Ancient art

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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. To commemorate 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 Mock 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 R. 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 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 judicial officer. She became an orator and prominent member of the suffrage movement and was influential in securing constitutional protections for women's rights.

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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. Her other films include "True Stories," "Stars and Stripes" and "Beaches," starring Bette Midler and Barbara Hershey. He is best-known for his OBIE award-winning monologues "Swimming to Cambodia," which was made into a critically acclaimed film of the same name by Jonathan 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 Sidney Schanberg.

New York Times correspondent

Gray's exclusive engagement at Edison Theatre marks one of the few times he has performed live in the 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 by a 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.

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 "Mini-parks and Megazooes: The Problem of Protecting Ecosystems to Saving Species."

A 1951 graduate of Washington University, Conway has been extensively on zoo and conservation biology. Under his direction, the New York Zoological Society has created the America Zoo Foundation and a conservation division, which has conducted more than 110 conservation projects in 41 countries. In 1985, Conway received the Martin Perkins Award from the American Society of Zoological Parks and Aquariums.

The Thomas Hall Lecture honors Thomas Hall, University prominent emeritus of biology and history of science, who served as chairman of the university's biology department from 1961 to 1982. The lecture was established as a forum for scientists concerned with the relationship between science and society.

For more information on the lecture, call 889-6620.

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• More sound to profoundly deaf patients. Page 6

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Local panelists: Daniel Sheu, Ph.D., professor of English, portraits Nobel Prize-winning Chilean poet Pablo Neruda and student Michael Leonard in the Performing Arts Department production of the play "Burning Patience," which will be staged at 8 p.m. Feb. 29-25 and March 1-4 in the Diana Studio, Room 208 Mallackrodt 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 Ida Negra in Chile. Talent is provided by community members and students. For more information, call 889-5443.

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 arts 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 go to support operations of the Black Repertory Theatre, the Craft Alliance Education Center, Dance St. Louis, KETV/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 will help ensure the vitality of cultural opportunities available to us here in St. Louis.

The Baldwin essay entries should be postmarked by March 9. A winner and two runners-up will be awarded to the winners of two separate poetry contests open to students. Gerald E. Roediger, professor of English and African and Afro-American Studies and the University's Ida, director of special projects, information and foundations for the John M. Olm School of Business, has 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 essay 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 pages 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 Baldwin essay contest will be open to all undergraduate students.
**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, recently announced a reorganization of the Libraries' top-level staff, effective immediately.

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

A 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 oversee 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 our institution," says Baker. "We are moving into an era where support for a strong technological foundation is critical."

**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 8:30 p.m. on Friday, April 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 International Wind Band Composition Contest and the American Band Directors Association Composition Contest. The ensemble is conducted by Dan R. Presgrave, director of the University's wind music program.


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 the Cold Europe and the Soviet Union change our views of military strategy. A current defense debate should focus on strategy, argues James W. Davis, M.D., professor of psychiatry, in a Dec. 16 editorial. "By focusing on military strategy today, we are not, he says, addressing the critical issue of how military strategy fits into our views of military need. The" decisions we make now have consequences for our views of military need, "and for our views of military need." We need to decide how we define and measure military need, and how to apply our views of military need to our views of military strategy."

Recently, the House of Representatives was considering a bill that would appropriate funds for military strategy. The bill would authorize funds for military strategy, but it would also authorize funds for the development of new military technology. The bill would also authorize funds for the development of new military technology, and it would also authorize funds for the development of new military technology.

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John P. Mitchell, M.D., reported on 20 air" triggers many of these patients evidence that these people were otherwise healthy, "there is no that developed. Mostly young and tion. They all later sought medical Long-term disability adds that any change from "perfect help to manage the chronic symptoms intensive care or extended observa-

breathing difficulties. Fully 35 percent observed, several mysterious circum-

Only three were admitted to a hospi-

conditions.

Mitchell have identified as likely elements that Tuteur and ranges from four months to 11 years. Some of the elements that Tuteur and 'Mechanism a mystery' They 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 under-

"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 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 never suspected they were ill; others, like Boettcher, have worsened. Most (50 percent) have noticed marked changes in breathing over one to two years. Among the 20 patients that Tuteur and Mitchell encountered, observed, several mysterious circums-

"A loaded weapon" "feels like they're on fire." His symp-

"Mechanism a mystery" "Almost certainly there is more than one mechanism at work in asthma." He adds that efforts to classify the syndrome are more than "classification for its own sake."

Holzman calls these recent observations "fascinating preliminary investigations," and suggests addi-

"Mechanism a mystery" "recreational" might be a better word for it. asthma. "Technically, this is non-specific hypertensive bronchial asthma and disease," he says. And it is RADS. "But really, mostly it's 'twisty 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 began, now says, "If I ever get a chest cold, I'm sure I'll die." "Mechanism a mystery" "Almost certainly there is more than one mechanism at work in asthma." He adds that efforts to classify the syndrome are more than "classification for its own sake."

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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 6 at 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 Medical Center began in 1910, 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 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.

Karl is a diplomate of the American Board of Internal Medicine, a fellow and former professor 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 begun in 1946, the year Karl entered medical school in 1945 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 internist and 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 campus 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.

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.

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 biology 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 advisor said. "Nothwehr has 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 biochemistry 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 factors and the epidermal growth factor 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 1999, he joined the faculty at Vanderbilt as an assistant professor of biochemistry. He was named a distinguished professor there in 1996.

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.
Hearing device offers more sound to profoundly deaf patients

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

The implants are 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 the 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 up his main hurdle. "It's been even able to converse somewhat successfully on the phone."

"I think it's an 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 one of six medical schools 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 study indicate that all six patients and their families find communication is significantly easier. They scored higher on word and sentence recognition and were able to understand and select noise," she says.

"With this processor, 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 the implants will be able to update their implants without additional surgery.

"We're seeing results of her study as the keynote speaker at the 1990 Colorado Otolaryngology Conference March 4 in Breckenridge. In April she will discuss the mini processor at the Australian National Audiological 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 available to all clinical care of patients."

"In April, this research is a godsend."

"I can talk to people now," he says. "I can go to a restaurant, or a hamburger and not worry if the waiters say something, 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 Medi-
cine, is a spin-off of traditional cesarean sections to relieve their own pain with 60 to 80 percent less narcotic medication than the more 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, drugs are given mostly in conjunction with intravenous medication that patients use themselves by pushing a button that releases pain-relieving medication through an intravenous catheter place in an arm vein.

A new method of PCA, pain-relieving drugs are released into the same epidural catheter 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 medication and the side effects are minimal," 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 pain management, especially in an epidural catheter in place. They reported their initial results with epidural-PCA in the 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 received 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.

"The main 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 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, sex, weight, personality type, normal pattern of pain, and their use, liver efficiency and the surgery involved.

As a result, White says, physicians are less than on the side of caution and underdose their patients. The result is that patients receive pain relief to 50 to 75 percent of patients who in the medical literature report experiencing pain. Pain relief may be experienced by patients — despite medication — after surgery.

"In fact, it's so common that most patients have come to expect it," White says. "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 them- selves what the physician prescribes," White says. "It allows them to take what they need up to a set maximum." And because patients have 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 when patients 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 giving morphine shots," 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 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 participated in the study. "Because the pain medication is confined to the spinal area, physicians do not have to worry about medica-
tion 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 med-
cation does not enter the mother's bloodstream to affect her fetus. Obstetricians at Wake Forest Univer-
sity 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's care of patients."

White says some studies indicate that patients tend to use somewhat less analgesic medication with the PCA devices, but with greater satisfac-
tion. "Patients say they don't want to overmedicate themselves," he com-
mments in a four "Mustard and pepper" project that patients on PCA tend to undermedi-
cate themselves because they're concerned about possible side effects and addiction."

Kathy Finne

Margaret W. Skinner, Ph.D., tells 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.
Series EE U.S. savings bonds offer the best of both worlds. When held five years or longer, they earn the competitive market-based rate for interest periods beyond five years. All EE bonds, savings notes, and other denominations issued through November 1965 reach their face value in 30 years. Market-based rates allow a bond to reach its face value in the maximum time it takes a bond to reach face value. All EE bonds have been granted extension periods beyond their original maturity dates along with the market-based averages tagged by bonds issued previously. Whatever the maturity date held five or more years, the market-based average applicable to that bond is increased to $2,000 for 1989 — up to the face value of $2,000 for bonds issued in 1986.
Thursday, Feb. 22
2:30 p.m. Dept. of Mechanical Engineering Colloquium, "Linear Dynamic Stabilities and their Controls," Robert E. Kieffer, mechanical engineering, Georgia Institute of Technology, Off. Aircraft Engines, Cincinnati, Ohio. 315 South Mall, Room 10.

3:45 p.m. Dept. of Anthropology Colloquium, "Scottish Highlanders in Levant," Andrew Moore, prof. of anthropology, Yale University, 314 South Mall, Room 102.

4 p.m. Assembly Series Association of Black Students/Council of Students of Arts and Science Lecture, "Non-Traditional Applications for Finite Element Analysis," Nigel Rogers, tenor, and Paul O'Dette, lute and keyboard, Resnik Auditorium, Mallinckrodt Center. For more info., call 889-5696.

February, Weds., 28
11 a.m. Assembly Series Thomas Houston Lecture Hall. "Introduction to Databases for Protecting Ecosystems to Saving Species," David H. Steel, prof. of forestry and natural resources, New York Zoological Society. Graham Chapel. For more info., call 889-6650.


4 p.m. Dept. of Physics Colloquium, "Particle Physics Colliders and the Large Hadron Collider. (Renewal will be served at 3:30 p.m. in Room 245, Compton Hall.) For more info., call 889-5670.


March, Thurs., 1

4 p.m. Dept. of Mechanical Engineering Colloquium, "Non-Traditional Applications for Finite Element Analysis," Nigel Rogers, tenor, and Paul O'Dette, lute and keyboard, Resnik Auditorium, Mallinckrodt Center. For more info., call 889-5696.

8 a.m.-5 p.m. WU School of Dental Medicine Offerings, "Update in General Practice," speaker to be announced. Room 204, Student Health Center. For more info., call 889-4670.

8 a.m.-5 p.m. WU Dietetic Club Lecture Series, "The Fruits of Bioengineering," a play by Antonio Skarin, assoc. prof. of history, George Mason University. Steinberg Hall. For more info., call 889-5000.

5:30 p.m. WU Dept. of Music Recital, "The Art Songs of Margaret Rublin Leen," Judith Olein, soprano, and Gary DeTitta, pianist, Crow Hall. For more info., call 889-5974.

Friday, March 2
8 a.m.-5 p.m. WU Department of Music Presents the WU Jazz Band, Chris Becker, director. The Garage, Mallinckrodt Center. For more info., call 889-5974.

FILMS

Thursday, Feb. 22
1 and 9:30 p.m. Filmboard Series, "Ballad of a Soldier," Z. Brown Hall.

7 and 9:30 p.m. Filmboard Series, "Dance Injuries: Prevention and Care," speaker to be announced. Resnik Auditorium, Mallinckrodt Center. For more info., call 889-6543.

Friday, Feb. 23
7 and 9:30 p.m. Filmboard Series, "Dance Injuries: Prevention and Care," speaker to be announced. Resnik Auditorium, Mallinckrodt Center. For more info., call 889-6543.

Saturday, March 3
1 and 9:30 p.m. Filmboard Series, "Brazil."

4 and 9:30 p.m. Filmboard Series, "Desert of Eden," (Also Sat., Feb. 24, at 8 p.m. at Gold Hall.) For more info., call 889-6543.

MUSIC

Saturday, Feb. 24
8 a.m.-5 p.m. Dept. of Music Presents "A Program of Love Songs of Fifteen-century England and Ireland," Nigel Rogers, tenor, and Paul O'Dette, lute and keyboard, sponsored by the Endangered Art Foundation. Graham Chapel. Cost: $10 in advance and $12 at the door for general public; $8 for senior citizens. No charge for faculty, students, and staff. For ticket info., call 889-5974.

Tuesday, Feb. 27

Wednesday, March 1
7 and 9:30 p.m. Dept. of Music Recital, "The Art Songs of Margaret Rublin Leen," Judith Olein, soprano, and Gary DeTitta, pianist, Crow Hall. For more info., call 889-5974.

Thursday, March 2
8 a.m.-5 p.m. Dept. of Music Presents a Voice Recital by Regina McLean,-reply, McMillon Hall Cafeteria. For more info., call 889-5974.


CALENDAR

February, Wed., 22
11 a.m.-12:30 p.m. Master of Liberal Arts Degree Lecture Series, "A PDP Approach to Phonological Encoding in Language Production," Gary Dell, Steinhardt School of Culture and Environmental Studies, The City University of New York.

10 a.m.-5 p.m. WU School of Dental Medicine, 4559 Scott Ave. Registration for lunch is not required. For more info., call 889-4620.

11 a.m.-12:30 p.m.-Master of Liberal Arts Program, Fri., 2 p.m. Commencement Day. College Senate Seminar, "The Tick of Literature and the Tock of Philosophy," Robert W. G. Allen, Distinguished University Professor in the Humanities, Crow Hall. For more info., call 889-6082.

Wednesday, Feb. 26
4 p.m. Dept. of Psychology Spring Colloquia Series, "An ATIP Approach to Phenomenological Description of the Scientific Experience," Thomas Leinbach, prof. of psychology, U. of Illinois, Room 110, Jamis Hall.

4 p.m. Dept. of Biology Seminar, "Medical Immunology in the Magazine of Charles, Mexico: Recent Findings on Malignant Traditional Herbal Medicine," Berlin Berlin, Dept. of Biology, 312 South Mall, Room 110.


Thursday, Feb. 27
Noon, Thursday, 12:30 p.m. Department of Geological Sciences Colloquium, "Selenography of the Sun," Michael H. Gonzalez, prof. of geochemistry, University of California, Berkeley, Room 252, Belknap Hall.


February, Tues., 23
Noon, Thursday, 12:30 p.m. Department of Geological Sciences Colloquium, "Selenography of the Sun," Michael H. Gonzalez, prof. of geochemistry, University of California, Berkeley, Room 252, Belknap Hall.


February, Weds., 28


4 p.m. Dept. of Physics Colloquium, "Particle Physics Colliders and the Large Hadron Collider. (Renewal will be served at 3:30 p.m. in Room 245, Compton Hall.) For more info., call 889-5670.


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Wednesday, March 2
8 a.m.-5 p.m. Dept. of Music Presents the WU Jazz Band, Chris Becker, director. The Garage, Mallinckrodt Center. For more info., call 889-5974.

Thursday, March 2

Wednesday, March 1
7 p.m. Dept. of Romance Languages and Literatures French Film Series, "Le Ciel des Amants," R. Klingen, Language Lab, Room 210.

Thursday, March 1
9 p.m. Thurnere Nat. Night. For more info., call 727-9974 or 727-6255.

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; $12 for WU faculty, students, and staff. Olm Dance Studio, WU Women's Bldg. For more info., call 889-5887.