U.S. Sen. Bill Bradley to deliver 133rd Commencement address

S

om. Bill Bradley, D-N.J., will deliver Washington University's 133rd Commencement address on May 20. Commencement begins at 8:30 a.m. with the traditional academic procession into Buckingham Quadruangle on campus.

Bradley, the senior U.S. senator from New Jersey, was elected to his third term in 1990. Since joining the Senate in 1979 as an youngest member at the age of 35, Bradley has worked toward creating a strong and growing economy, protecting the natural environment and bridging the gaps between people of different races and nations. He serves on the Senate Finance Committee, the Energy and Natural Resources Committee and the Special Committee on Aging.

"I am delighted that Senator Bradley has agreed to deliver the Commencement address," said Chancellor William H. Danforth. "He is a native of this region who has achieved a great deal, especially in his life of public service. I will look forward to hearing his address to our graduates and their families."

Bill Bradley, who was born in Crystal City, Mo., is widely known as the author of the Bradley-Garamendi Tax Reform Act, which became the Tax Reform Act of 1986. He succeeded Joseph Lieberman as the only member of the Senate to represent the entire state of New Jersey.

Students reach out to St. Louis community

Students at Washington University are going back to high school to learn a very important lesson. By volunteering as tutors and mentors for the soldan magnet school, undergraduate students are realizing the importance of giving back to the community.

"I love it," said Megan Snyder, a sophomore majoring in psychology, and international studies and tutors four high-school students twice a week. "This has made me interested in being a teacher. I think of it as an extracurricular thing for me. I'm pretty busy and it helps keep my sanity and gets me off campus."

Snyder is one of 12 University students who spends one or two hours a week in a pilot tutorial program at soldan International Studies High School, a St. Louis City magnet school that opened in the newly renovated former Soldan High School in St. Louis this fall. The school's unique curriculum, which was developed in partnership with the International Education Consortium, is designed to celebrate diversity and prepare students to compete in the marketplace. Thirty countries are represented in the student and staff population and, of 685 students, 100 are learning English as a second language. Much of the University's faculty interest in Soldan is funded by a $12,000 grant from the Danforth Foundation.

"We try to infuse an international perspective into every class we have," said Soldan Principal Harold Greer. "Every student has to take four years of a foreign language. Fortunately, we have had Washington University's help for that. The students are very excited and we're excited that they're getting help learning a foreign language."

Soldan students also have the opportunity to use Washington University's language laboratory on campus. At the Danforth grant pays for transportation and other costs.

"The students do this on a purely volunteer basis," said Susan Rava, senior lecturer in French and young people are key components of the tutorial program. "It's a great experience for them. The students have said that after only a few weeks their students are already much more enthusiastic about learning a new language walk, anthropomorphize, and humanize.

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Book probes roots of neuroscience

Today, as new discoveries in the brain sciences are being made at breakneck speed, a Washington University psychologist probes the roots of neuroscience.

"Everyone's been saying the '90s are the 'Decade of the Brain,' but no one has talked about how we got here, how we know what we know about the brain right now," said Stanley Finger, Ph.D., professor of psychology.

Finger has remedied that with his recently released Origins of Neuroscience: A History of Explorations Into Brain Function, the most comprehensive book on the history of neuroscience to date.

Published by Oxford University Press, Finger's work is both an historical reference book and a celebration of scientific discovery. The book, which has more than 350 illustrations, traces the history of ideas about the brain from Neolithic times to the mid-20th century. Although other books have covered specific aspects of the brain, this is the only one that covers the relationship between the brain and all its functions.

Divided into seven parts, the 500-page book traces scholarly debate and discovery about the senses, motor functions, sleep, emotion, speech, memory, and treatments and therapies for various brain-related illnesses. In addition, Finger examines the debate about brain structure and whether specific functions are located in specific areas of the organ.

"I could see there was this gap in people's knowledge," said Finger, explaining his inspiration for writing the book. "Every time I gave a lecture to my colleagues about my research on brain damage recovery, I would begin with a general history of ideas. People kept raising questions about the history part of my talk. The same thing kept happening with the students in my classes. There was no book to structure a history course around and no source for the students that wasn't too narrow or technical."

So, for five hours a day, seven days a week for five years, Finger tackled the topic. His first task every day was to read 100 pages of mostly original material.

Underrated organ

In this research, Finger discovered that the brain was not considered as important as it is today. Ancient Egyptians, for example, thought the heart was the center of mental activity and the most important organ. The brain was so unimportant for the Continued on page 6
Neil White, M.D., right, watches as patient Matt Falkenburg uses a blood glucose meter. Falkenburg uses the meter four times a day as part of a diabetes management program. White is the principal investigator in the study that will determine if insulin-dependent diabetes can be prevented.

**Preventing diabetes**

The School of Medicine is participating in the first large-scale clinical trial to determine if insulin-dependent diabetes mellitus (IDDM) can be prevented. As an affiliate center for the National Institutes of Health (NIH) study, researchers at the School of Medicine will screen relatives of people with IDDM (also called Type 1 diabetes) for specific antibodies associated with eventual development of this chronic debilitating disorder. Earlier studies have suggested that the presence of these antibodies in a person's blood indicates that he or she may develop diabetes within five years.

Nationwide, researchers need to screen between 60,000 and 80,000 people to recruit the 830 volunteers needed for the study, said Neil H. White, M.D., principal investigator for the St. Louis site and an associate professor of pediatrics at the medical school. White will conduct the research at St. Louis Children's Hospital. Preliminary studies conducted in animals and small trials in humans have shown that it may be possible to prevent IDDM by immunizing with insulin.

"The landmark study represents the first attempt to place decades of research on the etiology of IDDM into a large-scale clinical trial setting," said White. "The hopes are to determine whether IDDM can be prevented in at-risk individuals, and if so, how - and the data this study could lead to the development of techniques to prevent the development of this disorder and its subsequent long-term morbidity and mortality."

People with the antibodies who agree to participate in the Diabetes Prevention Trial-Type 1 will be assigned to one of two trials according to the volunteers' degree of risk, which is determined by their level of antibodies and confirmed by further tests. Volunteers at higher risk for IDDM will be assigned randomly to a control group or to a group receiving insulin injections. Volunteers at lower risk will be assigned randomly to a control group or to a group receiving oral insulin. The insulin injection trial will begin immediately, and the oral insulin trial will begin in 1995.

Researchers now know that IDDM develops over several years and that symptoms of the disease do not appear until most of the insulin-producing cells have been damaged. When pre-diabetic mice were given insulin prior to onset of diabetes, the mice developed smaller, less active beta cells that were less susceptible to insulin destruction. Using a combination of tests, it has become possible over the past decade to predict with considerable confidence who is at risk of developing diabetes over the next several years, White said. Advances in the understanding of the mechanism by which IDDM develops have allowed scientists to design strategies that have the potential of halting or delaying the disease. Administering insulin in a different manner than is given to treat diabetes, he said, may have the potential for preventing the full-blown disease and its life-threatening complications.

Each year, 11,000 new cases of IDDM are diagnosed in children and teenagers. Over time, diabetes can cause severe complications such as eye, kidney, nerve and heart disease. IDDM occurs when white blood cells vital to the body's defense against infectious diseases launch a self-directed or autoimmune attack on the insulin-producing beta cells in the pancreas. Insulin regulates how cells use and store nutrients for energy.

The Diabetes Prevention Trial-Type 1 is sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases in cooperation with the National Institute of Child Health and Human Development, the National Institute for Allergy and Infectious Diseases, the Juvenile Diabetes Foundation and the American Diabetes Association.

People between the ages of 3 and 45 who have relatives with IDDM are eligible for screening. For more information, call 454-4547.

**Panel releases new guidelines for treatment, diagnosis of benign prostate enlargement**

New guidelines regarding the diagnosis and treatment of benign prostate hyperplasia (enlargement) are urging doctors to use a more conservative approach to evaluate this common problem and to get patients more involved in choosing their treatment. According to Bruce McClennan, M.D., professor of radiology at the Mallinckrodt Institute of Radiology, who helped develop the guidelines, the disorder affects half of men over age 60.

The guidelines recently were released by the Agency for Healthcare Policy and Research, a part of the Department of Health and Human Services. McClennan was the only radiologist who served on the national panel that developed the guidelines.

Benign prostate hyperplasia (BPH) causes prostate gland enlargement and restricts urine flow. Symptoms often are progressive and include difficulty urinating, the need to urinate frequently and the inability to empty the bladder completely. In some cases, BPH is an annoyance that can disturb sleep. More severe cases can lead to recurring urinary-tract infections and kidney damage. The most popular treatment is a surgical procedure that also is one of the most common operations in older men. Other treatment options include medications such as Proscar, or simply watchful waiting.

The guidelines are likely to alter the way BPH patients are evaluated and also may reduce the cost of diagnosis and treatment, McClennan said.

"Patient involvement is strongly recommended by these guidelines," said McClennan. The guidelines include educational materials for doctors to give their patients. "This is a good change in terms of better informing the patient so he can participate in the process as a well-informed participant," he said.

The new guidelines tell doctors to start with simple, inexpensive tests to evaluate potential BPH patients, then perform more tests only if it seems necessary, McClennan said.

"This promotion attests to the instrument role that Diana has played in the success we all have worked with department chairs to implement plans relative to research, clinical care and teaching. As assistant dean, her responsibilities also will include coordination of the medical school's departmental strategic plans with the affiliated hospitals' clinical service line plans and the representation of the medical school in major international and national campus planning initiatives."

Carmichael joined the School of Medicine in 1989 in the management of operations planning. Before joining Washington University, she was a consultant with Ernst & Young.

Carmichael received a bachelor's degree in kinesiology from the University of California, Los Angeles, in 1985 and a master's degree in hospital and healthcare administration from the University of Minnesota in 1988. She is a member of the Association of American Colleges and the American Hospital Association as well as a vice president of the St. Louis Society for Healthcare Planning and Marketing.
Majerus studies how blood clotting occurs

March 3, 1994

Washington People

Majerus found, prevents production of the pro-

Majerus, M.D., professor of medicine, many
are now taking aspirin for an entirely new
reason. He discovered how aspirin interferes with blood clotting — information that has led to the now-common practice of taking low doses of aspirin to prevent heart attack and stroke.

After 28 years of academic research, Majerus now is known internationally for this accomplishment and many other findings, but his greatest contribution significantly to our knowledge about how blood clotting occurs and how cells communicate with their ever-changing surroundings. Within the Washington University community, he has earned a reputation as an enthusiastic, humorous and outspoken colleague as well as a valued mentor.

Surprisingly, his academic research career had a rather shaky start. Majerus, who graduated with honors from the Washington University School of Medicine in 1961, returned in 1966 to join the faculty as an assistant professor of medicine in the Division of Hematology/Oncology. He decided to apply his expertise in fatty acid synthesis to try to explain how these materials are formed in blood cells. "I started out with red blood cells because there are more of those than anything else. But it turns out that red blood cells do not make any fatty acids," Majerus explained. "Then I looked at white blood cells, and they didn't make fatty acids either. So then I was desperate. I thought I was going to be out of things to do for the rest of my career."

He turned to another blood constituent called platelets and found, to his relief, that they did form fatty acids. Based on turning around "Majerus' brief false start in academic re-

search, the choice of working with platelets also got him interested in blood clotting.

Majerus began studying aspirin in the 1970s to try to find an explanation for one of this drug's few drawbacks, its tendency to cause bleeding. After several years of work, he and his colleagues found the answer. They discovered that aspirin indirectly affects tiny blood components called platelets. Platelets already were known as an important player in blood clotting; they migrate to wounds and clump together to form the initial framework of blood clots. Aspirin, the investigators found, prevents production of the protein that causes platelets to stick together. The findings, published in 1975, were the first to explain precisely how aspirin prevents clotting.

In the years since, a few researchers had considered the possibility that aspirin's anti-clotting properties might have a biological benefit. But clinical studies all looked at very high doses, Majerus said. "The toxicity was so great that it tended to wipe out any detectable benefit," he said.

But Majerus' findings pointed to a way around the toxicity problem. He and his colleagues knew that platelets could not counteract the effects of aspirin because they cannot make proteins. Once hit, a platelet probably would be affected for its entire 10-day life span. Because aspirin's effect would not wear off, it seemed likely that a very low dose might be enough to reduce unwanted clotting.

Majerus and his colleagues turned to dialysis patients to test their theory. They gave these people aspirin in a safe, protective agent against heart attack and stroke.

Majerus found that aspirin only is part of his long line of research about how the body controls blood clotting. This process is regulated by a complex set of chemical reactions, set off by a blood clot or other disturbance. Recent research has shown that the proteins in the blood called clotting factors are "activated," one by one, to become enzymes that activate another one step in the clotting scheme, then set off the next step. The end result is the formation of a protein called fibrin, which forms a mesh that fills the defect in the blood vessel.

Majerus began looking at platelet's role in the clotting scheme in the early 1970s. At the time, it was clear that platelets helped plug up wounds, but more interestingly, that their arrival at the scene seemed to fuel the clotting process.

"But it wasn't known in molecular terms how that was actually happening," said Joe Miletich, M.D., Ph.D., professor of medicine and pathology. Mileitch conducted platelet research as a graduate student in Majerus' lab.

Majerus' work went a long way toward explaining platelets' fueling effect. He and his colleagues found that platelets carry a receptor that mediates clotting reactions. They also learned that when platelets stick to a wound, their surfaces undergo change; these changes cause clotting reactions to run thousands of times faster on the platelet surface than they would occur otherwise. "That helped explain how the body could have this extraordinary ability to generate blood clots quickly but keep the clotting reactions localized right where they are needed," Miletich said.

"He has had a major impact on the training of the next generation of people in hematology/oncology."

— Stuart Kornfeld

Majerus' studies how blood clotting occurs to keep the clotting from getting out of hand and blocking blood flow to the whole body.

More recently, Majerus has shifted his interest to a new topic: how cells respond to their environment. He focuses on a network of chemical reactions called the phosphatidylinositol messenger-generating system. Through this pathway, cells pick up signals from their environment and generate chemical messengers that travel inside the cell to initiate the needed response. Majerus is trying to use this system to regulate vital activities such as cell movement and growth.

So far, Majerus and his colleagues have identified nine of 20 to 30 enzymes that are involved in this system. For example, an enzyme he discovered last year acts as an on/off switch to control DNA synthesis during cell division. This enzyme also may play a role in depression; Majerus suspects the link because it is inhibited by lithium, a drug used to treat depression. His discovery of another enzyme in the pathway provided the first explanation for the cause of Lowe's syndrome, a serious disorder involving mental retardation, cataracts and kidney problems. The disease develops in people with an abnormal form of the enzyme.

Majerus' accomplishments today are far cry from blood vessel as a self-described "juvenile delinquent." He was turned around by a high school chemistry teacher who got him involved in studying chemistry. Majerus later completed a bachelor's degree from Notre Dame University, attended medical school, and then earned his medical degree. He spent three years as a research associate at the National Institutes of Health before returning to the Washington University faculty. Since then, he has been honored many times for his work. Majerus is a member of the National Academy of Sciences and a fellow of the National Academy of Medicine and the Advancement of Science. He has held editorial responsibilities at several major scientific journals, including the Proceedings of the National Academy of Sciences. He served as editor of the Journal of Clinical Investigation for five years.

But colleagues say, that by far, his most important contribution is his impact on the hematology division and the people who have trained in it. Specifically, he is regarded as an excellent mentor. A huge proportion of the people who have trained in the Majerus' lab have gone on to successful careers themselves, said Kornfeld. "He has had a major impact on the training of the next generation of people in hematology/ oncology.

Majerus' success as a mentor stems from his enthusiasm for science and medicine, his creativity and a willingness to work with col-

leagues. "He is a role model in that he's very knowledgeable and analytical and enthusiastic and is willing to share all of those things with people who are committed to learning," Miletich said.

"Phil has an unusually gifted talent for identifying good people, but even more important than that, for evoking the best possible work from them. He is an absolute master at getting people to realize their best potential," Miletich said.

That potential is realized, in part, because Majerus holds his trainees to high standards, Miletich added. "He chal-

lenges and challenges everything and gets you angry enough that you will work as hard as necessary to prove something to him," he said. "Once he's confident that you've solved something, he's your biggest supporter and fan. That combi-

nation of things has led him to be a very good mentor for a very large number of people."

His proteges now are conducting research at this institu-

tion and others on a wide variety of topics, including inflammation, clotting, immunology and gene expression. Fittingly, Majerus said their success is his most valued accomplishment.

Majerus also has played an instrumental role in the hematology division and the university. He has been a leader for 30 years, said Kornfeld. The two have shared the post of divi-

sion director since 1984, and they joined forces together in 1966, it had only two faculty members and a few clinical fellows. Today, it comprises a total of some 100 faculty, staff and trainees. Recent recognition Majorus has received is a new administrative responsibility as the Department of Medicine's vice chairman. The goal, his goal to help the department find the resources to meet upcoming challenges.

Outside of his professional life, Majerus is married and has four children and three grandchildren. His wife, Janet, is the mayor of University City and a writer. He enjoys moun-

tain climbing, skiing and backpacking. And yes, he does take aspirin every day.

January Leitner
Calendar

March 1-12

Exhibitions
The "Near Distance: James McConnell's St. Louis Years" by McGrellor, prof., emeritus, in Group Exhibition of Three, April 4-May 13, upper gallery, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. 935-5697.
The "Work of Joseph Allen Steen" by architect Stephen White, ass., dean, School of Architecture, Roger Williams U, Bristol, R.I. Through March 4. Exhibit in Givens Hall corridor. Hours: 9 a.m.-5 p.m. weekdays and weekends. 935-6200.

Films
Thursday, March 3
7 p.m., Filmboard Foreign Series. "Triumph of the WIFE" (1973), Bk&W, in Givens Hall. Room 100 Brown Hall. Cost: $3. For 24-hour Filmboard hotline, call 935-5983.

Friday, March 4
7 and 9:30 p.m. Filmboard Feature Series. "Bob Roberts" (1992). Also March 5, same time, and March 6 at 7 p.m. Room 100 Brown Hall. Cost: $3.

Monday, March 7

Tuesday, March 8
7 p.m., Chinese Film Series. "Assassina- tion," an action film, Room 216, South Ridgley Hall.

Wednesday, March 9
7 and 9 p.m. Filmboard Classic Series. "The Red Pill" (1936, B&W). (Also March 10, same time.) Room 100 Brown Hall. Cost: $3.

Lectures
Thursday, March 3
9:30 a.m. Tenth Annual Edward Massie Lecture. "The Value of Ingenuity in Managing Coronary Artery Disease: Can It Be Cost Effective?" Spencer B. King III, MD, of the Interventional Cardiology and director, Interventional Cardiology, U of Southern California, Los Angeles. Steinberg Hall Aud. 935-5285.

Friday, March 4
11 a.m. Assembly Series Mary T Hall Seminar on Population and Development. "An Agenda to Restrath Growth," Nadis Sadik, executive director, UN. Population Fund. (Discussion groups begin at 2:30 p.m.) Room 311 McMillen Bldg. 935-3287.

Saturday, March 5

Sunday, March 6
1 p.m. Assembly Series Mary T Hall Seminar on Population and Development. "An Agenda to Restrath Growth," Nadis Sadik, executive director, UN. Population Fund. (Discussion groups begin at 2:30 p.m.) Room 311 McMillen Bldg. 935-3287.

Monday, March 7

Tuesday, March 8

Wednesday, March 9

Thursday, March 10

Friday, March 11


Saturday, March 12


Wednesday, March 9

11 a.m. Assembly Series lecture. "Facing Up to Cultural Diversity," an Asian Students Association-sponsored event, at 10 a.m., and for all students, Master of Science Training Program in Medical Librarianship, 309-3287.

3:30 p.m. Biochemistry and molecular biol- ogy seminar. "Nitric Oxide: A Selective Pulmonary Va- 2
Performances
Saturday, March 5
8 p.m. & Stage "Lei" series presentation, "Staff as Dreams Are Made Upon," with Fred Chuchack performing a one-man version of "Tempest." (Also at 2 p.m.) Dimma Studio, Room 208 Mallinckrodt Center. Cost: $12 for the general public.

Calendar guidelines
Events sponsored by the University — its departments, schools, centers, organizations and its recognized student organizations — are free and open to the public, unless otherwise noted.

Calendar submissions should state date, time, place, sponsor, title of event, name of speaker, date, reserved seating, a fee, deadlines and other details. Submissions should be faxed to 935-4643, or sent to 935-5990. Submissions for events that occur more than 30 days after the date of the issue should be sent to 935-6571.

Monday, March 7
7 p.m. Women's Basketball Education Seminar. "Gastrointestinal Surgery: Refresher Course and Update." Chilton Hotel, 100 Carondelet Place, St. Louis. For schedules, cost and reservation info., call 362-6893.

Monday, March 14
7 p.m. Women's Basketball Education Seminar. "Internal Medicine Review," a review of seminar covering topics from all areas of internal medicine, will be held Monday evenings through May 23. The topic March 7 is endocrinology. Speakers are Richard E. Ostlund Jr., assoc. prof., and Kevin A. Naughton, assoc. prof., Dept. of Medicine, St. Louis University Health Science Center.

Tuesday, March 15
12:30 p.m. The National Women's Network "Talk To Us," an interactive theatrical troupe examines social issues. Talk To Us, formed in 1987 and composed of members from the University, its recognized student organizations — and its recognized student organizations — is free and open to the public, unless otherwise noted.

Teatrical troupe examines social issues
Talk To Us, an interactive theatrical troupe examining social issues, will perform at 3:30 p.m., Saturday, March 5, in The Gargoyle. The event is sponsored by the University's Student Association, Assembly Series, and its recognized student organizations. The play is free and open to the public, unless otherwise noted.

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Students volunteer at area high schools— from page 1

at which he teaches, writes new pieces for the school's ensembles and works with students who exhibit a special interest in musical composition. In addition, Henry and some of his students are working together to complete a major scenic work that will be included in the St. Louis Symphony Orchestra's Young Concert Series in October.

"Jim's students at Central Visual and Performing Arts High School, who have been described as some of the most talented and incisive in the school, have enjoyed significant success and pride in their personal original accomplishments," said Carol Crohan, Ph. D., and chair of the Department of Music. "I am pleased to say that Jim, too, has grown considerably through participation in the program and has discovered what are likely to be his greatest strengths as a contributing musician and composer by working with people in a practical, hands-on way that involves intense, direct interaction."

Henry said interactive programs between the University and area high schools benefit all involved.

"Most of my students had never tried composing before; they pictured composer as a main character in a movie's music. I'm teaching a lot about the students, myself, teaching and composition. I guess it's true that the teacher often learns more than the students."

—Suzannah Webb

Student newspaper has global focus

afterlife that during mumification, when other organs, including the kidneys and liver, were preserved, the brain was left out of the discarded.

Even when early scholars such as Aesculapius, a Greek from the fifth century B.C.D., suggested that the brain was the central organ of sensation and thought, the theory was not uniformly accepted. For example, the best known of the Greek philosophers, Aristotle, suggested that the brain contained the "heat and seething" of the heart. The brain, he suggested, was the "first and last, a universal bone."

Aristotle said the human brain simply suggested the most realistic of explanations.

On the other hand, Thomas Willis, an Englishman who realized that ancient understanding of the brain and its functions was in some cases wrong, it was misjudged by many people today would imagine.

"You have to understand brain theories in the social and political context in which they were formed," says Finger. "All these ideas had their roots in rational, logical thought. And, while many are ridiculed today, each theory contributed to the field and spurred further research on the brain."

A prime example, says Finger, is phrenology, a discredited theory from the early 19th century that suggested skull features reflected the development of underlying parts of the cerebral cortex for specific behaviors. The phrenologists looked for bumps on the head that correlated with language, sense of color and even love of children. Finger reminds readers that "although the phrenologists said the brain was a game for finding the human, they must be credited with the important idea that the cerebral cortex could be subdivided into functional units.

"Painful discussion"

Another issue Finger addresses is the question of whether it is a true sensation, like taste, smell, sight and sound.

From Graeco-Roman times through the Renaissance, scholars debated whether pain was an entity in itself or a consequence of illness. Although pain had different causes from the traditional five senses, pain also was considered different from other sensations because it lacked the ability to turn off once the end organ, i.e., a tongue, is a nose, eye or an ear.

"The earliest list of pain from ancient India, the Nirvana Sutra, an ancient Indian document from about 200 B.C.D., included both physical and emotional pain. These include both pains, aging, pain diseases, death for everybody," said the editor-in-chief. In addition to national and international news, the student newspaper features columns on culture, sports, business, editorials and a photo essay. The culture section is a round- up of local, music and entertainment activities.

"We try to help students, including those serving as editors and managers, are members of the Window's editorial board. Additionally, the newspaper is a member of the Association of Independent Student Publications. Each week the editors and reporters will continue and personalize the wire stories, often using concepts from University faculty. Rao, a former reporter, assistant news editor and features editor for Student Life. Rao said the international event, even an important one, can be overshadowed by more immediate concern. Even students who try to keep up with world events face obstacles, the added. "The students who live on campus can receive access to this. Those students who are willing to subscribe to a major newspaper find that the information is outdated before they get the paper in their mailboxes."

"We need a welcome column to the Window staff. Running a student newspaper was a dream that I never thought would come true," said Rao, whose idea launched the publication. She thanked the St. Louis Post-Dispatch, the St. Louis Post-Dispatch, and the Post-Dispatch staff for their help.

"We're excited about establishing a doctor's expertise wasn't instilled in the medical profession. For example, while the first anesthetics, such as nitrous oxide and ether, were major operations involving body parts like the chest possible.

Both nitrous oxide (laughing gas) and ether were used in social settings, Finger notes. Laughing gas parties and "other frolics" were popular forms of entertainment in the 1700s. After noticing that party goers would hurt themselves and not be aware of the pain, in the case of laughing gas, or become unconscious and then recover, in the case of ether, physicians began using both during operations.

For those readers interested in medical trivia, the Window includes a little-known historical facts about the medical profession. For example, while the hospitals in the world were established by 400 B.C. in India, the first medical exam to establish the medical doctorates was introduced in 731 B.C. From this on, physical, emotional, intellectual and spiritual treatment.

The response to Grosvenor has been so positive that Finger's publisher has asked him to provide an essay for Grosvenor's next issue of the audience. Tentatively titled "Epochs of the Brain," the essay is the result of a recent research project on a particular pioneer in brain research from a particular period. Finger's goal is to find those who have been overwhelmed by emotional pains. These include both pains, aging, pain diseases, death.
Prizes. The deadline to submit samples of lyric poetry. The Norma Lowry Memorial...
Hilltop College

The following is a list of positions available on the Hilltop Campus. Employees who are interested in submitting a resume to the Human Resources office located at 12 North Brookings Hall, or by calling 915-9990. Note: All positions require three letters of recommendation.

Programmer/Analyst III
940/18. Requirements: Bachelor's degree; good language and people skills; ability to work with minimal supervision; knowledge of desktop database technology in a client/server environment highly desired; familiarity with DOS, Macintosh; knowledge of Novell, Appletalk, Windows and TCP/IP networking highly desired. Resume required.

Programmer/Analyst II
940/69. Computing and Communications. Requirements: Associate's degree, bachelor's degree preferred; good language and people skills; ability to work with minimal supervision; ability to learn quickly and independently; new computer experience with use and management of desktop computer; knowledge of desktop database technology in a client/server environment highly desired; familiarity with DOS, Macintosh; knowledge of Novell, Appletalk, Windows and TCP/IP networking highly desired. Resume required.

Technical Sales Specialist
940/177. Campus Stores. Requirements: Some college, bachelor's degree preferred; knowledge of personal computers and popular software; experience in managing a variety of microcomputer peripherals, such as modems and printers; must be physically able to lift system components; must be able to work evenings and Saturdays. Resume required.

Oiler
940/179. Electric Power Plant. Requirements: High school graduate or equivalent; the ability to work independently under guidelines from supervisor; strong organizational skills; typing 35 wpm with accuracy; ability to learn quickly and independently; new computer experience with use and management of desktop computer; knowledge of desktop database technology in a client/server environment highly desired; familiarity with DOS, Macintosh; knowledge of Novell, Appletalk, Windows and TCP/IP networking highly desired. Resume required.

Counselor
940/47. Student Educational Service. Requirements: Graduate level understanding of accounting and budgeting; strong bookkeeping skills; the ability to demonstrate abilities in developing and using Excel spreadsheets on a Macintosh computer; the ability to handle simultaneous, multiple assign- ments; ability to work under deadline pressures; excellent interpersonal skills; the ability to communicate with a diverse group; the ability to demonstrate sound independent judgment; the ability to work with minimal supervision; strong organizational skills; typing 35 wpm with accuracy. Clerical tests required.

Technical Service Specialist
940/48. Computer and Communication Research Center. Requirements: High school graduate; capable of providing technical support and sales assistance for computer hardware, software and peripheral sales to University departments; capable of installing and servicing equipment and main- taining and servicing equipment; capable of inventory control of service areas and sales; ability to support a broad array of equip- ment. Resume required.

Assistant Accountant
940/45. Biology. Requirements: High school graduate; aptitude for accounting and budgeting; strong bookkeeping skills; the ability to demonstrate abilities in developing and using Excel spreadsheets on a Macintosh computer; the ability to handle simultaneous, multiple assign- ments; ability to work under deadline pressures; excellent interpersonal skills; the ability to communicate with a diverse group; the ability to demonstrate sound independent judgment; the ability to work with minimal supervision; strong organizational skills; typing 35 wpm with accuracy. Clerical tests required.

Secretary/Receptionist, Part-time
940/57. Computer and Communication Research Center. Requirements: Some college; excellent verbal skills; strong customer service skills; excellent computer skills; attention to detail; clerical tests required.

Librarian
940/48. Law Library. Requirements: Some college; excellent verbal skills; strong customer service skills; excellent computer skills; attention to detail; clerical tests required.

Medical Secretary
940/95. Psychiatry. Schedule: Part-time. Requirements: High school graduate or equivalent; post-high school training dealing with verbal and written communication skills; computer proficiency. Students who are interested in submitting a resume to the Human Resources office located at 12 North Brookings Hall, or by calling 915-9990. Note: All positions require three letters of recommendation.

Bradley supports higher education — from page 1

Bradley, who was a leading proponent of the National American Free Trade Agreement, co-authored the report that served as the blueprint for the Clinton administration's condensed GATT negotiations. Bradley was among those using the tax system to protect the environment during the 1980s, when he helped craft the financing system for the Superfund toxic-waste cleanup. He also has introduced legislation to track medical waste in oceans, prevent oil spills, restore and preserve beaches, rivers and wildlife, and ban toxic

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