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Haze cuts view 25 percent; Southeast hit hard

"Ah, the Atlantic Ocean! You should have been here.

But Lancaster in "Atlantic City".

Like Lancaster yearning for "the good old days," visitors to America's parks and vacation havens are finding that vistas just aren't what they used to be.

Haze, the visible evidence of regional air pollution, is pervasive from the vast rim of Arizona's Grand Canyon to the misty Carolina Smoky Mountains, from the stark plains of the Little Bighorn battlefield in Montana to Oregon's lush Cascade Mountains.

But if decades-long haze trends continue as they have, the degree of visibility this summer will be better for vacationers at Cape Cod or Atlantic City and worse for those at Myrtle Beach or Disney World, says Rudolf B. Rogers, a professor of mechanical engineering and one of the country's leading air pollution experts.

In a report written for the National Acid Precipitation Assessment Program (NAPAP), a massive federal study of acid rain and related environmental concerns, Husar reveals that the distance we can see in the United States — our "national vista" — declined 25 percent from 1948 to 1983.

The culprit is haze. While summer visibility in the "Acid Rain Corridor" of the Northeast has improved over the same period, visibility in the Southeast has declined 80 percent. In addition, Husar reveals data that for the first time link trends in seasonal sulfur emissions with the haze amounts in the eastern U.S. skies.

"Our data indicate a success story in the Northeast and a silent dilemma in the Southeast," Husar says.

License plates stamped with logo offered

Washington University faculty, staff, students and alumni living in Missouri are eligible for collegiate license plates stamped with the University's logo.

The plates, issued by the state of Missouri, require a special $25 gift to the University's "License to Learn" fund. A minimum of 450 gifts must be received before Washington University plates will be authorized. All gifts will be returned if fewer than 450 apply.

This opportunity is offered as a service to Missouri members of the University community who wish to show their loyalty. A brochure containing a special gift form and "Emblem Use Authorization Statement" will be mailed to potential applicants within the next few weeks.

Qualifying gifts must be received by Sept. 15. The validated authorization statement will be returned to each participant. This form must accompany the application to the Missouri Department of Revenue for these special plates. Application also will require an additional $15 state fee.

For information, call 889-5191.

Hamburger receives second national science award

Within a six-month period, Viktor Hamburger, Ph.D., Edward Mallin- clough Professor and Professor emeritus of biology, has received two of the nation's highest science accolades.

In August, Hamburger received the 1990 Karl Spencer Lashley Award from the American Psychological Association in Philadelphia, the nation's first learned society that traces its roots to the philosopher, inventor and statesman Benjamin Franklin. During a White House ceremony in October 1990, President Bush awarded Hamburger the National Medal of Science, the country's highest scientific honor.

The Lashley Award honors Hamburger for his pioneering studies in neuroembryology, the study of the nervous system in embryos. The ceremony reflected Hamburger's "landmark contributions to understanding the cellular basis of mental development and learning." Hamburger is one of several scientists who for the award were internationally known researchers Eric R. Kandel of the College of Physicians and Surgeons, Columbia University; Seymour Kety of the National Institute of Mental Health, Walla J.H. Nace of Massachusetts Institute of Technology, and Tomorn S. Wiesel of Rockefeller University.

Like Lancaster yearning for "the good old days," the Karl Spencer Lashley Award was established in 1957 by a gift from Lancaster, N.Y., native Edward Mallinckrodt, Jr. Hamburger received a special plates. Application also will require an additional $15 state fee.
with the ultimate by-product being acid aerosol. Also, the Southeast is subject to the Atlantic High Pressure system, which keeps warm, dry air at a standoff for three to five days at a time, holding the sulfer, nitrous oxides, soot and particulate matter in place for long periods. The Northeast, cold Canadian air disperses the haze on a more regular basis.

At this time, no one has hard evidence, but meteorological conditions seem to have played a significant role in the haze buildup in the Southeast," Husar says. "To say the weather/haze relationship is strictly cause-and-effect, however, is incorrect.

Haze increased the most during the 1950s and 1960s in the Southeast, according to Husar, with a leveling off since 1970. Winter haze in the Southeast jumped 40 percent during the 35-year period. In contrast, northeastern haze in the winter declined 25 percent over the study period; summer haze there showed a slight decrease.

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Husar cautions that his study of the trend in haze throughout the South will continue to have wider implications for the entire eastern United States, Huser cautions. Air pollution, like a moosering summer traveler, moves 200 to 300 miles a day from its source in three to five days. "If on a given day Houston puts out a ton of sulfur, in two to three days better than half of that sulfur will be dispersed in skies hundreds of miles away," Husar says. "That is the nomadic nature of regional air pollution, and it is something the nation will have to deal with well into the next century."

Tony Fitzpatrick

Haze — continued from p. 1

Husar cites a study by fellow Washington University researchers, Warren White, Ph.D., senior research associate in chemistry, and Provost Edward S. Macias, Ph.D., professor of chemistry, that compares the chemistry of haze found at the Grand Canyon to pollutants that are emitted in Los Angeles. The researchers have strong suspicions that the troublesome haze over the Grand Canyon and other national parks in Utah, Nevada and Arizona may be traceable to the urban areas along the Southern California coast.

Meanwhile, the trend in the accumulation of haze throughout the South will continue to have wider implications for the entire eastern United States, Husar cautions. Air pollution, like a moosering summer traveler, moves 200 to 300 miles a day from its source in three to five days. "If on a given day Houston puts out a ton of sulfur, in two to three days better than half of that sulfur will be dispersed in skies hundreds of miles away," Husar says. "That is the nomadic nature of regional air pollution, and it is something the nation will have to deal with well into the next century."

Tony Fitzpatrick

History center receives Bradley grant

The Lynde and Harry Bradley Foundation of Milwaukee, Wis., has awarded a $500,000 grant to the Center for the Study of History and Freedom, Chancellor William H. Danforth has announced. Danforth said the grant will help support the center's activities for the next two years.

The center was established in 1985 to produce a multi-volume series, The Making of Modern Freedom, tracing the evolution of the ideas and institutions of freedom. This history, the first of its kind, is the conception of J.H. Hexter, Ph.D., John M. Olin Professor of the History of Freedom at the University, who is editor of the first volume. Last July Hexter was succeeded as director of the center by Richard W. Davis, Ph.D., professor of history.

"Washington University appreciates the generous support given to the history center by the Bradley Foundation. This grant will help the center continue its creative and original research," Danforth said. The Bradley grant will support the annual spring semester institute held here. Six to eight internationally known scholars attend the institute as fellows to write individual chapters and jointly edit a volume. Contributing to this year's volume, the four scholars, are Oxford,分裂 University in Canada and Victoria University in New Zealand, as well as distinguished American academics. The volume is titled Republican Liberty: Its Theory and Practice in Early Modern Freedom.

Next year's volume is on "The Conditions of Freedom in the New American Republic." The Bradley Foundation, which supports higher education, social services, community development and cultural programs, also sponsors a distinguished commission that studies the teaching of history in America.

Residence hall is named for Herbert Hitzeman

To mark the distinguished career of Washington University's chief advancement officer, the University has named a residence hall after Herbert F. Hitzeman Jr.

Hitzeman retired June 30, 1990, as senior vice chancellor for university relations. Chancellor William H. Danforth nominated Hitzeman to name the residence hall, formerly known as "G" Residence Hall, during a retirement dinner celebrating Hitzeman's 25 years of service to the University.

"Herb Hitzeman's contribution to Washington University is immeasurable," said Danforth. "Under his direction, the University not only successfully completed three major fund drives but raised millions of dollars for all areas of university, development and public relations. His name has shown extraordinary improvement. The results of his work will benefit generations of students. I think it highly fitting that Herbert Hitzeman's name appears on a building that houses our students."

During his retirement dinner, Hitzeman also was presented with a sketch of the residence hall, drawn by Rocose Misehohn, a 1928 graduate of the School of Fine Arts.

A plaque has been placed in the lobby of the Hitzeman residence hall, which is located at the corner of Wydown Boulevard and Shepley Drive. Daniel Hitzeman, a 1942 graduate in named in Honor of Herbert F. Hitzeman, J. F.F.A., 1953 Senior Vice Chancellor for University Relations, praised Hitzeman's vision, dedication, and planning and called our generations to come. June 30, 1990.

Library orientation

Olin library will offer electronic orientation sessions this summer

The library has become more automated over the past few years. For this reason, the library has created data on a CD-ROM (compact disc-read only) and installed specialized computer terminals in minutes, where previously it took hours of searching through reference volumes. The library has also purchased the OCLC super computer, which stores information on over 200 million items.

To attend an orientation session, call 889-5477 by July 10.
Andrew D. Dimarogonas, Ph.D., William Tao & Associates, President, has been elected to the American Society of Mechanical Engineers (ASME). To be elected to this distinction, a candidate for ASME must have at least 10 years of active practice and have made a significant contribution to the ASME and have been responsible for significant engineering achievement.

Thomas C. Fox, Ph.D., assistant professor of German, recently gave lectures on East Germany at the Kentucky Foreign Language Conference in Lexington, Ky., and he spoke about recent developments in Germany at Western Michigan University.

Udo Kultermann, Ph.D., Ruth and Norman Moore Professor of Architecture, had his lecture "The Foundations of Environmental Geodesy in Science and Architectural Theory" published in two parts in the Yugoslavian magazine Cevik I Prostor in Zagreb.

Naomi Lebowitz, Ph.D., Hortense and Tobias Lewin Distinguished Professor of Chemistry, professor of chemical biology in the Department of English, has had her book, *Then and the Great World* published by the Louisiana State University Press.

Adrian Luchini, assistant professor of architecture, and his joint venture firm are featured in *Progressive Architecture*.'s July issue in a section on young architects from the United States. Luchini's firm, Denion Schwetey Luchini Maritz Inc., was one of 20 firms selected from a pool of 498. Three of the firm's current projects are featured in the magazine. In addition, the firm will be featured in the September issue of *Domus*, an Italian architectural magazine. Luchini and Dirck Denison are principals of the firm.

E Dorothy Toran, instructor of psychology, has published a paper, titled "From Clinician to Supervisor: Transition Problems and Processes," at the recent annual conference of the American Association of Collegiate Registrars and Admissions Officers (AACRAO) in New Orleans. He was invited by the AACRAO Office of Organization and Management, which sponsored the session.

Have you done something noteworthy?

Have you written a paper? Have you won an award? Have you been named a fellow or elected a member of a prestigious society? Have you received a prestigious award? Have you been named a fellow or elected a member of a prestigious society? Have you received a prestigious award?

Patty Jo Watson, Ph.D., professor of anthropology, received the Fryxell Medal for 1990 from the Society for American Archaeology. The award, which carries a certificate, medal, and a gold medal, was presented to Watson at the annual meeting of the society, held in Las Vegas, Nev. The award is the highest national honor given by the Society for the archaeological community's great respect and gratitude for Watson's outstanding scientific contributions to understanding the human past in the Americas.

Jeremy A. Salhoff, president of the Society for American Archaeology, calls Watson "one of the most highly respected archaeologists, not only in the United States but also worldwide." This is a very fitting award which recognizes tremendous past and continuing contributions to interdisciplinary research, Watson's archaeological work involves botany, zoology and geology.

The Fryxell Medal was established in 1977 by the family of Roald Fryxell, a geologist who applied his geologic expertise to the archaeological sites. "The family decided that the best memorial to Roald Fryxell would be to encourage the kind of research he exemplified in his own work," says Watson. Watson, who has a Ph.D. in anthropology, was awarded to the National Academy of Sciences, in 1986, by the American Association of Arqueology and Anthropology, and by the American Academy of Arts and Sciences, in 1989, as a fellow. Watson has written a number of books and of scholarly articles. She is a member of the Washington University faculty since 1969. She earned a master's degree in anthropology in 1969 and her doctorate in 1970, both from the University of Chicago.

Law prize endowed in memory of University nurse

The family of Christofine G. Mutharika, a nurse for Washington University's Health Services who died Jan. 5, has endowed a perpetual prize to be awarded to a third-year law student who achieves the highest final grade in international law.

The first annual Christofine G. Mutharika International Law Prize was awarded to John G. Koehler, a third-year law student, at the law school's Commencement ceremony May 18. Koehler, a native of Nigeria, attended the University for nearly 13 years, was the wife of a Nigerian lawyer, and was educated in the law in her native country, where she received a bachelor's degree in engineering. She is the daughter of a professor of international law and a specialist in international law. The prize was endowed by Professor Mutharika and his wife, Christofine's three children, Monique, Moyenda and Peter. Mutharika.
Electroshock therapy: Advances lead to quiet revival

For patients drowning in depression, electroconvulsive therapy (ECT) is often a psychiatric life-saver. Reversing them back from despair and withdrawal to a normal life. Yet some patients and doctors still view ECT, a treatment based on electrically-induced brain seizures, as a primitive, outdated light, largely because of public misconceptions and misinformation regarding delirium, memory loss and other side effects associated with ECT.

But the adverse effects of electroconvulsive therapy are no longer as severe as they once were, says Gary Figiel, M.D.

"Classically, we think of depression as a psychological response to an event, such as the loss of a job," says Figiel. "But a large percentage of depressed patients, especially the elderly, have markedly abnormal brains that may in some way be contributing to the etiology of the disorder. The elderly spectrum of brain changes in elderly depressed patients have a lot of atrophy and enlarged ventricles, and enlarged ventricular and extracerebral structural changes."

The researchers used MRI to assess a variety of types of brain lesions. They found that elderly depressed patients had greater occurrence of severe lesions in the brain's white matter and basal ganglia, an area that may be involved in regulating attention and mood, compared with age-matched controls.

The researchers found basal ganglia lesions in nine of ten patients (90 percent) who developed post-ECT delirium, compared to six of 30 (20 percent) without delirium. Of the 48 patients who did not have basal ganglia lesions, only one developed delirium after ECT.

MRI also detected moderate to severe white matter lesions in nine of ten patients (90 percent) who developed post-ECT delirium, compared to 30 of 77 (39 percent) without delirium. Of the 48 patients who did not have basal ganglia lesions, only one developed delirium after ECT.

"Yet there is still a 'One Flew Over the Cuckoo's Nest' mentality out there about ECT," Figiel comments. "People are very sensitive about using it, and it is probably often withheld in the community when it could be a highly effective, safe treatment."

Checkered history

The reason for ECT's poor public image lies in its checkered history. ECT was first used on a human patient in 1938 by Italian psychiatrist Ugo Carletti, who was investigating epilepsy. The method was applied to one cerebral hemisphere — the "unilateral method" — and a small current of electricity was approximately one to two seconds passes into the patient's brain.

"We usually start with 20 joules of electricity, the amount of energy it takes to light a standard light bulb for one second," says Figiel. "The maximum energy our machine can produce is 100 joules, but we don't need it for the vast majority of patients."

The object is to induce a seizure, ideally between 30 and 60 seconds long. For reasons not yet understood, shorter seizures are probably not as effective in stimulating the brain and effectively treating depression," Figiel says.

"Upon waking, the patient is a bit groggy and confused. But in patients under 60, reorientation only takes an average of 80 minutes; patients over 60 may take up to an hour. "By lunchtime on the day of treatment, most folks are up and about," Figiel says. "Though many never experience it at all, some patients do report a short-term memory disturbance."

"To the best of our knowledge, there is no evidence of permanent brain damage associated with current ECT techniques," Figiel says. "Using newer techniques such as unilateral treatment may help minimize the short-term memory disturbances associated with ECT."

"In addition, newer machines use the safer 'brief pulse' electrical stimulus, which also reduces this short-term memory loss."

The adverse effects of electroconvulsive therapy are no longer as severe as they once were, says Gary Figiel, M.D.
High school students spend summer in labs

Susan Keithly and Brook Beall are studying today to become the scientists of tomorrow. Though still in high school, the two are looking ahead to the college to prepare for the day when they hope to have a career in medicine. The first step, they believe, is to acquire the science skills necessary to perform delicate surgery or envision new treatment for rare diseases.

Keithly and Beall were selected from a pool of applicants taken from 10 high schools in the St. Louis area. Keithly, who is 17, and Beall attends John Burroughs.

During their stint, they will oversee a research project and write a summary report describing the experience and knowledge gained.

The new program is part of a nationwide effort by the Kidney Foundation to interest young minds in the field of medical science. In all, four major university medical centers in the United States are involved during the summer. At the conclusion of the program, one student out of the eight will be awarded a four-year, $10,000 per year scholarship to support study toward a degree related to science and/or medicine.

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Each will receive a $2,500 stipend for their summer vacation working in the laboratory.

The program has the potential to encourage the best of our young students to pursue careers in scientific research at a time when the medical community, and the scientific community at large, need to find new ways to stimulate interest in science," said Saulo Klahr, MD, senior scientist at the National Kidney Foundation and director of the renal division at the School of Medicine.

Klahr notes that applications for medical school have declined 25 percent in the last five years. The areas of nephrology, urology and hypertension have seen a significant drop.

Keithly, who says her future may hold clinical and basic research work, has been at the School of Medicine for two weeks. In that time, she has learned about basic laboratory techniques, safety precautions, how to handle certain chemicals and worked with instruments she had never before seen.

Her goal in this program is to develop ideas from her research project and apply them to the science project she will work on in school next year. For her research experiment, Keithly is monitoring citrate uptake in kidney cells. She is working in the laboratory of L. Lee Hamm III, M.D., associate professor in the department of medicine.

"During the interview (for the scholarship) I was overwhelmed. When they took me through the labs and saw all of the equipment, I couldn't believe it," Keithly said.

"This program has made me think about what I want, whether it's to work in a lab or go into medical studies. It's a great opportunity and I hope it continues and expands." Beall, who is intrigued by the "uncertainty" and "the puzzle" of science, said when he heard about the laboratory learning opportunity his first thought was 'Wow.' While here, he is in the laboratory of James Greenwald, M.D., assistant professor of medicine, researching a protein that is produced in the atria of the heart.

"The atmosphere, the people, this is a great lab experience unlike anything you would find in school," Beall said. "There is focus to the study here, whereas in school we survey biology and chemistry. For anyone who is even marginally interested in science, this experience would definitely influence them."

At the conclusion of the 10-week program, students will be asked an essay describing their research project and how the experience helped them in shaping future goals. Researchers working with the students will evaluate the students' performance, paying particular attention to their dedication and ability to work and understand theoretical and practical aspects of the research. Selection of the final scholarship recipient will be made by an outside committee.

"Though a pilot project, Klahr says the Science Scholars Award Program was designed as an ongoing program and is scheduled to continue pending corporate sponsorship. Ford Motor Co., Dearborn, Mich., is funding the program this year."

Other medical schools selected to participate in the program are: University of Michigan, Ann Arbor; University of Colorado, Denver, and Vanderbilt University, Nashville. Each university selected two students from high schools within its respective area.

Future scientists

Susan Keithly and Brook Beall are learning firsthand what it's like to work in a lab.
MEDICAL RECORD

Royal to study radiation exposure in Chernobyl

At the request of the International Atomic Energy Agency (IAEA) and the government of the Soviet Union, Henry D. Royal, an internationally re-
known expert in nuclear medicine, is one of two physicians selected to conduct the study. Royal is a professor and director of the Radiation Injury Studies Center at the University of Alabama at Birmingham. A team of experts from the United States and the Soviet Union will conduct a comprehensive assessment of the effects of radiation exposure on people from contaminated and non-
contaminated villages in Chernobyl. The study will take many years, the exact timeline will depend on the results of the initial investigation by the IAEA.

Becker honored for eye research

Becker was one of 10 scientists to receive the 1988 Roy W. Lehman Award for his outstanding contribution for eye research. Becker is a professor in the Department of Ophthalmology and Visual Sciences at the University of Iowa College of Medicine. His research focuses on the genetics of retinal degenerative diseases and the development of gene therapies for treating these conditions.

Reich receives $6.8 million for alcohol/depression studies

Theodore Reich, M.D., Samuel and Mae S. Lewis Professor of Psychiatry and Neurology, has received a $6.8 million grant from the National Institute on Alcohol Abuse and Alcoholism to support his research on the effects of alcohol exposure on the brain in utero. The grant will fund a multicenter study of infants born to women who consumed alcohol during pregnancy, with the ultimate goal of understanding the long-term effects of prenatal alcohol exposure on the brain and behavior.

Neurosciences career awards Grubb for research contributions

Robert L. Grubb Jr., M.D., professor of neurology and neurosurgery at the University of Alabama at Birmingham, has been awarded the prestigious Grass Prize for his contributions to neurobiology. The award recognizes his work in understanding the mechanisms of neuronal plasticity and the role of transcription factors in neural development.

Volunteers needed for diabetes study

Researchers at the School of Medicine are seeking volunteers to test a new drug for people with diabetes and elevated triglyceride levels. The study, headed by Richard E. O'Day, M.D., associate professor of medicine, will investigate the drug gemfibrozil to determine its effect on controlling triglyceride and cholesterol levels in patients with non-insulin-dependent diabetes mellitus. Participants will be asked to follow a regulated diet and exercise program, and blood samples will be collected for analysis.

Aging issues

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To qualify for the study, volunteers need to be 35 years of age or older with noninsulin-dependent type 2 diabetes, have elevated triglyceride levels, and be willing to follow the American Diabetes Association diet. Selected participants will enter an eight-week baseline period where they will have their blood analyzed before and after a prescription to follow the American Diabetes Association diet. Qualifying patients will then be asked to receive gemfibrozil or a placebo for 20 weeks, while continuing to follow the diet and routine diabetes management. Assessments for safety, lipid levels, and glycemic control will be carried out at specified intervals. Participants chosen for the study will receive free physical examinations, consultation with registered dietitians and nurses, and information on how to manage diabetes.

Aging issues: Former surgeon general C. Everett Koop visited the School of Medicine last week to talk with experts on aging for an upcoming television program on health care in America. Here he interviews Mary T. Mahoney, a technician in the Division of Applied Physiology, about studies investigating the effects of exercise on aging. Part of the five-hour series, scheduled to air on ABC in November, will be devoted to issues on aging. Other interviewed include William A. Papp, M.D., Stanley J. Birge, M.D., Gary D. Pajak, M.D., Ph.D., and Marilyn L. Mann.

To participate in the study, call Carolyn Fratello, 562-8298.
Two new CREF accounts are available

The CREF Bond Market Account and the CREF Social Choice Account began operations on March 1, 1990. Both accounts are available for accumulating retirement benefits in all CREF Retirement Annuities. They also are available for participating in the Personnel Retirement Annuities and Group Retirement Annuities.

Bond Market Account

The CREF Bond Market Account invests primarily in long-term and intermediate-term securities. However, the account may also invest in short-term (money market) investments to take advantage of short-term interest rate changes and to preserve liquidity.

The Bond Market Account's long-term and intermediate-term securities are diversified among a range of fixed-income securities. These include securities issued or guaranteed by the U.S. government or its agencies; publicly traded corporate bonds and mortgage-related or other asset-backed securities.

As with any variable annuity, the value of accumulation units fluctuates and no guarantees are provided. The account's total return will be relatively stable when interest rates are stable and will vary when interest rates rise or fall. Generally, the portfolio value will be expected to grow or decrease as interest rates rise or fall. Generally, the portfolio value will be expected to grow or decrease as interest rates rise or fall. Generally, the portfolio value will be expected to grow or decrease as interest rates rise or fall.

The Bond Market Account may be right for you if you want to diversify your retirement savings beyond stocks and money market instruments. Historically, over long periods bonds have experienced less volatility than common stocks and have lower returns than money market investments, which contrasts their attractiveness to many people for their retirement savings. You may also find the Bond Market Account useful if you want an investment in fixed-income securities with the flexibility to transfer your accumulation to other types of investments as your needs or views change. Because the account is offered through CREF, you benefit from CREF's long-term outlook and investment expertise. But because bond funds can fluctuate in value, the Bond Market Account may not be right for everyone. This account should not be sold as a choice for your retirement savings.

Social Choice Account

The Social Choice Account invests in stocks, bonds and money market securities issued by companies that meet specified social criteria. The account's investments are designed to provide investment returns that reflect the broad performance of the financial markets while giving special consideration to certain social criteria. It is a balanced account.

Initially, the account will not invest in securities of companies that: Have economic ties to South Africa; Have operations in Northern Ireland solely for the purpose of evading MacBride Principles or (2) have not conducted business consistent with relevant international agreements in compliance with the Fair Employment Act (Northern Ireland) of 1989; Produce nuclear energy; Have a significant portion of their business or investments in the manufacture of weapons; or Produce and market alcoholic beverages.

The Social Choice Account may alter these criteria from time to time. Environmental concerns will be considered when appropriate guidelines are developed.

Because some people may want to invest in all of the equity-related options in this account, it is designed as a balanced fund diversified among stocks, bonds and money market investments. And because the account is offered through CREF, you benefit from CREF's long-term outlook and investment expertise.

Funds invested according to social as well as financial criteria are relatively new and thus do not have long performance records. It is hard to predict how they will perform over time. Because investments in such accounts are selected in part based on social criteria, their returns will generally be lower than those for funds that select investments for purely financial reasons. But because balanced funds hold stocks, bonds and money market investments, they are given the same status as funds holding a single type of security. And, although the potential for loss is somewhat less, the potential for gain also is somewhat less. For these reasons, the Social Choice Account may not be right for everyone.

Currently, you can participate in the Social Choice Account only as an accumulating retirement savings. CREF plans to make the account available for the purchase of retirement income, with full or partial withdrawal of CREF income options. Until that time, however, you can invest to transfer to TIAA or the CREF Stock Market Account to receive your retirement income.

You can start using the new accounts immediately in your CREF Retirement Annuities and Supplemental Retirement Annuities. To allocate premiums or to transfer existing funds, call the CREF automated telephone service toll free at 1-800-842-2252. Participants using a telecommunications device for the deaf should call 1-800-842-2257.

Hilltop Campus holiday schedule is set

The following holiday schedule has been adopted for the 1990-91 fiscal year for all employees on the Hilltop Campus other than those represented by union contracts.

<table>
<thead>
<tr>
<th>Holiday</th>
<th>Date</th>
<th>Days off of operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independence Day</td>
<td>July 4</td>
<td>One day during the year</td>
</tr>
<tr>
<td>Labor Day</td>
<td>July 4, 1990</td>
<td></td>
</tr>
<tr>
<td>Thanksgiving</td>
<td>Nov. 22</td>
<td></td>
</tr>
<tr>
<td>Christmas</td>
<td>Dec. 25</td>
<td></td>
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<tr>
<td>New Year's Day</td>
<td>Jan. 1</td>
<td></td>
</tr>
<tr>
<td>MLK, Jr.</td>
<td>Jan. 19, 1991</td>
<td></td>
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<tr>
<td>President's Day</td>
<td>Feb. 17, 1991</td>
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<tr>
<td>MLK, Jr.</td>
<td>Jan. 20, 1991</td>
<td></td>
</tr>
<tr>
<td>MLK, Jr.</td>
<td>Jan. 21, 1991</td>
<td></td>
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</tbody>
</table>

The personal holiday may be used by staff personnel for personal reasons. It is available after six months of service with approval of the supervisor. It cannot be used as the last day of employment. Employees who use sick leave during the previous fiscal year will be entitled to additional unrearranged personal holidays as specified in the sick-leave policy. In case an employee is scheduled to work on a holiday, a day off in lieu of the holiday will be allowed. If the employee requests the day off, the days corresponding for the holiday should be within the first week of a month after the holiday is worked.

University increases health allowances

Effective July 1, 1990, the University contribution toward the cost of health and dental insurance will increase from 84% to 89%. Payroll checks will reflect this increase in the University contribution.

Professional job searches under way

Washington University is conducting searches to fill positions on the Hilltop Campus.

Associate Director of Corporate and Foundation Relations

Department of Development for the Center for the Study of American Business

Washington University seeks a skilled professional to serve a dual role. As associate director of Corporate and Foundation Relations, responsibilities will include identifying, cultivating and soliciting corporate and foundation donors; providing staff support for the University's Corporate Partners program; serving, as a resource to senior administrative officers; coordinating the University's project assessment process; coordinating the proposal development process; and providing staff support on grant-related activities. Responsibilities as director of development for the Center for the Study of American Business will include identifying, cultivating and soliciting potential funders and foundations for annual support; and coordinating with the Forte group to assist with the solicitation of major donations.

Qualifications: a college or university degree is required and a minimum of two years of experience in corporate and foundation relations or a closely related field; and ability to function autonomously, to develop, prospect research and/or found a preferred group. Send letter of application, vita and three references to: Dr. Randy Farmer, Director of Corporate and Foundation Relations, Washington University, Campus Box 1193, One Brookings Drive, St. Louis, MO 63130.

Systems Librarian (search reopened)

The Olm Library System seeks a systems librarian.

Qualifications: systems librarians participate in the ongoing development of an automated library information system as well as the development and evaluation of existing automated processes.

Qualifications: working experience in a library production environment; programming experience and/or experience with a structured programming language like PL/I, Pascal or "C"; or experience with systems software design and/or a block-structured higher level language such as PL/I, Pascal or "C"; or experience as a systems analyst for 2 years or more; at least five years' experience in an automation environment.

Send letter of application, vita and three references to: Dr. Virginia F. Toelzer, Director of Administration and Planning, Washington University, Campus Box 1061, One Brookings Drive, St. Louis, MO 63130-4899.

In addition to the professional search, Olm Library System is also seeking to fill the following Hilltop Campus positions: accounting assistant, five positions; administrative assistant, five positions; clerical, five positions; coordinator, one position; engineer, one position; lab technician, four positions; librarian, four positions; manager, one position; part-time, five positions; programmer, one position; part-time, five positions; programmer, one position; position, one position; supporting staff, one position; systems analyst, one position; systems analyst, one position; and maintenance, one position.

Information about these and other positions is available through the Personnel Office, Hilltop Campus, Room 120, North Brookings, 889-5990; or through the Personnel Office, Hilltop Campus, Room 1130 Hampton Ave., 726-7500.
Sunday, July 8
8 p.m. Dept. of Music Presents Gateway Festival Orchestra Concert, featuring trumpet soloist Juliet Kurtzman. Brookings Quadrangle; Graham Chapel in case of rain. For more info., call 889-5574.

Sunday, July 15
8 p.m. Dept. of Music Presents Gateway Festival Orchestra Concert, featuring trumpet soloist James Bovette. Brookings Quadrangle; Graham Chapel in case of rain. For more info., call 889-5574.

Sunday, July 22
8 p.m. Dept. of Music Presents Gateway Festival Orchestra Concert, featuring violin soloists Haruka Watanabe and James Richards. Brookings Quadrangle; Graham Chapel in case of rain. For more info., call 889-5574.

Monday, July 23
8 p.m. Dept. of Music Presents Gateway Festival Orchestra Concert, featuring violin soloist Tom Parkes and narrator Tom Barclay. Brookings Quadrangle; Graham Chapel in case of rain. For more info., call 889-5574.

Tuesday, July 31
8 p.m. Dept. of Music Presents Classic Summer Orchestra Concert, conducted by Dan Propperman, music director, featuring trumpet soloist Paul Hecht. St. Louis Conservatory of Music and the Conservatory School for the 506th Army. For more info., call 889-5574.

EXHIBITIONS

"Russian in America: Collaborations by Komar & Melamid," featuring work by Willy Komar and Alexander Melamid, Russian émigré artists whose images signal official Soviet ideological postament. Gallery of Art, Stoddard Hall. Through Aug. 12. 10 a.m.-5 p.m. Tuesdays through Fridays; 1-5 p.m. weekends. For more info., call 889-4522.

"Core Exhibition," featuring works by freshmen and sophomores in the University's School of Fine Arts. Through July 31. Special Collections, Olin Library, Level 5. 8:30 a.m.-5 p.m. weekdays. For more info., call 889-5487.

MISCELLANY

Monday, July 9
9 a.m.-4 p.m. Dept. of Athletics Presents Bears' Summer Programs. "HIT Volleyball Camp" at Edward J. Nemerov, whose term as U.S. poet laureate recently ended, is Edward Mallinckrodt Distinguished University Professor Emeritus of English and Distinguished Poet-in-Residence. Included in the exhibit, which is open from 8:30 a.m. to 5 p.m. weekdays, is a 1982 cover article in America, a U.S. Information Agency magazine for Russians; a prose reflection of Nemerov's first year as poet laureate; and a letter written to Nemerov by Thomas Mann, the Nobel Prize-winning German novelist and essayist.

Law students excel in national competitions

Students at the School of Law have excelled in competitions this year, winning one national championship in litigation skills and finishing third in two other national competitions, one in trial skills and the other in appellate argument.

Two students captured first place in the 1990 American Bar Association National Negotiation Competition held in Los Angeles.

Third-year law students William A. Linton and Janice L. Treutlearl, winners of the Midwest Regional tournament, defeated seven regional championship teams from across the country to win the national title. Approximately 70 law schools competed in the regional tournaments. Ms. Carbons, J.D., visiting associate professor of law, coached the team.

Two teams captured top honors at the Midwest Regional Trial Competition hosted by the University and the American Bar Association. The ABA/ American College of Trial Lawyers National Trial Competition held in Houston. Approximately 200 teams competed in regional competitions.

The team of third-year law students Vernetta Gill and Christopher Hedicin and second-year law student William Langenhacker captured third place. The team of third-year law students Paula Finlay and second-year law students J. Calvin Downing and Mark Rudder finished with a 2-1-1 record.

The law school has placed first or second in the Midwest region and advanced to the National Trial Competition, the largest and most prestigious student trial competition, for 10 consecutive years. The school won the title in both 1983 and 1986. No other school has won the individual title more than twice, according to Karen Tokars, I.M.L., professor of law and director of clinical education.

The team of 1990 were coached by David Mason, an associate at the Peper, Martin, Jensen, Machel & Hergle law firm in St. Louis and an adjunct law professor. Mason was on the law school's 1983 national championship team.

At the National Environmental Moot Court Competition held at Pace University in New York, third-year law student Belinda Bush and second-year law student H. Bethel Green finished in third place, competing against 32 teams from across the country. The team of third-year law students Al Hillaud and Rita Nichols reached the quarterfinals. Washington University was the only school to have two teams reach the quarterfinals.

Three team members also won individual honors at the environmental competition. Bush and Hilao each received two awards for their oral presentations and Homer received one award. Richard J. Lazarus, J.D., associate professor of law, was the faculty advisor, and Robin Wellford, J.D., a researcher and writing instructor, coached the teams in the New York competition.

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Hamburger— continued from p. 1

moved, could regulate in the same manner as the embryo of a frog with no resulting deficiencies in learning habits. Naturally, he was interested in discussing this with me."

In 1935, with his fellowship appointment at the University of Oregon ending, Hamburger had to make a painful decision. Because of his Jewish ancestry, Hamburger found the domestic situation in Hitler's Germany intolerable, and he could not return to his homeland. He was fortunate, he says, to find a teaching position at Washington University in 1935, where his career and reputation flourished.

Called one of the "supreme biologists of our time" by John T. Rhodes, editor of the Journal of the History of Biology, Hamburger joined the Washington University faculty as assistant professor of zoology. Six years later, he became department chairman, a post he held until 1966. Along the way, he became a world leader in research that involved the development of the nervous system and the behavior of embryos, including basic contributions to the study of embryonic behavior that apply also to human fetuses.

Hamburger was among the first scientists to show the effects of the growing limb upon the parts of the nervous system that control the muscles in that limb. He also established the basic ground rules that govern this relationship. In 1947, he labored with his wife, Laura Hamburger, a prize recipient of Nemerov's first year as poet laureate, and a letter written to Nemerov by Thomas Mann, the Nobel Prize-winning German novelist and essayist.

This important find led to Levi-Montalcini's discovery of the Nerve Growth Factor, a key protein in the development and growth of certain nerve cells. This NGF was the first growth factor to be discovered, the work for which she received the Nobel Prize for Physiology or Medicine in 1986. The NGF is integral in exploring cures for cancer and paralysis.

Levi-Montalcini later shared the 1986 Nobel Prize for physiology or medicine with Stanley Cohen, Ph.D., a biochemist now at Vanderbilt Univer-

sity, who collaborated with Levi-Montalcini in Hamburger's laboratory.

Born in 1900 in Silesia, Germany, now a part of Poland, Hamburger still serves on the faculty and regularly works in his Monsanto Hall office. In 1988, he published a book on "The Heritage of Experimental Embryology: Hans Spemann and the Organizer." This month, Birkhuser Inc. of Boston, Mass., will publish Viktor Hamburger: Neuronomeregetology Selected Essays, a collection of 28 essays Hamburger has written during his long career.

Aerial campus shot

The physical facilities department has a new aerial shot of the Hilltop Campus and print orders are being taken now. Departments interested in ordering a print, which usually is 3 feet by 4 feet, should contact the Physical Plant office at 889-5550. The price of the print will depend on the number of orders.