record*.

**The doctor who performed the first single lung transplant** ever in 1978, says that of 143 patients around the world who have received lung transplants, 96 are still alive. Joel D. Cooper, M.D., professor of surgery, was quoted in the Dec. 18 *New York Post*.

**Research in the early 1970s** by Lee N. Robins, Ph.D., professor of psychiatry, is mentioned in a Dec. 16 *Science News* article about non-addicted drug users.



# MEDICAL RECORD

## Suddenly breathless

### Doctors see increase in chronic airway disease

Late in 1987, Illinois farmer Robert Boettcher was delivering a truckload of prime vegetables to market when something he breathed changed his life. He remembers gasping for air and trying to roll down the windows as he drove. Two years later, he is afraid to walk into a field and fears the rain that nurtures his crops because both dust and moisture make breathing almost impossible for him. Like others similarly affected, he wheezes, coughs and can't catch his breath.

Environmental elements, like the one Boettcher was exposed to for less time than it took him to cross the Mississippi River, may be responsible for more breathing disorders than was previously believed. As the nation comes to rely on more chemicals, a whole new class of patients with environmentally induced chronic airway disease is emerging, according to researchers at the School of Medicine.

Just how many people are affected is impossible to predict, but investigators say the problem is greatly under-reported because so few physicians know of it.

"We used to think that if you breathed a toxic element, you either died or you got better," says Peter G. Tuteur, M.D., associate professor of medicine. "But that's not true. Serious illnesses can persist. Pulmonary physicians should be aware that patients reporting chronic problems after acute exposures are becoming more common."

In a paper presented Nov. 2, 1989, at the World Congress on Diseases of the Chest and the 55th Annual Assembly of Chest Physicians in Boston, Tuteur and his colleague, John P. Mitchell, M.D., reported on 20 patients exposed only briefly to elements in the atmosphere that have left them with debilitating breathing problems similar to asthma. A few patients have improved over time; others, like Boettcher, have worsened. Most (50 percent) have seen no significant changes in their chronic conditions.

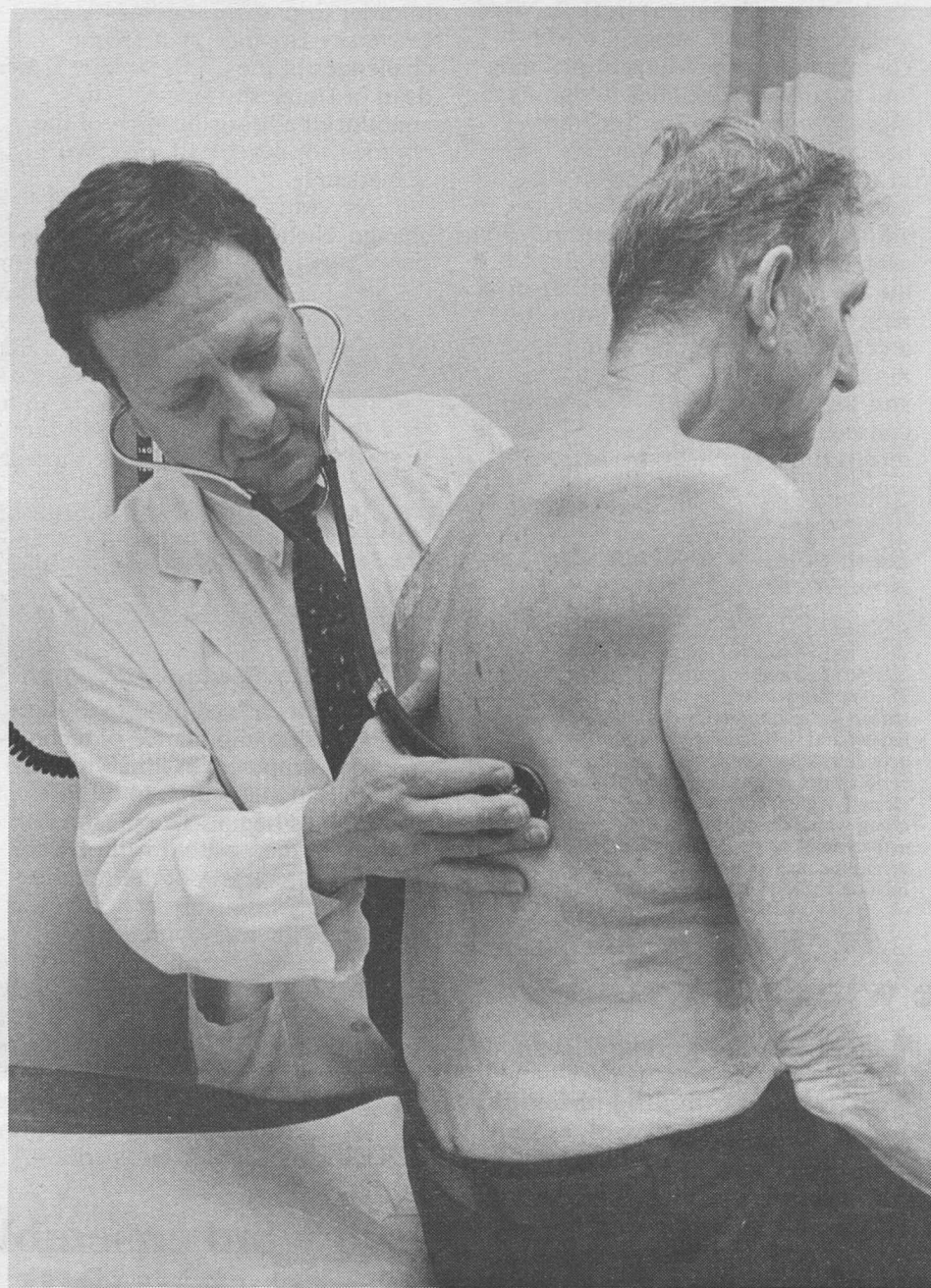
***"We used to think that if you breathed a toxic element, you either died or you got better"***

— Peter G. Tuteur

Among the 20 patients that Tuteur and Mitchell retrospectively observed, several mysterious circumstances prevail. None had a history of breathing difficulties. Fully 35 percent of the patients had never smoked cigarettes, and 17 had no prior allergies to complicate the scenario. Only three were admitted to a hospital for treatment following their initial, acute exposure, but none required intensive care or extended observation. They all later sought medical help to manage the chronic symptoms that developed. Mostly young and otherwise healthy, "there is no evidence that these people were latent asthmatics," Tuteur says. He adds that any change from "perfect air" triggers many of these patients into wheezing, coughing and severe shortness of breath.

#### Long-term disability

Scientific literature traditionally



Peter G. Tuteur, M.D., examines a pulmonary patient.

classifies induced airway diseases as "occupational asthma," or OA. Typically, OA involves the onset of asthma-like symptoms as a result of workplace exposure to compounds that act as allergens, exciting the immune system and prompting the production of antibodies. Such allergens are almost always made up of large, heavy molecules that scientists class as "high-molecular weight."

Although the existing literature includes some references to OA as a result of low-molecular-weight compounds and irritants, the disease that Tuteur and Mitchell have observed results solely from exposure to low-molecular-weight compounds and irritating fumes that do not cause allergic reactions. Such fumes have been implicated in a new class of lung disease called Reactive Airway Dysfunction Syndrome (RADS). And some of the elements that Tuteur and Mitchell have identified as likely culprits — aniline glues, powdered chlorine and fumes from a diesel motor fire, among others — are entirely new agents.

This syndrome also shows a new pattern for RADS, Mitchell says, exhibiting an unusually short exposure time and a chronicity that continues to disable the patients. The duration of observed symptoms ranges from four months to 11 years. None of the 20 cases has resolved, and all of the subjects report some restrictions on the activities of daily living. Four of the 20 cannot work, and two require occasional assistance with such tasks as dressing or cleaning their homes.

Robert Boettcher was transformed from an active outdoors

person into what he calls a "kitchen farmer," restricted to that room, where he watches hired hands work the 150 acres of Illinois bottomland that he learned to care for under his father's tutelage. Many late nights, Boettcher can rest only on the cool concrete of his basement floor because his lungs "feel like they're on fire." His symptoms force him to rely constantly on four inhalers and three systemic medications. Wheezing has robbed him of his nightly rest. Cooking fumes, changes in humidity or temperature, air fresheners, and especially dust set him gasping for breath, unable to get enough air to complete a sentence or take a sip of tea.

For others in the group, changes in ambient weather conditions, gasoline fumes, car exhaust, detergents, perfumes, scented soaps, aerosol sprays of any sort, freshly cut grass, and a host of other common substances create trouble in their breathing passages.

#### 'A loaded weapon'

To document the physical presence of the symptoms, Mitchell followed up on 17 of the 20 patients. He administered aerosol methacholine, a drug that causes people with asthma to suffer airway obstruction and symptomatic deterioration of airflow. In normal people, it has little or no effect. Thirteen of the patients, or 65 percent, responded powerfully to that bronchoprovocation challenge. The remaining patients were suffering airway obstruction at the time of their follow-ups, so further breathing difficulty was not provoked.

Although the syndrome Tuteur and Mitchell have observed might be

squeezed into the classification of occupational asthma, it is really neither of those things, the physicians say. Boettcher may have been working when he breathed the airborne element that so drastically affected him, but he could just as easily have been on his way to see a movie. Mitchell suggests that "casual" or "recreational" might be a better word than "occupational."

And, depending on how strict the definition, the condition is not really asthma, though it mimics that complicated syndrome's symptoms. Only a small percentage of everything that is called asthma is the classically described allergic disease caused by external elements, Tuteur explains. "Technically, this is non-specific hyperreactive bronchial airway disease and not asthma," he says. And it is RADS. "But really, mostly it's 'twitchy airways,' and it's a loaded weapon in these people's chests that can discharge at any time with the right trigger." To underline that description, Robert Boettcher, age 50 and never sick a day in his life until this happened, now says, "If I ever get a chest cold, I'm sure I'll die."

#### Mechanism a mystery

Tuteur and Mitchell cannot explain the mechanism by which the syndrome operates. "We have no idea why these people are selected," says Tuteur. "There were no preexisting lung problems; they're not allergic; many are not even smokers."

That less than perfect understanding is not surprising, says asthma expert Michael J. Holtzman, M.D., assistant professor of medicine in the respiratory and critical care division at the School of Medicine. After years of investigation, Holtzman says, even classic asthma has yet to be explained satisfactorily. "Almost certainly there is more than one mechanism at work in asthma." He adds that efforts to classify the various syndromes into types before isolating the mechanisms could be nothing more than "classification for its own sake."

Holtzman calls these recent observations "interesting preliminary investigations," and suggests additional studies aimed at deciphering the cause of the disease. Tuteur and Mitchell propose that further research could begin with the presumption that the mechanism is inflammatory. They have seen that cortico-steroids — anti-inflammatory agents — are most effective in controlling the symptoms of their patients, many of whom remain on this medication.

That's the case for Robert Boettcher, who relies so heavily on prednisone (a steroid) that he calls it "my baby." For three months this summer, Boettcher lived strictly by Tuteur's rules. He did not leave the house; he stayed away from cooking and aerosol fumes, and he took his medication regularly, though as a side effect it induces a disconcerting shaking in his movements strong enough to rock the kitchen table at which he sits. "And I was fine. I was cured," he says.

Except that he can't live that way, not when there are beans to be harvested, wheat to be planted, and horseradish to be tended. So, with a sigh and a shake of his head, Boettcher resigns himself to a future in which he often feels as if he is drowning. "I gotta farm," he wheezes, "what else am I gonna do?"

Steve Kohler



## Physicians' college honors Karl with Claypoole award

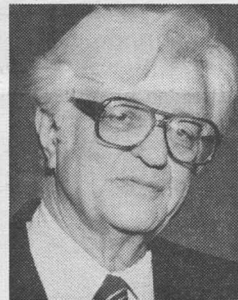
The American College of Physicians has selected Michael M. Karl, M.D., of the School of Medicine, to receive its Ralph O. Claypoole Sr. Memorial Award.

Karl, director of clinical affairs in the Department of Medicine, will receive the award April 26 in Chicago at the annual meeting of the American College of Physicians. The Claypoole Award is given to an outstanding practitioner of internal medicine. Criteria for the award include excellence in clinical skills and contributions to medical education and practice.

Karl's association with Washington University began in 1940, when he was named an assistant in the Department of Medicine. He opened his own practice in 1946 and joined the medical school's clinical faculty as an assistant professor in 1950. He was named professor of clinical medicine in 1972, and became director of clinical affairs in the Department of Medicine in 1987.

He is on staff at Barnes and Jewish hospitals, sponsoring institutions of the Washington University Medical Center, and at St. John's and St. Luke's hospitals.

Active in planning health and social services for the elderly, Karl



Michael M. Karl

was one of 40 members of a national advisory committee appointed by President Carter to the White House Conference on the Family in 1978. For his contributions toward

understanding the problems of the elderly, Karl received awards from the American Jewish Committee in 1981 and the National Conference of Christians and Jews in 1985.

He has also received the Distinguished Service Award of the Medical Alumni Association of Washington University, the Laureate Award of the American College of Physicians, and the Teacher of the Year Award of the Washington University Department of Medicine in 1985.

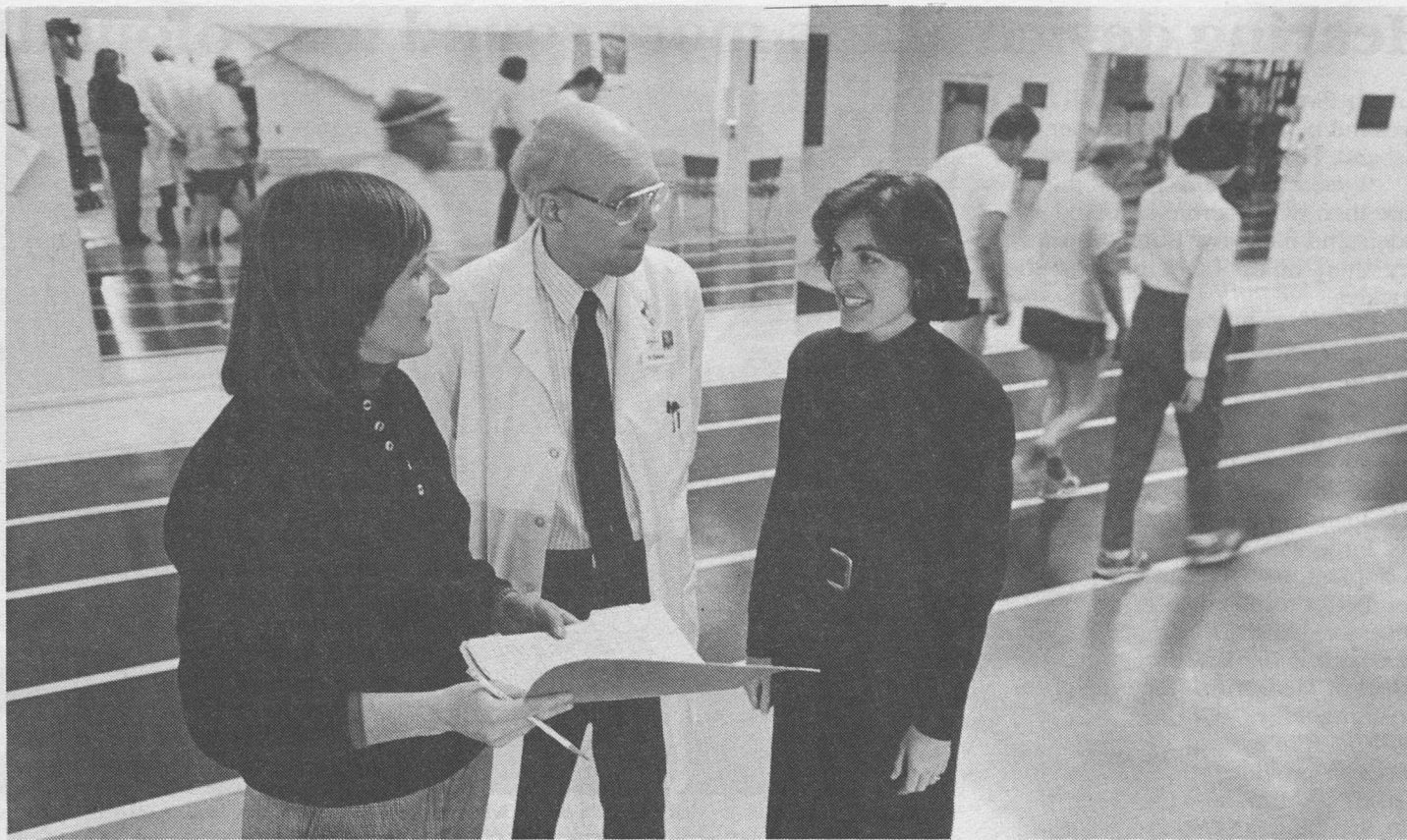
Karl is a diplomate of the American Board of Internal Medicine, a fellow and former governor for Missouri of the American College of Physicians and a member of the Institute of Medicine of the National Academy of Sciences.

The Irene E. and Michael M. Karl Professorship in Endocrinology and Medicine was established at the medical school in 1983 by anonymous donors. The professorship, as well as the Karl lectureship, honors Karl and his wife, a research professor in medicine for the Division of Metabolism and Endocrinology in the Department of Medicine, for their many contributions to the School of Medicine.

## Memorial service

A memorial service for Edward Massie, M.D., an internationally renowned cardiologist and professor emeritus of clinical medicine at the School of Medicine, will be held at 4 p.m. Monday, March 5, in Scarpellino Auditorium, located on the first floor of Mallinckrodt Institute of Radiology at the School of Medicine.

Massie died Feb. 5 of systemic amyloidosis, which causes multiple organ failure. He was 79.



From left, Wendy M. Kohrt, Ph.D., Richard E. Ostlund Jr., M.D., and Mary Malley took measurements and analyzed the blood of 146 healthy men and women in their 60s and found that body fat distribution is linked to HDL cholesterol levels. The study's volunteers are now participating in an exercise training program at the School of Medicine, which is investigating the effects of exercise on aging.

## Body shape

## For heart health, it's better to be a pear than apple

Belly fat is not where it's at, and not just because of appearance.

Researchers at the School of Medicine have found that people who gain weight in the stomach rather than elsewhere on the body tend to have low levels of HDL, the good cholesterol. HDL, or high density lipoprotein, is believed to help prevent heart disease by keeping cholesterol moving in the bloodstream so that it returns to the liver for disposal.

The research, headed by Richard E. Ostlund Jr., M.D., associate professor of medicine, was published in the Jan. 25 issue of the New England Journal of Medicine. This new information may help explain why some overweight people never get heart disease and others do, Ostlund says.

The study of 146 men and women

in their 60s indicates that when it comes to fat, it's the distribution — not total body content — that is most important in determining HDL levels.

"We think this is one reason why men are at increased risk for coronary heart disease as compared to women," Ostlund says. "Women tend to be shaped like pears, and men apples. But regardless of gender, people who were shaped like apples tended to have low levels of HDL and those who were shaped like pears tended to have high HDL levels."

Knowing the distribution of body fat can help identify people who need to reduce total body weight and other cardiovascular factors, he points out. This can be achieved through a number of measures, including diet, exercise and smoking cessation.

Fat on the hips is mostly subcutaneous fat, meaning it is just beneath the skin, Ostlund explains. But stomach fat is intra-abdominal and drains into the liver, affecting its metabolism. This results in resistance to insulin, production of glucose and lower levels of HDL. More research needs to be done to learn why, he says.

To figure body shape, Ostlund recommends measuring around the waist just below the rib cage and above the navel, then measuring the widest section of the hip and buttock area. Divide the first number by the second. Average numbers for women are .82, men .9. Anyone who exceeds .9 may want to pay more attention to their cardiovascular health.

## Nothwehr receives Cori predoctoral fellowship and prize

Steven Nothwehr, a student in the doctoral program at the School of Medicine, has been named the 1990 recipient of the Gerty T. Cori Predoctoral Fellowship and Prize.

The award, established by Sigma Chemical Company in 1984 in honor of the late Gerty T. Cori, provides support for either a M.D./Ph.D. or a Ph.D. candidate in biochemistry and molecular biophysics who has displayed outstanding research abilities in carrying out his or her thesis project.

Nothwehr's research focuses on

understanding how signal peptides function to direct proteins to be secreted from mammalian cells.

Using molecular biological techniques, he systematically changed amino acids in a signal peptide and then observed the effects on the protein's ability to enter the secretory apparatus. His results have provided new insights about the relationship between structure and function in signal peptides.

Nothwehr, working in the laboratory of Jeffrey I. Gordon, M.D., professor of medicine and of bio-

chemistry and molecular biophysics, is now developing rules on how to best adapt different signal peptides to different proteins. Information from his research could help genetic engineers design ways to produce and secrete a wide range of artificial or novel proteins with useful biological properties from cells.

The Cori Award provides a stipend as well as a monetary prize so that the recipient may attend a scientific meeting or buy books or other academic materials.

## Nobel prize-winning biochemist to give Erlanger lecture

Nobel Prize-winning biochemist Stanley Cohen, Ph.D., will deliver the first Joseph Erlanger Lecture Tuesday, Feb. 27, at the School of Medicine.

The lecture, "Epidermal Growth Factor and Its Receptor," is scheduled to begin at 4 p.m. in the Carl V. Moore Auditorium, 4580 Scott Ave.

Cohen, distinguished professor of biochemistry at Vanderbilt University and a former Washington University faculty member, is recognized internationally for his work on nerve growth factor (NGF) and epidermal growth factor (EGF). His lecture will focus on the mechanism by which growth factor receptors such as the EGF receptor mediate transmembrane

signalling in eukaryotic cells.

EGF's interaction with its cell surface receptor causes a series of electrical and biochemical changes that result in cell proliferation. This fundamental observation about the EGF receptor has opened important new fields in basic science, including study of the mechanisms of cellular differentiation and uncontrolled growth.

Cohen's first experiments on NGF and EGF were conducted at Washington University as a faculty member in the departments of zoology and radiology. For his work he received the 1986 Nobel Prize for physiology or medicine, sharing the award with Rita Levi-Montalcini,

Ph.D., professor of biology emerita at Washington University. Levi-Montalcini discovered nerve growth factor in 1951, and in 1954, she and Cohen isolated it. Cohen subsequently identified and isolated a second factor, epidermal growth factor.

In 1959, he joined the faculty at Vanderbilt as an assistant professor of biochemistry. He was named a distinguished professor there in 1986.

The Erlanger Lecture is sponsored by the School of Medicine's Department of Cell Biology and Physiology to honor the late Nobel Prize-winning physiologist Joseph Erlanger, M.D., who headed the department from 1910-46.



# MEDICAL RECORD

## Hearing device offers more sound to profoundly deaf patients

Barbara Pirtle of Jacksonville, Ill., loves the new hearing device her husband, Harry, recently received.

"I used to have to repeat things more than twice before he could understand me. Now I don't repeat very often, unless I talk too fast," she chuckles.

Pirtle is one of six subjects helping medical school audiologists test a device that improves functioning of 22-channel cochlear implants. Cochlear implants are surgically inserted to provide some sound to profoundly deaf patients who cannot be helped by conventional hearing aids. Pirtle was perfectly happy with his implant, he says, but has gotten even better results with its new processor, which is being evaluated at the Cochlear Implant Program in the School of Medicine's Department of Otolaryngology.

The Mini System 22 speech processor provides such a wide range of pitch and loudness that Pirtle is able, for the first time, to hear his first-grade granddaughter read. What's more, he can now understand the sermons of his pastor, whose beard makes lipreading difficult, and he has even been able to converse somewhat successfully on the phone.

The reason for the improved sound is that the new processor is all digital rather than analog, allowing for less stringent parameters of operation, explains Margaret W. Skinner, Ph.D., director of the Cochlear Implant Program. Washington University was the only one of 185 centers in the United States chosen to test the device. Additional testing is being conducted in Melbourne, Australia and Hanover, Germany.

Results of Skinner's preliminary



Margaret W. Skinner, Ph.D., (left) talks to a patient who has received the new Mini System 22 speech processor that is being evaluated at the Cochlear Implant Program in the School of Medicine's Department of Otolaryngology. The processor, which is about half the size and weight of its predecessor, is laying on the desk in front of the patient.

study indicate that all six patients and their families find communication is significantly easier. "They scored higher on word and sentence recognition tests, they had more sensitivity settings to optimize loudness of sound, and they were able to better suppress interfering background noise," she says.

With a cochlear implant, an external microphone placed above the ear picks up sound and relays it to the speech processor, which is worn on a belt or attached to clothing. The processor sends the signal through the skin to a surgically implanted receiver. The sound is then sent to an array of

electrodes in the cochlea and picked up by the nerves, allowing the patient to hear.

As technology for mini processors continues to improve, Skinner points out, people who already have 22-channel cochlear implants will be able to update their implants without additional surgery.

Skinner will present results of her study as the keynote speaker at the 1990 Colorado Otology-Audiology Conference March 4 in Breckenridge. In April she will discuss the mini processor at the Australian National Audiologic Meeting.

She recently received a three-

year \$411,489 National Institutes of Health grant to investigate methods for getting optimal benefit from cochlear implants. Results will be incorporated into ongoing clinical care of patients.

For Pirtle, this research is a godsend.

"I can talk to people now," he says. "I can go to a restaurant, order a hamburger and not worry if the waitress asks, 'Mustard or pickle?', because I can understand. It's the greatest thing that has ever happened to me. No one can imagine what it's like to hear again."

## Pain control: New method lowers drug doses, increases safety

A new method of pain control, now under study at the School of Medicine, allows patients recovering from cesarean sections to relieve their own pain with 60 to 80 percent less narcotic medication than the traditional alternative, intramuscular injections.

The new method is a spin-off of patient-controlled analgesia, or PCA, in which patients self-administer their pain medication. In conventional PCA, used mostly in conjunction with intravenous transfusions, patients dose themselves by pushing a button that releases pain-relieving medication through an intravenous catheter placed in an arm vein.

With this new method of PCA, pain-relieving drugs are released into the same epidural catheters that are used for epidural blocks during labor and cesarean surgery. "Because the drugs act directly on the spinal column and do not circulate in the blood, patients use less drug," says Paul F. White, M.D., Ph.D., professor of anesthesiology at the School of Medicine. "The drugs also are less likely to affect vital organs such as the heart and lungs," explains White.

He and his collaborator, Robert K. Parker, D.O., instructor in anesthesiology, hope to see PCA's popularity and use increase with this adaptation for patients who already have an epidural catheter in place. They reported their initial results with epidural-PCA in the September 1989 issue of *Anesthesiology*, the Journal of the American Society of Anesthesiologists.

In a study of 30 women scheduled to undergo elective cesarean delivery, White and Parker compared epidural- and IV-PCA, assigning patients randomly to one of the two

treatment groups. The epidural-PCA group needed 60-80 percent less drug to achieve comparable pain relief, but had a greater incidence of side effects such as hand or facial itching. Recovery and discharge times were similar for both groups, but patients who received epidural-PCA needed less oral analgesic medication after discontinuing PCA.

"Although patients may experience some itching with epidural PCA, it is not that bothersome and rarely requires treatment," White says. "There are minor side effects with both types of PCA therapy, but most patients seem to feel that they are outweighed by the benefits of this type of pain relief."

### Tailor-made relief

The idea of patients controlling their own pain relief is relatively new, having developed over the past 20 years because of the wide variability in patients' responses to pain medication. In the two most common forms of pain control — intramuscular injections and intravenous infusion — physicians determine how much medication they think their patients will need, Parker explains. Yet a correct dosage is difficult for physicians or nurses to determine because it may vary due to a number of factors: the patient's age, exercise level, personality type, normal pattern of pain medication use, liver efficiency and the surgery involved.

As a result, White says, physicians commonly err on the side of caution and underdose their patients. That provides unsatisfactory pain relief to 50 to 75 percent of patients, who in the medical literature report experiencing moderate to severe pain — despite medication — after sur-

gery. "In fact, it's so common that most patients have come to expect it." Even when the dose determined by the physician is adequate, White adds, patients often must wait for a nurse to give them their next injection.

"With PCA, patients give themselves what they need," Parker says. "It allows them to take what they need up to a set maximum." And because patients tend to administer smaller doses at more frequent intervals, PCA minimizes the peaks and valleys they would otherwise experience during the postoperative period.

### Patients in control

A patient questionnaire that White and Parker asked their patients to fill out before leaving the hospital indicates that patients prefer PCA because it gives them some control and reduces their anxiety about pain and the time required to ease it. "Even patients who said their pain relief wasn't any better than last time (without PCA) still prefer PCA, because they were given some control over their pain," Parker says. "When we bring patients into the hospital, we often take over their entire lives. PCA gives them something back. More than anything else, it helps them psychologically to have something they control."

Nurses also favor PCA because they spend less time signing out medications and preparing injections, White says. He cites a study by Brian Ready, M.D., associate professor of anesthesiology at the University of Washington in Seattle, in which 70 percent of the nurses surveyed preferred PCA over other methods of pain control. Even so, White notes, some physicians have been reluctant to allow their patients to use PCA for

fear they'll use too much drug and slow the recovery process.

### Dosages smaller, safer

The appeal of epidural PCA is that the overall narcotic dose is much less and the medication is confined to the spinal area, say obstetricians Bruce Bryan, M.D., and Darwin Jackson, M.D., whose patients participate in White and Parker's studies.

Because the pain medication is confined to the spinal area, physicians do not have to worry about medication affecting vital organs, according to Jackson. And mothers who plan to nurse aren't uneasy about drugs in their breast milk, Bryan notes.

In fact, epidural pain control is used during labor because the medication does not enter the mother's bloodstream to affect her fetus. Obstetricians at Wake Forest University Medical Center in North Carolina have shown that epidural-PCA can be an effective method of pain control during labor itself.

Could addictive personalities abuse PCA? It's not likely, according to White and Parker. They point out that the PCA devices have two built-in safeguards, one that allows patients to dose themselves only once every 30 minutes, and another that keeps patients from exceeding a given limit within the period of an hour.

White says some studies indicate that patients tend to use somewhat less analgesic medication with the PCA devices, but with greater satisfaction. "Patients generally don't want to overmedicate themselves," he comments. "In fact, some data suggest that patients on PCA tend to undermedicate themselves because they're concerned about possible side effects and addiction."

Kathy Heine



# PERSONNEL NEWS

## U.S. savings bonds: an investment for the future

Series EE U.S. savings bonds offer the best of both worlds. When held five years or longer, they earn the competitive market-based interest rates once available only to those with large amounts of money to invest. Plus, the bonds offer the added security of a guaranteed minimum rate, which protects owners from severe rate declines.

When you hold an EE bond for at least five years, you earn a rate based on the average return of five-year Treasury securities costing \$1,000 or more. Yet your cost to start buying bonds is as little as the smallest payroll allotment provided by your employer.

The result is a significant return. The total will depend on future market performance, but owners are guaranteed to earn at least six percent (the current guaranteed minimum rate) if they hold their bonds at least five years. Bonds redeemed sooner receive reduced yields.

You can easily track the progress of the market-based rate for your bonds. Each May and November the Treasury Department announces the market-based rate for interest periods beginning in the following six months along with the market-based averages logged by bonds issued previously. When a bond has been held five or more years, the market-based average applying to it — or minimum rate, if higher — is applied from the date of purchase to determine redemption value. It's easy to get current rate information. Just call, toll-free 1-800-US Bonds (1-800-872-6637).

### The dream security

Savings bonds are worth buying for the market-based rate alone. But there is much more to EE bonds than interest rates — and more is better.

**Registration:** You can choose from three forms of registration, depending on your needs. They are the single ownership form, in the name of one person; co-ownership form, with two persons as co-owners; beneficiary form, with one person as owner and another as beneficiary.

No more than two people may be named on any one bond. However, many employers allow multiple allotments for bonds with differing inscriptions. In all cases, owners or first-named co-owners must provide their Social Security numbers for inscription onto the bonds (this enables the Treasury to replace lost or stolen securities — another benefit of owning savings bonds).

**Denominations:** Payroll savers choose from a number of denominations, each costing one-half of its face value. Prices start at just \$50 for the \$100 denomination. Other denominations (and cost prices) are: \$200 (\$100), \$500 (\$250), \$1,000 (\$500), \$5,000 (\$2,500), and \$10,000 (\$5,000). Some employers do not offer the largest denominations through their payroll plans, but all denominations are available for purchase through most financial institutions.

**Taxes:** The interest earned on Series EE bonds is exempt from state and local income taxes, effectively increasing the yield in locales with

such taxes. Federal tax reporting may be deferred until redemption or final maturity, whichever comes first.

**Safety:** As registered obligations of the United States, savings bonds are as safe as any security can be. Principal and interest are backed by the full faith and credit of the United States. If your bonds are lost, stolen or destroyed, you can apply for free replacement by writing to the Bureau of the Public Debt, Parkersburg, WV 26106-1328. To speed replacement, keep a record of your bond serial numbers in a safe place apart from the bonds themselves. Use the "Personal Record of Ownership" form SBD-1948, available from all savings bonds division offices.

**Redemption:** Savings bonds may be redeemed, without fee or commission, at any time after six months from issue date. Redemption agents include most commercial banks and many other financial institutions throughout the United States.

**Maturity:** New Series EE bonds have an original maturity of 12 years, the maximum time it takes a bond to reach its face value. All EE bonds have been granted extension periods beyond their original maturities, bringing their interest-bearing lives to 30 years. Market-based rates allow a bond to reach face value before maturity, but they keep earning interest to the end of their extended maturity. However, the guaranteed rate in an extension period is the rate that applies to new issues at the time a bond enters the extension.

**Older bonds and notes:** All Series E bonds and savings notes (freedom shares) also earn market-based interest or their guaranteed rate, whichever is more. Series E bonds issued through November 1965 reach final maturity, and stop earning interest, when they are 40 years old. All other E bonds, savings notes, and

EE bonds reach final maturity 30 years from their date of issue. Bonds reaching final maturity should be redeemed or exchanged for Series HH bonds. HH bonds pay current income to owners at a fixed rate of six percent for 10 years, plus a 10-year extension period during which the rate may be different. To continue the tax-deferral privilege, E and EE bonds and savings notes must be exchanged for HH bonds within a year of their final maturity dates. The minimum amount that may be exchanged for an HH bond is \$500.

### Education, retirement funds

**Education:** Is college in your child's future? Is paying for it a worry? Savings bonds are the answer for many parents. A recent law has added a new feature. Interest earned on savings bonds purchased on or after Jan. 1, 1990, when used to pay the tuition and fees of institutions of higher learning, may be completely tax free. To qualify, bonds must be purchased by parents in their own names, and certain income limitations must be met at the time of redemption. For parents who cannot meet the terms of the new exemption, savings bonds still can be purchased in such a way as to minimize taxation. For details on both college savings methods, see the companion brochure on Education Savings Bonds, SBD-1964, available from your payroll office or from the U.S. Savings Bonds Division.

The earlier you start saving, the more you will have when your child is ready for college. For example:

Child's Age Now*	Value† at Age 18 Based on Monthly Allotments of:	
	\$50.00	\$100.00
1	\$17,356.08	\$34,712.16
6	10,328.96	20,657.92
10	6,025.72	12,051.44
12	4,226.88	8,453.76

## Recent tax law changes are highlighted

The following are some of the highlights of recent tax law changes:

- The amount of each personal and dependency exemption has increased to \$2,000 for 1989 — up from last year's amount of \$1,950. (As was previously the case, if you are entitled to claim another taxpayer as a dependent, that person cannot claim him- or herself as an exemption too.)
- Personal interest expenses (interest on a personal loan, bank credit card interest, etc.) that can be deducted will drop to 20 percent for 1989.
- Now you are required to give the Social Security number of any dependent you claim who will be two years old or older at the end of the tax year. Applications and information can be obtained from the Social Security Administration.
- Beginning in 1990, most taxpayers age 24 or older may exclude from income, interest on redeemed Series EE U.S. savings bonds issued after 1989, if the taxpayers pay tuition and required fees for themselves, their spouses or dependents at an eligible educational institution.
- Starting with this year's federal tax return, if a child has more than \$500 but less than \$5,000 in interest or dividends (including Alaska Permanent Fund dividends), no federal income tax withheld and no earned income, the parents may be able to include this unearned income on their own return. However, the child must be under 14 years of age at the end of the parent's tax year. If the parents do

this, the child does not have to file a tax return.

- Beginning in 1989, if part of a child's income is taxed at the parent's tax rate, the child is not eligible for the regular exemption amount when figuring alternative minimum tax. The child's alternative minimum tax exemption amount will be limited to \$1,000 plus the child's earned income. (The alternative minimum tax is a special tax designed to ensure that all taxpayers pay at least some tax regardless of the deductions and tax credits to which they may be entitled.)
- Both self-employed individuals and now their employees may be exempt from paying Social Security taxes if they are members of a religious faith that is conscientiously opposed to the acceptance of public or private insurance benefits.
- The targeted-jobs credit that permits employers to claim a tax

\*Current tax law requires children age 5 and above to have a Social Security number.  
†Assumes annual interest rate of 6 percent (current minimum rate). Rate (and thus yield) could be higher.

**Retirement:** There are two ways you can use bonds to save for your dream retirement, and save on taxes, too. Start saving regularly today. After retirement you can cash bonds to supplement your other retirement income, reporting the tax-deferred interest as income on your federal return. Because you may be in a lower tax bracket, you'll have more of the money you saved to enjoy. You can also use bonds to add to your regular retirement income. Just exchange your EE bonds, in values of \$500 or more, for Series HH bonds, which pay interest semiannually for 20 years. You may continue to defer taxation of your EE bond interest at the time of the exchange until the HH bonds are redeemed. The result is income on your EE bond principal and tax-deferred interest, meaning a higher after-tax yield for you. HH bond interest is subject to federal income tax as it is paid.

The more you can allot to savings bonds, the greater your total savings will be when you need them, and the faster you'll reach your savings goals.

Save Every Two Weeks	For 5 Years*	For 8 Years*	For 12 Years*
\$ 7.50	\$ 1,110.88	\$ 1,962.68	\$ 3,366.38
12.50	1,857.60	3,279.12	5,624.72
25.00	3,719.74	6,565.98	11,263.18
50.00	7,439.48	13,131.96	22,526.36
100.00	14,878.96	26,263.92	45,052.72

\*Assumes an annual interest rate of 6 percent (current minimum rate). Rate (and thus yield) could be higher.

Payroll deductions are available to those who want to save through the U.S. Savings Bond Plan. Payroll deduction forms can be obtained in the Personnel Department, North Brookings, Room 126, or by calling 889-5990.

credit for wages paid to members of certain targeted groups was extended through 1989. More information can be found in the free IRS Publication 572, General Business Credit.

• Some purchasers of diesel and non-gasoline aviation fuels for off-highway business uses became, as of Jan. 1, 1989, exempt from paying excise tax on these purchases.

• Self-employed artists, writers and photographers were subject to the rules of uniform capitalization, which required them to add to the basis or include in inventory direct and indirect costs of producing an item. However, they are no longer subject to these rules. This is retroactive to 1986.

More information on any of these tax law changes can be found in the free IRS Publication 553, Highlights of 1989 Tax Changes. It can be ordered by calling, toll-free, 1-800-424-3676.

## Employee community service applauded

The Washington University community was busy during the holiday season spreading good cheer throughout the St. Louis area.

In December, the University community contributed \$1,724 to the 100 Neediest Cases fund-raising campaign. This holiday season campaign for the needy in St. Louis is sponsored by the Post-Dispatch and United Way.

Contributing schools and departments were: Office of Financial Planning, Health Service, Public Relations, School of Architecture, University College, Summer School, Athletics, Office of Admissions, Financial Aid, School of Business, Alumni and Development, Residential Life, School of Engineering and Personnel/Faculty Records.

## Personnel News

Personnel News appears monthly in the Record and is prepared by Gloria W. White, vice chancellor for personnel and affirmative action, and other members of the Personnel Office. Personnel News is designed to keep Washington University employees and their families informed of the benefits and opportunities available at the University.



# CALENDAR

Feb. 22-March 3

## LECTURES

Thursday, Feb. 22

**2:30 p.m. Dept. of Mechanical Engineering Colloquium**, "Turbomachinery Structural Dynamics: Status and Needs," Robert E. Kielb, manager, Blade Stress and Aeromechanics Technology, GE Aircraft Engines, Cincinnati, Ohio. Room 100, Cupples II.

**3:45 p.m. Dept. of Anthropology Colloquium**, "Origins of Agriculture and Villages in Levant," Andrew Moore, prof. of anthropology, Yale U. Room 101, McMillan Hall.

**4 p.m. Assembly Series Association of Black Students/Council of Students of Arts and Sciences Lecture** by Maya Angelou, Reynolds Professor of American Studies, Wake Forest U., and author of *I Know Why the Caged Bird Sings*. Graham Chapel. Seating for the general public will be limited; the general public will not be admitted before 3:45 p.m. For more info., call 889-4620.

**4 p.m. Neural Science Seminar**, "Parallel Pathways in Vision," Peter Schiller, Dept. of Brain and Cognitive Sciences, M.I.T. Room 928, McDonnell Medical Sciences Bldg.

**4 p.m. Dept. of Pathology Seminar**, "Large Scale Physical Mapping of Human Chromosomes," Maynard Olson, WU Dept. of Genetics. 3rd Floor Aud., Children's Hospital.

**4:15 p.m. Dept. of Philosophy Colloquium**, "Imminent Truth," Michael D. Resnik, University Distinguished Professor, U. of North Carolina. Brown Hall/Lounge.

**8 p.m. Dept. of English Colloquium**, "What is Truth?" Said Jesting Bacon; or, The Pleasures of the Webb," Linda Salamon, WU prof. of English and dean, College of Arts and Sciences. Hurst Lounge, Duncker Hall. For more info., call 889-5190.

Friday, Feb. 23

**Noon. Dept. of Cell Biology and Physiology Noon Seminar**, "Isolation of Endosomes Using High Gradient Magnetic Affinity Chromatography," Jacques Baenziger, WU School of Medicine Dept. of Pathology. Cell Biology Library, Room 4914, South Bldg.

**Noon. Dept. of Surgery Transplant Seminar**, "Working Toward Achieving Successful Xenotransplantation," Fritz Bach, Dept. of Laboratory Medicine and Pathology, U. of Minnesota. 3rd Floor Aud., Children's Hospital.

Saturday, Feb. 24

**9 a.m. Saturday Morning Neural Sciences Seminar**, "Why Hodgkin and Huxley Were So Disappointed in Their Work," Ed McCleskey, WU Dept. of Cell Biology and Physiology. Erlanger Aud., McDonnell Medical Sciences Bldg.

**11 a.m.-12:30 p.m. Master of Liberal Arts Program and University College Saturday Seminar**, "The Tick of Literature and the Tock of Philosophy," William Gass, WU David May Distinguished University Professor in the Humanities. Women's Bldg. Lounge. For more info., call 889-6802.

Monday, Feb. 26

**4 p.m. Dept. of Psychology Spring Colloquia Series**, "A PDP Approach to Phonological Encoding in Language Production," Gary Dell, Dept. of Psychology, U. of Illinois. Room 110, January Hall.

**4 p.m. Dept. of Biology Seminar**, "Medical Ethnobotany in the Highlands of Chiapas, Mexico: Recent Findings on Mayan Traditional Herbal Medicine," Brent Berlin, Dept. of Anthropology, U. of California, Berkeley. Room 322, Rebstock Hall.

**8 p.m. School of Architecture Harris Armstrong Memorial Lecture**, "Building vs. Images," Max Bond, dean, School of Architecture and Environmental Studies, The City College of New York. Steinberg Hall Aud. For more info., call 889-6200.

Tuesday, Feb. 27

**Noon. Dept. of Earth and Planetary Sciences Colloquium**, "Seismology of the Sun," Michael Ritzwoller, fellow, Institute for Theoretical Physics, U. of California, Santa Barbara. Room 102, Wilson Hall.

**Noon. Dept. of Sociology Lecture**, "Issues Involved in the Closure of the WU Dept. of Sociology," William V. D'Antonio, executive director, American Sociology Assoc. Lambert Lounge, Mallinckrodt Center. For more info., call 889-6650.

**2:30 p.m. Dept. of Chemical Engineering Seminar**, "Control of Phase Structure and Properties of Polymer Blends," Donald R. Paul, prof. of chemical engineering, U. of Texas, Austin. Room 101, Lopata Hall. For more info., call 889-6063.

**4 p.m. Dept. of Cell Biology and Physiology First Erlanger Lecture**, "Epidermal Growth Factor and Its Receptor," Stanley Cohen, Distinguished Professor, Dept. of Biochemistry, Vanderbilt U. School of Medicine. Moore Aud., Cancer Research Bldg.

Wednesday, Feb. 28

**11 a.m. Assembly Series Thomas Hall Lecture**, "Miniparks and Megazoos: From Protecting Ecosystems to Saving Species," William Conway, general director, New York Zoological Society. Graham Chapel. For more info., call 889-4620.

**4 p.m. African and Afro-American Studies Panel Discussion**, "South Africa: The Beginning of the Last Chapter?" Room 109, Simon Hall. For more info., call 889-5690.

**4 p.m. Dept. of Physics Colloquium**, "Particle Physics," speaker to be announced. Room 204, Crow Hall. (Refreshments will be served at 3:30 p.m. in Room 245, Compton Hall.) For more info., call 889-6276.

**5:15-6:30 p.m. University College Back-to-School Workshop**, "Returning to Learning," Peg Atkins, WU academic adviser. To register, call 889-6777.

Thursday, March 1

**Noon. Dept. of Genetics Spring Seminars**, "Molecular Genetic Analysis of Human Neuroblastoma," Garrett Brodeur, WU Dept. of Pediatrics. McDonnell Medical Sciences Bldg., Room 816.

**2:30 p.m. Dept. of Mechanical Engineering Colloquium**, "Non-Traditional Applications for Finite Element Analysis," Lorraine Olson, Dept. of Mechanical Engineering, U. of Michigan. Room 100, Cupples II.

**3:45 p.m. Dept. of Anthropology Colloquium**, "Sources of Variation in Reproduction and Development in Baboons," Jeanne Altmann, Dept. of Biology, U. of Chicago. Room 101, McMillan Hall.

**4 p.m. Dept. of Earth and Planetary Sciences Seminar**, "Hotspots: Utility and Origin," Donna Jurdy, assoc. prof., Northwestern U. Room 102, Wilson Hall.

**4:15 p.m. Dept. of Philosophy Colloquium**, "King Solomon and Everyman: A Problem of the Morality of Expectations," Amelie Rorty, prof. of philosophy, Radcliffe College and Mount Holyoke College. Hurst Lounge, Duncker Hall. For more info., call 889-6670.

Friday, March 2

**8 a.m.-5 p.m. WU School of Dental Medicine Seminar**, "Update in General Practice." School of Dental Medicine, 4559 Scott Ave. Registration and fee required. For more info., call 454-0350.

**3:30-5 p.m. Asian Studies Science and Ideology in China Lecture**, "Chinese Scientists and Thought Reform," Kathleen Dugan, assoc. prof. of the history of science, Graduate School of the Chinese Academy of Sciences, Beijing, China, and director, Ford Foundation Program, Hampshire College. The May Aud., Simon Hall. For more info., call 726-4448.

**6 and 8:30 p.m. Washington University Travel Lecture Series**, "Hungarian Homecoming," Sherilyn Menten, filmmaker. Graham Chapel. For ticket info., call 889-5122.

**8:30 p.m. Hillel Foundation Lecture** by Daniel Peer, Israeli news anchorman. Hillel Foundation B'nai B'rith, 6300 Forsyth Blvd. For more info., call 726-6177.

## PERFORMANCES

Friday, Feb. 23

**8 p.m. Performing Arts Dept. Presents "Burning Patience"**, a play by Antonio Skarmeta, Chilean playwright and visiting prof. of Romance languages and literatures. (Also Feb. 24-25 and March 2-4, same time.) Mallinckrodt Center Drama Studio, Room 208. Cost: \$7 for general public; \$5 for senior citizens and WU students, faculty and staff. For more info., call 889-6543.

**8 p.m. Edison Theatre Presents The American Indian Dance Theatre**, a world-renowned troupe specializing in American Indian dances. (Also Sat., Feb. 24, at 8 p.m. and special children's performance at 2 p.m.) **All performances are sold out.** Edison Theatre. For more info., call 889-6543.

Friday, March 2

**8 p.m. Edison Theatre Presents "Terrors of Pleasure"**, a monologue by Spalding Gray, OBIE award winner. (Also Sat., March 3, same time. Gray will perform "Monster in a Box" on this date.) Edison Theatre. Cost: \$16 for general public; \$12 for senior citizens and WU faculty and staff; and \$8 for students. For more info., call 889-6543.

## MUSIC

Saturday, Feb. 24

**8 p.m. Dept. of Music Presents** "A Program of Love Songs of 17th-century England and Italy," Nigel Rogers, tenor, and Paul O'Dette, lute and theorbo. Co-sponsored by the Endangered Arts Foundation. Graham Chapel. Cost: \$10 in

advance and \$12 at the door for general public; \$8 for senior citizens and WU students, faculty and staff. For ticket info., call 889-5574.

Sunday, Feb. 25

**3 p.m. Dept. of Music Presents a Combined Concert**: the WU Wind Ensemble, Dan Presgrave, director, and the Southwest Missouri State U. Wind Ensemble, Robert Scott, director. Edison Theatre. For more info., call 889-5574.

**7 p.m. Dept. of Music Recital**, "The Art Songs of Margaret Ruthben Lang," Judith Cline, soprano, and Gail Andrews, piano. Women's Bldg. Lounge. For more info., call 889-5574.

Wednesday, Feb. 28

**8 p.m. Dept. of Music Presents the WU Jazz Band**, Chris Becker, director. The Gargoyle, Mallinckrodt Center. For more info., call 889-5574.

Friday, March 2

**8 p.m. Dept. of Music Presents a Voice Recital** by Regina McLean, soprano. McMillan Hall Cafeteria. For more info., call 889-5574.

## EXHIBITIONS

**"The Prayer of the Ethiopian Jews,"** photographic exhibit. March 1-4. Sponsored by the Hillel Foundation B'nai B'rith at WU, 6300 Forsyth Blvd. 10 a.m.-9 p.m. For more info., call 726-6177.

**"Prints by Richard Bosman: 1978-1988."** Through March 11. Gallery of Art, lower gallery, Steinberg Hall. 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-4523.

**"St. Louis and the West: Rare Books and Uncommon Historical Pieces From the Collections of WU Libraries,"** Olin Library Special Collections exhibit. Through March 2. Olin Library, level 5. 8:30 a.m.-5 p.m. weekdays. For more info., call 889-4670.

**"Stalking the Wild Grant? Start in Olin,"** Olin Library exhibit. Through March 15. Olin Library, Level 4. Open during regular library hours. For more info., call 889-4670.

**"Washington University Fine Arts Collection."** Collection includes European and American art from the post-World War II era, as well as ancient Greek vases. Through March 25. Gallery of Art; upper and lower galleries, Steinberg Hall. 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-4523.

**"Classic Views of the Brain, 1550-1949,"** sponsored by the Library and Biomedical Communications Center at the School of Medicine. Through March 30. History of Medicine Gallery, School of Medicine Library. 8:30 a.m.-5 p.m. weekdays. For more info., call 362-4239.

## FILMS

Thursday, Feb. 22

**7 and 9 p.m. Filmboard Series**, "Ballad of a Soldier." \$2. Brown Hall.

**7 p.m. Dept. of Romance Languages and Literatures French Film Series**, "Entre nous." Ridgley Hall, Language Lab, Room 210.

Friday, Feb. 23

**7 and 9:30 p.m. Filmboard Series**, "Dead Poets Society." (Also Sat., Feb. 24, same times, and Sun., Feb. 25, at 7 p.m.) \$2. Brown Hall.

**Midnight. Filmboard Series**, "Scarface." (Also Sat., Feb. 24, same time, and Sun., Feb. 25, at 9:30 p.m.) On Fri. and Sat., both the 9:30 p.m. and midnight films can be seen for a double feature price of \$3; both Sun. films can be seen for \$3. Brown Hall.

Monday, Feb. 26

**7 and 9:30 p.m. Filmboard Series**, "East of Eden." (Also Tues., Feb. 27, same times.) \$2. Brown Hall.

Wednesday, Feb. 28

**7 and 9:30 p.m. Filmboard Series**, "Wings of Desire." (Also Thurs., March 1, same times.) \$2. Brown Hall.

Thursday, March 1

**7 p.m. Dept. of Romance Languages and Literatures French Film Series**, "Le Genou de Claire (Claire's Knee)." Ridgley Hall, Language Lab, Room 210.

Friday, March 2

**7 and 9:30 p.m. Filmboard Series**, "Brazil." (Also Sat., March 3, same times, and Sun., March 4, at 7 p.m.) \$2. Brown Hall.

**Midnight. Filmboard Series**, "Monty Python Live at the Hollywood Bowl." (Also Sat., March 3, same time, and Sun., March 4, at 9:30 p.m.) On Fri. and Sat., both the 9:30 p.m. and midnight films can be seen for a double feature price of \$3; both Sun. films can be seen for \$3. Brown Hall.

## SPORTS

Thursday, Feb. 22

**5:30 p.m. Men's Junior Varsity Basketball.** WU vs. Maryville College. Field House Gym.

**7:30 p.m. Men's Basketball.** WU vs. Maryville College. Field House Gym.

Saturday, Feb. 24

**Noon. Men's and Women's Swimming and Diving.** WU-St. Louis Metro Invitational. Millstone Pool.

## MISCELLANY

Thursday, Feb. 22

**7:30 p.m. WU Aids Task Force Lecture/Performance**, "Hot, Sexy and Safer," Suzi Landolph of the Fenway Community Health Center, Boston, Mass. Edison Theatre. For more info., call 889-5994.

**10 p.m. Thurtene Promotional Night** at Schmiezings Millbrook Cafe. 375 N. Big Bend. For more info., call 727-9574 or 727-8255.

Friday, Feb. 23

**9 a.m.-4 p.m. Women's Program Council of the Higher Education Center Conference**, "Developing Strategies for the 90s: Programmatic, Personal, and Professional." Co-sponsored by the American Council on Education's National Identification Program for Women in Higher Education Administration. Busch Memorial Center, St. Louis U., Grand and Laclede. Cost: \$35. Registration deadline is Tues., Feb. 20. For more info., call 658-2212.

**3 p.m. Campus Bookstore Book Signing and Talk** With John Allen Paulos, author of *Innumeracy: Mathematical Illiteracy and Its Consequences* and prof. of mathematics and presidential scholar, Temple U. Campus Bookstore, Mallinckrodt Center. For more info., call 889-5696.

Saturday, Feb. 24

**6 p.m. The Black Alumni Council at WU Scholarship Dinner/Dance.** U.S. Rep. Ronald V. Dellums, D-Calif., guest speaker. Cost: \$35 per person. The proceeds will provide scholarships for black students at WU. The Adam's Mark Hotel, 4th and Chestnut. For more info., call 889-5690.

Wednesday, Feb. 28

**11 a.m. School of Law Presents "A Tribute to the Nation's First Women Law Students,"** "Mrs. Miniver's Mirror," Wisconsin Supreme Court Justice Shirley S. Abrahamson. 3 p.m. Wiley Rutledge Moot Court Competition. Room 316 Mudd Law Bldg. 5 p.m. reception in Foote Lounge. For more info., call 889-6400.

**2-3 p.m. Mallinckrodt Institute of Radiology and Barnard Free Skin and Cancer Hospital Sponsors V.I.P. Support Group** for families of cancer patients. Group meets every Wednesday to share common concerns, feelings and questions that can result from the diagnosis of cancer. Cancer Info. Center, 1st fl. Barnes Hospital. For more info., call 362-7844.

Thursday, March 1

**9 p.m. Thurtene Rat Night.** The Umrathskeller. For more info., call 727-9574 or 727-8255.

Saturday, March 3

**1-4:30 p.m. Performing Arts Dept. Workshop**, "Dance Injuries: Prevention and Care," Jan Dunn, lecturer, WU Performing Arts Dept. Cost: \$15 for the general public, ages 12 and up; no charge for WU faculty, staff and students. Olin Dance Studio, Women's Bldg. For more info., call 889-5857.

## Calendar Deadline

The deadline to submit items for March 8-17 calendar of the Washington University Record is Feb. 23. Items must be typed and state time, date, place, nature of event, sponsor and admission cost. Incomplete items will not be printed. If available, include speaker's name and identification and the title of the event; also include your name and telephone number. Send items to Andrew Cox, calendar editor, Box 1070, or by electronic mail to p72245pp at WUVMC.