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## Washington University Record, May 31, 1979

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May 31, 1979



# W.U. RECORD

## WU Cosmic-Ray Experiment on Board September NASA Satellite Launch

When NASA launches the last of its Atlas-Centaur rockets from Cape Canaveral, Fla., in mid-September with its precious cargo—HEAO-3 (the third in a series of High Energy Astronomy Observatory Satellites)—the hopes and fears of a group of WU researchers will also be aboard.

Martin H. Israel, WU professor of physics, is principal investigator for one of three experiments which constitute HEAO-3. This experiment, called a "Large Area Cosmic Ray Detector for Extremely Heavy Nuclei," will measure the chemical composition and energy spectra of extremely heavy cosmic rays while HEAO-3 orbits 290 miles above the earth for at least a year.

Professor Joseph Klarmann, WU physics department, W. Robert Binns, McDonnell Douglas Research Laboratories, and Israel form the St. Louis complement of a team of investigators who will analyze the data sent back from this \$6 million component of the NASA-sponsored mission.

Other members of the research team working on this experiment are physics professors Edward Stone and Rochus Vogt of the California Institute of Technology and C. J. Waddington of the University of Minnesota.

The Danish Space Research Institute and The French Center for Nuclear Studies are collaborating on a second experiment to be flown on HEAO-3. This experiment will measure the isotopic composition of cosmic ray nuclei up to iron on the periodic table.

The third experiment designed by the Jet Propulsion Laboratory at the California Institute of Technology, will be the first satellite-borne high resolution device for gamma ray spectroscopy.

In all, 55 research groups worldwide submitted proposals for the privilege of designing experiments to be placed in the

(continued on page 6)



Robert L. Virgil, Jr.

## Danforth Appoints Virgil Dean of Business School

Robert L. Virgil, Jr., who has been serving as acting dean of the WU School of Business and Public Administration, has been appointed permanent dean. Chancellor William H. Danforth, has an-

nounced.

Of the appointment, Chancellor Danforth said, "I know I speak in behalf of the provost, the faculty, student body and the alumni of the Business School in expressing my pleasure and gratitude that Bob Virgil has accepted this important appointment. His previous success in working with students and his professional and administrative skills eminently qualify him to serve as dean of the School of Business. In addition, he is a great teacher. During his 16 years as a member of the University's faculty, he was honored by undergraduates as 'Teacher of the Year' three times, while graduate students bestowed that honor upon him five times."

Virgil received his undergraduate degree from Beloit College in 1956. He received two graduate degrees from WU: the master of business administration degree in 1960 and the doctor of business administration degree in 1967.

He was appointed an assistant professor of accounting in 1964 and full professor in 1972.

Virgil became vice chancellor of campus affairs in January 1974, but resigned the following year to accept a position as visiting professor in accounting at Dartmouth Col-

The *Record* will not be published during the summer after this issue. Publication will resume August 30.

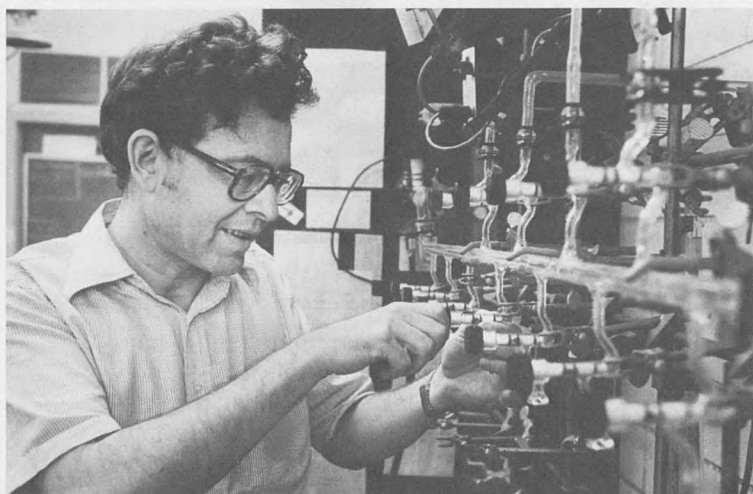


"The Buffalo Hunt," painted in 1860 by Charles F. Wimar, is among the works from WU's permanent collection on display at Steinberg through August 30.

lege's Amos Tuck School of Business Administration. He returned to WU in 1976 and was later appointed acting dean of the School of Business.



## New Method Reveals Coins' Secret To Numismatic Enthusiast Gaspar



Professor Peter Gaspar in his laboratory.

Peter Gaspar, a charter member of WU's Center for Archaeometry who has played an important role in devising new methods for removing crusty gunk from outdoor bronze sculpture, will soon publish the results of scientific investigations in still another area. This research also underscores one of the basic purposes of the center—to apply today's scientific methods to the solutions of problems in art and archaeology.

These findings, which involve the development of a new technique for analyzing the gold impurities in silver coins, are the result of the joint efforts of Gaspar, WU professor of chemistry, and three colleagues. Two of them, Edward S. Macias, WU associate professor of chemistry, and C. David Radcliffe, who earned the bachelor of arts degree with a major in chemistry from WU in 1977, are presently on the West Coast. The other contributor, Brad Angle, a WU biology major, received the bachelor of arts degree in December, 1978.

In their jointly written paper, which will appear in the prestigious journal, *Archaeometry*, to be issued at Oxford University later this year, the group will explain in detail their method for the quantitative analysis of gold in thin silver objects. "It is important," says Gaspar, "because it provides a way of determining the authenticity of ancient coins, and the processes used to refine the silver in the coins."

For many lay persons, it may come as a surprise to learn that gold occurs naturally in silver ore. In ancient and medieval times, metalsmiths knew no economically feasible way to extract the precious metal gold from the coins they struck. The technology for making the process profitable was not developed until the mid-19th century. At that time, England withdrew many of its silver coins from circulation for the purpose of refining the gold. Today, this process is done routinely because, of course, gold continues to become increasingly valuable.

Although the technique devised by the WU team is, therefore, applicable only to coins minted before the mid-1800s, it is, nonetheless, of great value for archaeological and numismatic reasons. The authors point out, also, that they are certain that their experiments can be used for measuring the amounts of other elements of importance historically. "The analysis of bismuth in silver, lead in silver and copper, and silver in copper all seem feasible," they explain in their comprehensive paper.

Surrounded by a welter of reports, books and papers of assorted sizes in his crowded Louderman Hall office, Gaspar recently elaborated on the new technique developed here. He explained that the determination of the amount of gold in a silver coin is of significance "because it is a way of fingerprinting the silver bullion source." Given a precise figure on such gold content, experts can identify where a specific coin

was made because they know the exact amount of gold impurities characteristic of the coinage of each of the ancient silver mints.

Thus, as the WU team made clear, other researchers "have found gold and bismuth contents in the 0.1 to 1 per cent range useful in differentiating the silver sources for Anglo-Saxon pennies from those used for Oriental silver coins."

The idea of making quantitative measurements of the minor elements such as gold present in a metal object is not new. But, unfortunately, these procedures have not been completely successful because of various drawbacks. Some are destructive, others make the coins being studied radioactive, and, in some cases, these analytical methods are restricted to the surface of an object.

"The WU method differs from these and is superior because it analyzes the whole coin without requiring the scientist to take a sample, and without producing any radioactivity," Gaspar explained. The essence of the WU technique is based on the use of a form of what chemists call "X-ray absorption spectroscopy." "What we do," Gaspar said, "is to use very high-energy X-rays (gamma rays) that will penetrate the coin. Basically, we work with a pair of X-rays of different energies. They are affected by silver in almost the same way—there is very little difference in their absorption. But, when they encounter gold impurities, there is a dramatic difference in the extent to which they are absorbed. The higher energy X-rays are absorbed more readily (about four times as much as the lower energy X-rays). We can measure this difference and thus determine the exact ratio of gold impurities present. The rest is easy," Gaspar concluded, "because this information gives us, as I indicated earlier, the clue we need to establish the coin's origins."

For Gaspar, the development of this new technique is particularly exciting because he is an avid numismatist. Three years ago, the *WU Record* chronicled his research at the Royal Mint in London. With the support of a \$31,000 grant from the National Endowment for the Humanities, Gaspar left recently to continue his research in Great Britain.

Soon after he returns in early July, he will be a featured participant at the national meeting of the American Numismatic Association to be held in St. Louis July 26-August 3. He will speak before the educational forum on "What Can We Learn from the Inside of a Coin?"

This work in numismatics, however, is but one phase of Gaspar's interests as a scientific researcher. During the past ten years, he has received over one-half million dollars in research grants from the Department of Energy and the National Science Foundation for the investigation of high-energy chemical reactions. He will lecture on this work in Rome and Amsterdam while overseas.

In September, Gaspar will return to England to deliver a paper at the Tenth International Symposium on Hot Atom Chemistry to be held in Loughborough. On his way back to St. Louis, he will give another invited lecture on hot atom chemistry at the fall national meeting of the American Chemical Society which will be held in Washington, D.C.

After all of this traveling, Gaspar said he will be eager to resume research in his WU laboratory for the Center for Archaeometry and the Department of Chemistry on this campus.

(Dorothy Brockhoff)

JAMES M. McKELVEY, dean of the WU School of Engineering and Applied Science and professor of chemical engineering, has received the Distinguished Educator Award of the Society of Plastics Engineers. McKelvey was cited for his continuing outstanding contribution to the

advancement of education in plastic science, engineering and technology. The award, which was established in 1968, has only been presented three times previously. McKelvey has published numerous articles on the topic of high polymer technology and is the author of two books.



## WU, Shanghai Jiaotong University Agree to 3-Year Faculty Exchange

A group of WU faculty will leave for the People's Republic of China July 9, the first WU group to visit China under a faculty exchange agreement with Shanghai Jiaotong University. WU and Shanghai Jiaotong University recently signed this agreement to improve communication between scholars in the areas of science and technology. The three-year agreement has been effective since January 1, 1979.

During the three-week visit, the WU delegation will give lectures and discuss the possibilities of extending the agreement to include an exchange of students.

Last November, a 12-member delegation from Shanghai Jiaotong University, also known as the University of Communications, visited a number of American universities, including WU, to select those which could accommodate advanced students and would be suitable for inter-university arrangements. The Chinese university has also established exchange agreements with the University of Michigan, the University of California at Berkeley and the University of California, San Diego.

The current agreement allows faculty visits of approximately one year although visits of shorter duration for conferences and symposia are also expected. The home institution initiates an exchange by nominating scholars either from their own or from neighboring universities' faculties. The host institution may then accept the nomination or, because the scholarly interests of the nominee may not be served by the visit, refer the nominee to other institutions. In effect, both universities will serve as agencies for exchanges for neighboring universities as well as for their own.

The new WU-Jiaotong agreement is not the exclusive vehicle for Chinese scholars to visit WU. Since the People's Republic and the United States have resumed diplomatic relations, many Chinese scholars have visited WU under the aegis of government and private agencies; three Chinese scholars are currently pursuing research and study in the areas of engineering and physics at WU and three more are expected to arrive soon. A group of botanists, representing the Academia Sinica, an organization based in Peking comparable to the National Academy of Sciences in this country, were on campus May 21-23. Their visit was sponsored by the Botanical Society of America. A photograph of some of the delegation appears on page 7.

Nor is the new agreement likely to be the only sister university relationship that WU will establish. According to Stanley Spector, director of International Studies, several inquiries from major universities in China have suggested additional areas of scientific and scholarly cooperation.

Members of the WU delegation are: James Davis, associate provost and acting dean of the College of Arts and Sciences, and the leader of the group; Stanley Spector, coordinator of the trip; William Chang, Samuel C. Sachs Professor of Electrical Engineering; Jerome Cox, Jr., chairman, Department of Computer Science; William Jones, professor of law; William Marshall, assistant professor of finance; Robert McDowell, chairman, Department of Mathematics; Martin Silverstein, professor of mathematics; Lewis Thomas, Jr., director, Biomedical Computer Laboratory; Betty Yue, associate professor of Chinese; and Robert Boguslaw, professor of sociology. Faculty from the University of Missouri, St. Louis, and staff of the International Institute will also accompany the delegation.

THE SEVENTH ANNUAL WU Summer Dance Institute, with noted dancers Viola Farber and Jeff Slayton in residence, will be offered from July 16 to August 10 on the University campus. Farber heads her own New

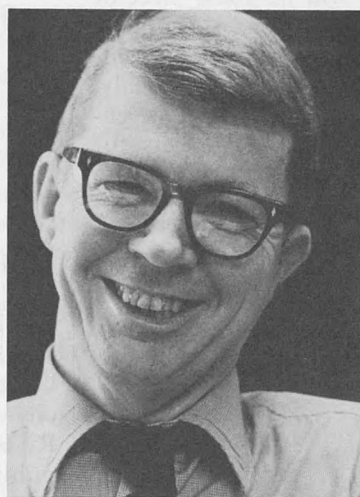
York dance company, which Slayton joined in 1970. The two, who are husband and wife, were winners of the gold medal for expression and creativity at the Ninth International Paris Dance Festival.

## Gass, Morris Are Honored By Academy

Two members of the WU faculty, William Gass, professor of philosophy, and John Morris, professor of English, were among 63 artists, architects, writers and composers honored last week at ceremonies in New York City.

They were cited by the American Academy and Institute of Arts and Letters at the organization's 39th annual awards event. Gass, according to the Academy-Institute, received one of its five highest honors. Barbara Tuchman, noted historian and president of the group, presented him with the "Award of Merit Medal and \$1000 prize given in 1979 to an outstanding novelist not a member of the Academy-Institute."

Morris was one of 14 authors who received awards of \$4000 for excellence in literature. One of three poets in this select group (the others were Philip Schultz and Dave Smith), Morris and the other 13 were given the Academy-



John Morris

Institute's awards "to honor and encourage them in their creative work."

Gass has frequently been called "one of the best American fiction writers of the day." He is widely recognized for his novel, *Omensetter's Luck*, and a collection of short stories, *In the Heart of the Heart of the Country*. His most recent book is *The World Within the*

*Words*, published last year.

The four other winners of gold medals were: Lloyd Goodrich, a member of the National Fine Arts Commission; I. M. Pei, Chinese-born and-reared architect; Archibald MacLeish, former



William Gass

Librarian of Congress and world-famous poet; and Charles W. Moore, professor of architecture and head of programming for architecture at the School of Architecture and Urban Planning, University of California, Los Angeles.

Morris, who earned a John Simon Guggenheim Fellowship last year, is the author of two collections of poetry, *Green Business* and *The Life Beside This One* for which he received a National Book Award nomination. He has also written a critical study, *Versions of the Self: Studies in English Autobiography*.

While in New York, Gass was the featured speaker at a "Saturday Seminar" sponsored by the Institute for Architecture and Urban Studies. He spoke there the day after the WU graduation exercises (May 18) where he gave the commencement address, "Learning to Talk." The address will be published in the 1979 spring issue of the *Washington University Magazine*.

FRED J. ROSENBAUM, professor of electrical engineering, has been selected as a member of the 1979 IEEE delegation to the U.S.S.R. 1979 A.S. Popov Society Congress to be held in Moscow this month.



## Music, Theatre, Films and Exhibits At WU Offer Escape from Summer



Peter H. Zimmerman

*The Amorous Flea* opens the Edison Summer Stock Theatre's fourth season at WU on Fri., June 7. Phebe Bohart plays Agnes, Michael Boyll (seated) Arnolphe, and Michael Ramach (standing) Horace.

When the dog days of summer, like a family of in-laws, slink in for a three-month stay, and the only escape seems to be going into Norge-cooled hibernation, come to campus. Even the "faint of heat" will find refreshing alternatives in the full calendar of theatre, films, music and exhibits going on all summer at WU.

The Edison Summer Stock Theatre will present three comedies this season, including Noel Coward's popular *Private Lives*, June 22-24 and June 29, 30 and July 1. Herbert Metz, director of the drama division, will direct the stylish comedy about the loving couple who nonetheless drive each other to exasperation. *The Amorous Flea*, a musical version of Moliere's *School for Wives*, will open the season with a run June 8-10 and 15-17. Wayne Loui, a member of the drama faculties of St. Louis University and Webster College, will be guest director for this play, which blends the bright wit of the classic comedy with a tuneful score and contemporary lyrics by Bruce Montgomery. Joe Orton's *Loot*, a farce bordering on black comedy, is the final offering of the season, July 6-8 and 13-15. Law enforcement, religion and rituals of death are all targets for Orton's savage wit. Richard H. Palmer, director of Edison Theatre, will direct. All performances begin at 8 p.m. in Edison.

Season subscriptions for the series are \$9.60 for Friday and Saturday performances and \$7.80 for Sunday shows. WU faculty and staff prices are \$7.80 and \$6.75, respectively. Single tickets are \$4.80 for the general public on Fridays and Saturdays, \$3.90 on Sunday; single admissions for faculty and staff are \$3.75 and \$3. Single admission for children and students is \$2.50. Call Edison Box Office, Ext. 6543, for further information.

Modern dancer and choreographer Viola Farber and her company will augment their four-week residence at the WU Summer Dance Institute with two performances July 21 and 22 at 8 p.m. in Edison. Admission is \$4.80; \$3.75 for WU faculty and staff; and \$2.50 for students and children. Tickets are available at Edison Box Office.



Viola Farber

The WU Summer Film Series will offer 11 classic and soon-to-be-classic films June 7 through August 13. Most films will be shown twice, on Monday and Thursday evenings, and all will begin at 8 p.m. in air-conditioned Rebstock Auditorium. The schedule is: "Julia," June 7 and 11; "The Thin Man," June 14 and 18; "I Never Sang for My Father," June 21 and 25; "Zorba the Greek," June 28; "The Band Wagon," July 2; "In Cold Blood," July 5 and 9; "The Adventures of Sherlock Holmes' Smarter Brother," July 12 and 16; "Here Comes Mr. Jordan," July 19 and 23; "The Charge of the Light Brigade," July 26 and 30; "The Grapes of Wrath," August 2 and 6; and "The Fixer," August 9 and 13. Thirteen dollars (\$5 from WU summer school students) buys a season ticket which is available in Room 1, January Hall. Individual admissions are \$1.75 and \$1 respectively.

The quadrangle will be filled with music throughout both June and July. On five consecutive Fridays (which began May 25), the Little Symphony will present its 45th concert season. Eminent conductors and soloists will perform with the orchestra, made up of members of the St. Louis Symphony Orchestra. Conductors and soloists appearing are: Joseph Silverstein and Janice Smith, flute, June 1; David Stahl and Mary Anderson, piano, June 8; Lawrence Smith and Robert Rutch, French horn, June 15; and George Cleve and Peter Rejto, cello, June 22. Season tickets, available at Edison Theatre Box Office, are \$15 in the chair section and \$12 on the lawn. Individual tickets are \$4 and \$3. Children under ten will be admitted for \$1. Concerts begin at 8:45 p.m. and will be held in Edison Theatre or Graham Chapel in case of rain.

The Gateway Festival Orchestra, directed by William Schatzkamer, WU professor of music, and composed of St. Louis Symphony and other local professional musicians, will begin its series of five Sunday evening consecutive concerts July 1, at 8 p.m. There is no admission charge to the concerts and the public is invited to bring their own folding chairs or blankets to the quadrangle. The Gateway's concerts are supported with grants from the Musical Performance Trust Fund of Local 2-197 of the American Federation of Musicians.

Two exhibits of art works from the extensive WU art collection will be on display throughout the summer in the University's Gallery of Art in Steinberg Hall. "Master Prints from the WU Collection," featuring works by Dürer, Rembrandt, Goya and Picasso, and other works from the permanent collection, may be viewed weekdays from 9 a.m. to 5 p.m. and on weekends from 1 to 5 p.m.

(Charlotte Boman)

THE WOMEN'S SOCIETY OF WU will sponsor a day-long historical tour to Kaskaskia, Ill., and Ste. Genevieve, Mo., the oldest city west of the Mississippi River, on Sat., June 2. The public is invited to participate in the tour. It will include stops at Fort Chartres, a former French fortress, and the Pierre Menard home, considered to be the finest example of southern French Colonial architecture in the central part of the Mississippi Valley. The tour will also include lunch and a lecture by Beatrice Newman Mack, well-known St. Louis art historian. The tour will leave Mallinckrodt Center Saturday at 8:30 a.m. and will return at about 6 p.m. To make

reservations, send a check for \$17 payable to the Women's Society of WU, Box 1209, St. Louis, Mo., 63130.

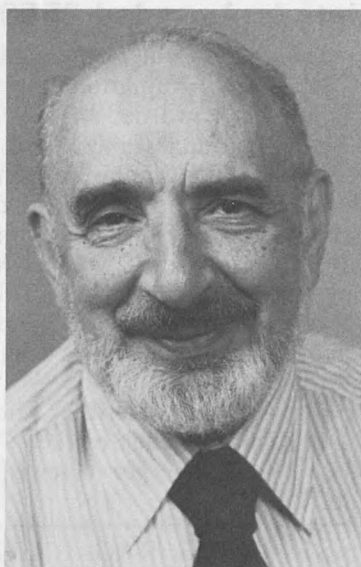
\* \* \*

NICHOLAS J. DEMERATH, research associate of WU's Social Science Institute and professor emeritus of sociology, has received an award for research in India in 1980 from the American Institute of Indian Studies, Chicago, Ill. Demerath will spend two months in Sri Lanka and India studying the effects of different kinds of farming on the birth and death rates of farm people. Demerath and WU Assistant Professors of Sociology Alan Burstein and Donald Strickland are engaged in similar research in Mexico.



## Prof. Calandra Is Honored with Teaching Award

Alexander Calandra, WU professor of physical science, has received the highest honor in the teaching of physics, the 1979 Robert A. Millikan Award, from the American Association of Physics Teachers. The award is given annually for responsible, innovative and creative work which has had a national impact on the teaching of physics. (Millikan won the Nobel Prize in 1923 for his study of the elementary electric charge.)



Alexander Calandra

Calandra joined the faculty at the University of Chicago as assistant professor of physical science in 1945 after holding positions with Brooklyn College and the Educational Testing Service (ETS). He was, for a short time, a lecture assistant to Enrico Fermi, a Nobel Laureate, while Fermi was developing the controlled nuclear chain reaction.

Stanley Lang, now associate professor of physiology and biophysics at the WU School of Medicine, was a student of Calandra's at the University of Chicago. In recommending Calandra for the Millikan Award, Lang wrote: "After listening to the great Fermi lecture to us, we would get Calandra to tell us what he said. With his kind grace, happy soul and fantastic teaching skill, he would make Fermi come out just right." Arthur Holly Compton, later Chancellor of WU and Nobel Laureate, was also at the University of Chicago during this period, directing the project on which Fermi was working. Fermi recommended Calandra to Compton.

When Compton left the University of Chicago to head WU he invited Calandra to accompany him here to develop a program in physical science for liberal arts students. Calandra joined the WU faculty as an associate professor of chemistry in 1947, and in 1953, became associate professor of physics.

Calandra's innovative efforts in teaching include the development of a general physics course offered by University College in WU's School of Continuing Education, a Saturday morning physics class for secondary school students whose school did not offer physics, and a summer school course in physics for gifted elementary school students.

He created a two-year program of physics classes offered at WU by volunteer graduate students and faculty members for secondary school students. For this work, Calandra received the 1969 Ohaus-NSTA Award. He received another Ohaus-NSTA Award in 1972 for the creation of a science program for non-science majors at Webster College.

From 1972 to 1974, Calandra created and edited "The Children's Corner," a newspaper page devoted to science for children in the *St. Louis Post-Dispatch*.

(Robert J. Felekey)

GERHILD S. WILLIAMS, assistant professor of German, has received a \$2500 summer stipend from the National Endowment for the Humanities to continue her research on 15th-century European literature. She is concentrating on literature produced at the court of Maximilian I (1459-1519) of Germany. Williams will use

the funds to study at the Newberry Library in Chicago, and overseas at the University of Freiburg in West Germany and the University of Graz in Austria. She will deliver a paper on her work at the 12th International Arthurian Congress, which will be held in Regensburg, Germany, August 8-15.

## Faculty Receive Tenure

The following faculty members on the Hilltop, Medical and Dental School campuses have received tenure effective July 1, 1979, unless otherwise stated.

**Appointments with tenure:** *School of Law*—Edward J. Imwinkelried, associate professor of law. *School of Medicine*—Elliott L. Elson, professor of biological chemistry; Steven J. Rose, associate professor of physical therapy.

**Promotions with tenure:** *Faculty of Arts and Sciences*—Patrick C. Gibbons, to associate professor of physics; Robert E. Hegel, to associate professor of Chinese language and literature; David T. Konig, to associate professor of history; James T. Little, to associate professor of economics; Virginia Walbot, to associate professor of biology. *School of Law*—Douglas B. La Pierre, to associate professor of law (effective October 13, 1978). *School of Medicine*—Frederic B. Askin, to associate professor of pathology; David I. Gottlieb, to associate professor of neurobiology; Laura S. Hillman, to associate professor of pediatrics; R. Gilbert Jost, to associate professor of radiology; Robert E. Koehler, to associate professor of radiology; Jack H. Ladenson, to associate professor of pathology; Stephen S. Lefrak, to associate professor of medicine; Michael McDaniel, to associate professor of pathology; William A. Murphy, Jr., to associate professor of radiology; James A. Purdy, to associate professor of radiation physics in radiology; Arnold W. Strauss, to associate professor of pediatrics.

**Granting of tenure:** *Faculty of Arts and Sciences*—Samuel A. Hay, professor of black studies and theatre (effective October 13, 1978); Michael Merbaum, professor of psychology (effective October 13, 1978); Stanley L. Paulson, associate professor of philosophy (effective October 13, 1978); Alan R. Templeton, associate professor of biology. *School of Business and Public Administration*—James A. Anderson, associate professor of accounting. *School of Engineering and Applied Sciences*—Lester F. Eastwood, associate professor of technology and human affairs; Rudolph B. Husar, professor of mechanical engineering; Curt Thies, professor of chemical engineering; George Zahalek, associate professor of mechanical engineering. *School of Medicine*—Isabelle M. Bohman, assistant professor of physical therapy (effective January 1, 1979); James A. Felts, associate professor of anesthesiology (effective December 8, 1978); Ming-Shian Kao, associate professor of obstetrics and gynecology (effective October 13, 1978); Robert C. McKnight, associate professor of radiology; Elsie F. Meyers, associate professor of anesthesiology (effective December 8, 1978).

## Medical School Receives Mellon Grant

The WU School of Medicine has been awarded a \$250,000 grant by the Andrew W. Mellon Foundation. The grant is to be used over a three-year period to provide teaching and research opportunities for outstanding young faculty investigators.

This program of grants is a renewal of the foundation's 1973 and 1976 programs of similar assistance involving 15 different private medical schools.

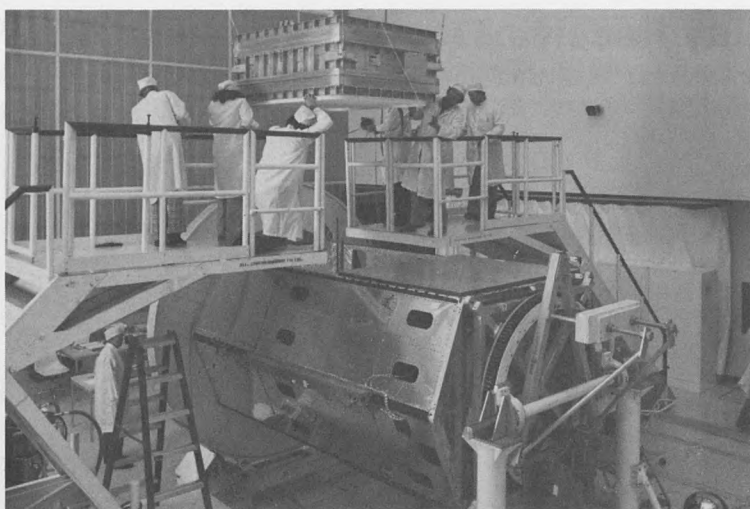
According to John E. Sawyer, president of the Mellon Foundation, "the chief purpose of the grants is to help minimize the loss to medical education and to research in the medical sciences that will be certain to occur if lack of support were to turn individuals of the kind described to other careers."

The grants will enable responsible officers of medical schools to provide support on a highly selective basis for a few exceptionally promising postdoctoral teacher-scientists who would not otherwise be able to continue their research.

MARSHALL E. DURBIN, WU associate professor of anthropology, has been appointed editor of the *Ameri-*

*can Ethnologist*. The journal is published by the American Anthropological Association.





WU's experiment is loaded into the satellite.

## Satellite

(continued from page 1)

satellite observatory.

Cosmic rays were discovered in 1911, but the exact source of cosmic radiation is still unknown. Scientists speculate that their source may be rapidly rotating neutron stars or super nova explosions. Although the origin of cosmic rays is not known, something is known about their nature.

"Cosmic rays are fast moving atoms from which the outer electrons have been stripped away, leaving only the bare nuclei," according to Israel. "They travel at velocities ranging from one tenth the speed of light to nearly the speed of light, carrying with them tremendous amounts of energy."

When cosmic rays collide with the atoms of other substances they may cause the atoms to break apart into subatomic particles. The atmosphere of the earth, constantly bombarded by cosmic rays, is involved in countless interactions of this type. This atmospheric atom-smashing protects life on earth by slowing and breaking up the cosmic rays.

After these collisions, the resulting secondary cosmic rays bathe the earth creating what is commonly called "background radiation" or natural radiation. The earth's protective atmosphere allows relatively few primary cosmic rays—those that do not experience collisions with other atoms—to reach the earth's surface. This makes it very difficult to learn anything about primary cosmic rays, the earth's only continuous material contact with the rest of the universe.

"The very rare cosmic-ray nuclei from Zinc (element number 30) through Uranium (element number 92) provide important astrophysical information which is not available from other studies," Israel said. "Measurements of extremely heavy cosmic rays will test the hypothesis of supernova origin of cosmic rays and will lead to a better understanding of the enormously energetic processes occurring in these stellar explosions."

"In addition, these cosmic rays probe the interstellar gas of our galaxy, and detailed measurements of cosmic ray composition will permit us to begin to understand the nature of this interstellar matter," Israel said.

(Robert J. Felekey)

MARK A. FRANKLIN, WU associate professor of electrical engineering, has received a four-year \$432,000 grant from the National Science Foundation to continue research on "Continuous Systems Simulation on Multi-processor Systems." Franklin is developing a new type of computer system which will involve parallel processing of information to simulate very large, complex systems such as the forces acting on railroad cars in impact situations, large-scale electric power networks, or biological processes such as the human circulatory system.

## Valeriote Is Awarded \$550,000 Cancer Grant

Dr. Frederick A. Valeriote, head of the Section of Cancer Biology, Division of Radiation Oncology at the WU School of Medicine, has been awarded a five-year \$550,000 research grant funded by the National Cancer Institute, National Institutes of Health. He will study the biology and therapy of myeloma or B-cell tumors which are one class of tumors of the hematopoietic (blood forming) system of the body.

Entitled "Response of Murine Myeloma to Chemotherapeutic Agents," the grant is one of the largest individual peer-review grants ever given to WU for cancer research and brings together for the first time basic scientists and clinicians to investigate this disease.

Working with Dr. Valeriote, who is principal investigator, will be Dr. Richard Lynch of the WU Department of Pathology and Dr. Nathan Berger of Jewish Hospital, Department of Medicine.

THE ST. LOUIS RAGTIME ENSEMBLE will transplant its inventive hybrid of ragtime music, dance and song to the "auld sod," performing June 11-16 in the Opera House of Cork, Ireland. A spin-off of the highly successful "Ragtime '78 Festival" held last fall in Edison Theatre, the WU company of two musicians and eight dancers will present a program entitled "Forever Ragtime." Steve Radecke, artist in residence, and guest artist "Ragtime Bob" Darch perform on the keyboard. Eight dancers under the direction of Annelise Mertz, director of the dance division, will present original modern dances set to ragtime.



The sculpture "Tower Hybrid," created by Richard Hunt, WU Louis D. Beaumont Distinguished Visiting Professor of Art last semester, will be unveiled at Laumeier Sculpture Park at 3 p.m. Sun., June 3. A champagne reception will be held from 3 to 6 p.m. at the park.

GREGORY MILLMAN, a WU graduate student in business administration and Asian studies, has been awarded the WU Taiwan Alumni Association Scholarship. The scholarship covers all academic expenses for a year's study of Chinese language or culture at a university in Taiwan, as well as transportation and room and board. The scholarship was established in 1977 by the WU Alumni Association in the Republic of China to be used by either undergraduate or graduate students who have shown interest in Chinese language or culture in their academic studies. Millman is the second recipient of the scholarship, which is administered by the International Office.

KURT W. SCHWEDLER of Algoma, Wis., accepted as a member of the freshman class of the WU School of Architecture for the fall semester, has been named a 1979 finalist in the Presidential Scholars Program according to U.S. Commissioner of Education Ernest L. Boyer. Schwedler is one of 1000 outstanding American high school students chosen from among three million graduating seniors this year. The Presidential Scholars Program, established by executive order in 1964, annually honors this country's most intellectually gifted and accomplished graduating high school seniors. Candidates for this honor are initially identified through their scores on nationally administered examinations.





A delegation of leading plant physiologists from the People's Republic of China met last week with St. Louis area biologists and botanists for a series of scholarly lectures and discussions at WU and the Missouri Botanical Garden. Among the Chinese and WU participants were (left to right): C.C. Tung, Monsanto Co.; Ernest Tsai, WU librarian; Fan Sheng-ting, research associate, Shanghai Institute of Pharmacology; Yin Hung-chang, director, Shanghai Plant Physiology Institute; Chancellor William H. Danforth; Chiu Bing-chun, interpreter; Joseph Varner, WU professor of biology; Robert Thach, chairman, WU Biology Department; and S.D. King, professor of applied physiology, U. of Maryland. The visit was sponsored by the Botanical Society of America.

## WU Student Is Named Danforth Fellow

Jeff Schloss, a candidate for the PhD in biology, is one of 41 post-baccalaureate students in the United States to receive a Danforth Graduate Fellowship. Another WU graduate student, Robert M. Panoff, studying for his PhD in physics, received honorable mention in the Danforth competition.

Schloss, who has completed all of his course work requirements for the doctorate, will use his fellowship to continue his research at the University of Michigan Biological Station in Pellston, Mich.

Focusing on ecology and evolutionary biology under the supervision of George Johnson, associate professor of biology, Schloss is studying the ways in which forests change over a long period of time. The problems he is concerned with have theoretical as well as practical implications, according to Schloss. "Some of my findings will probably be of help to those who manage forests," he said.

Schloss is also one of 75 students chosen from among 600 applicants selected to attend the United States Student Pugwash Conference on "Science and Ethical Responsibility." The meeting, June 19-26, will be held at the University of California at San Diego. Twenty-five senior scientists also received awards to attend the conclave. It is sponsored by grants from the National Science Foundation and the National Endowment for the Humanities.

Panoff, majoring in theoretical nuclear physics, is doing his research under the supervision of John W. Clark, professor of physics. His recognition in the Danforth Graduate Fellowship program led to his being named the recipient of a Nipher Fellowship. It will supplement the stipend he receives as a research assistant in the Physics Department. Panoff also has a WU partial tuition scholarship.

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**BILL FITZGIBBONS**, who earned his master of fine arts degree from WU in 1978, will have a two-man exhibition of sculpture at the Midlands Art Centre in Birmingham, England, from June 7 to July 27.

## Schwarz's Autobiography Tells of An Individual Governed by History

On a peaceful spring day recently, Egon Schwarz, WU teacher, scholar and journalist for the *Frankfurter Allgemeine Zeitung*, discussed his new book, *No Time for Eichendorff*. Just off the Athenäum Press in Germany, this work, with its curious title, is an autobiography on which Schwarz, Rosa May Distinguished University Professor in the Humanities, has been working for 20 years.

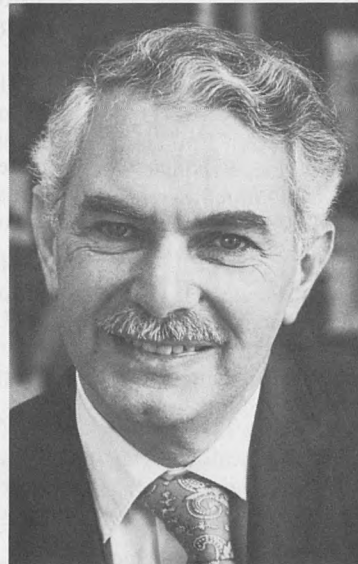
He believes that it is unusual because it does not fall within familiar autobiographical categories. It is not written by a person who has been in the public limelight, nor by someone—such as a diplomat or military figure—who has been involved in events that command public attention. "I wrote it," he explained, "because I felt that my life was paradigmatic of the historic events of this century."

Schwarz is one of the hundreds of thousands of Jews who were forced to flee Hitler. The subtitle of the book, *A Chronicle of Involuntary Years of Migration*, succinctly expresses his central theme. When still a teenager (Schwarz was 16), he and his parents, after harrowing adventures in middle Europe, finally made their way to La Paz, Bolivia. There, he struck out on his own. Various, as stonemason, electrician, peddler, tin miner and accountant for the United Fruit Company, Schwarz somehow survived. Eventually, he managed to study—first at the University of Cuenca in Ecuador, then at Ohio State University, and finally at the University of Washington where he earned his PhD in 1954.

Reflecting on the historical circumstances which transformed the course of his life, he said: "You won't learn much about me in the book—only about me as a plaything of history. My autobiography is a philosophical exploration of an individual who, all of his life, has been propelled by social and historical forces. What, then, does such a person contribute to his own life? The dialectics are between who I am and what I have done to create my own life. I believe that within very narrow boundaries the human being has freedom, but I shouldn't exaggerate it. You are born into a social class, you can't choose your family, your financial circumstances in early life are totally determined, geography, language and so on. But, as the human being grows in intellectual power there is a little room, I believe, to correct fortune."

On its literary style, Schwarz did not comment, but his colleague Jim McLeod, assistant to the Chancellor, did. Translating the publisher's summary, he read: (The author's art) "combines elegance with humor—because of this the reading of this book is a pleasure as well as a learning process." Unfortunately, those of us who can't read German will not be able to savor its delights first-hand. One chapter, however has been translated into English by friends; Schwarz hopes the rest will follow in time. "I want to reach as many people as possible," he concluded.

DR. RONALD G. EVENS, Elizabeth Mallinckrodt Professor and head of the Department of Radiology at the WU School of Medicine, was recently named president of the Society of Chairmen in Academic Radiology Departments (SCARD).



Egon Schwarz

(Dorothy Brockhoff)



## Calendar

### June 1-August 30

#### SATURDAY, JUNE 2

**9 a.m. School of Dental Medicine Continuing Education Course for Dentists,** "The General Dentist and the Care of the Cancer Patient Receiving Radiation Therapy in the Head and Neck Area," Dr. Oscar N. Guerra, dir., Dept. of Maxillofacial Rehabilitation, Ellis Fischel State Cancer Hospital, Columbia, Mo. WU School of Dental Medicine, 4559 Scott. To register, call 454-0387.

#### MONDAY, JUNE 4

**8:30 a.m. Center for the Study of Data Processing Intensive Seminar,** "Intensive COBOL," Dan Schoenekase, asst. dir., WU Center for the Study of Data Processing. Cupples 1, Room 200. The course will be held until 5 p.m., weekdays, through Fri., June 29. To register, call 889-5330.

**4 p.m. Center for Basic Cancer Research Forum,** "Cell Adhesion in Cellular Slime Mold and Teratocarcinoma Cells," S. D. Rosen, asst. prof., San Francisco School of Medicine. Erlanger Auditorium, McDonnell Science Bldg., 4570 McKinley.

#### THURSDAY, JUNE 14

**9 a.m. Minority Mental Health Program First Annual Conference on Graduate Training Programs for Minorities.** Wohl Center. The conference will take place from 9 a.m. to 5 p.m., June 14-16. For further information, call 725-1698 or 725-6996.

#### WEDNESDAY, JUNE 20

**4 p.m. School of Dental Medicine Graduation Ceremonies.** Dr. Charles Edwards, medical dir., Scripps Clinic and Research Foundation, La Jolla, Calif., will be the speaker. Edison Theatre.

### Films

#### THURSDAY, JUNE 7

**8 p.m. WU Summer Film Series,** "Julia." (Also Mon., June 11, 8 p.m., Rebstock.)\*

#### THURSDAY, JUNE 14

**8 p.m. WU Summer Film Series,** "The Thin Man." (Also Mon., June 18, 8 p.m., Rebstock.)\*

#### THURSDAY, JUNE 21

**8 p.m. WU Summer Film Series,** "I Never Sang for My Father." (Also Mon., June 25, 8 p.m., Rebstock.)\*

#### THURSDAY, JUNE 28

**8 p.m. WU Summer Film Series,** "Zorba the Greek."\*

#### MONDAY, JULY 2

**8 p.m. WU Summer Film Series,** "The Band Wagon."\*

#### THURSDAY, JULY 5

**8 p.m. WU Summer Film Series,** "In Cold Blood." (Also Mon., July 9, 8 p.m., Rebstock.)\*

#### THURSDAY, JULY 12

**8 p.m. WU Summer Film Series,** "The Adventures of Sherlock Holmes' Smarter Brother." (Also Mon., July 16, 8 p.m., Rebstock.)\*

#### THURSDAY, JULY 19

**8 p.m. WU Summer Film Series,** "Here Comes Mr. Jordan." (Also Mon., July 23, 8 p.m., Rebstock.)\*

#### THURSDAY, JULY 26

**8 p.m. WU Summer Film Series,** "The Charge of the Light Brigade." (Also Mon., July 30, 8 p.m., Rebstock.)\*

#### THURSDAY, AUGUST 2

**8 p.m. WU Summer Film Series,** "The Grapes of Wrath." (Also Mon., Aug. 6, 8 p.m., Rebstock.)\*

#### THURSDAY, AUGUST 9

**8 p.m. WU Summer Film Series,** "The Fixer," with Alan Bates. Rebstock Auditorium.

Admission \$1.75; \$1 for WU summer school students. (Also, Monday, Aug. 13, 8 p.m., Rebstock.)

\* All films in Rebstock Auditorium. Admission 1.75; \$1 for WU Summer School students.

### Music

#### FRIDAY, JUNE 1

**8:45 p.m. Little Symphony Concert,** Joseph Silverstein, conductor and violin soloist, Janice Smith, flute soloist. (Edison Theatre in case of rain.)\*

#### FRIDAY, JUNE 8

**8:45 p.m. Little Symphony Concert,** David Stahl, conductor. Mary Anderson, piano soloist. (Graham Chapel in case of rain.)\*

#### FRIDAY, JUNE 15

**8:45 p.m. Little Symphony Concert,** Lawrence Smith, conductor, Robert Routh, French horn soloist. (Graham Chapel in case of rain.)\*

#### FRIDAY, JUNE 22

**8:45 p.m. Little Symphony Concert,** George Cleve, conductor, Peter Rejto, cello soloist. (Graham Chapel in case of rain.)\*

#### MONDAY, JULY 2

**8 p.m. Gateway Festival Orchestra Concert,** William Schatzkamer, conductor, Aleksander Ciechanski, cello soloist. WU Quadrangle. No charge.

#### MONDAY, JULY 9

**8 p.m. Gateway Festival Orchestra Concert,** William Schatzkamer, conductor, Sallie Coffman, violin soloist. WU Quadrangle. No charge.

#### MONDAY, JULY 16

**8 p.m. Gateway Festival Orchestra Concert,** William Schatzkamer, conductor, Leonid Gutman, viola soloist. WU Quadrangle. No charge.

#### MONDAY, JULY 23

**8 p.m. Gateway Festival Orchestra Concert,** William Schatzkamer conductor, Silvio Iticovici, violin soloist. WU Quadrangle. No charge.

#### MONDAY, JULY 30

**8 p.m. Gateway Festival Orchestra Concert,** William Schatzkamer, conductor, Ayako Watanabe, harp soloist, and Lois Price, flute soloist. WU Quadrangle. No charge. The Gateway Festival Orchestra concerts are made possible with grants from the Musical Performance Trust Fund of Local 2-197 of the American Federation of Musicians.

\*\* All concerts in WU Quadrangle except for rain locations noted above. Admission \$4 in the chair section, \$3 in the grass section. Children under 10, \$1. Tickets available at Edison Theatre Box Office in advance or at the Quadrangle.

### Performing Arts

#### FRIDAY, JUNE 8

**8 p.m. Edison Summer Stock Theatre, *The Amorous Flea*,** a musical adaptation of Moliere's *School for Wives*. Book by Jerry Devine, music and lyrics by Bruce Montgomery. Wayne Loui, a member of the drama faculties of St. Louis University and Webster College, guest director. Edison Theatre. Admission for Friday and Saturday evening performances: \$4.80; \$3.75 for WU faculty and staff; \$2.50 for all students and children. Admission for Sunday shows: \$3.90; \$3 for WU faculty and staff; \$2.50 for all students and children. Tickets available at Edison Theatre Box Office, 889-6543. (Also Sat., Sun., June 9 and 10; and Fri.-Sun., June 15-17.)

#### FRIDAY, JUNE 22

**8 p.m. Edison Summer Stock Theatre, "Private Lives,"** by Noel Coward. Herbert Metz, director of WU's drama division, director. Edison Theatre. For ticket information see June 8 performance. (Also Sat., Sun.,

June 23, 24; and Fri.-Sun., June 29, 30 and July 1.)

#### FRIDAY, JULY 6

**8 p.m. Edison Summer Stock Theatre, "Loot,"** a farce by Joe Orton. Richard H. Palmer, director of Edison Theatre, director. Edison Theatre. For ticket information see June 8 performance. (Also Sat., Sun., July 7, 8; and Fri.-Sun., July 13-15.)

#### SATURDAY, JULY 21

**8 p.m. Edison Dance Performance,** with the Viola Farber Dance Company, Jeff Slayton, guest artist. Edison Theatre. Admission \$4.80; \$3.75 for WU faculty and staff; \$2.50 for students and children. Tickets available at Edison Theatre Box Office, 889-6543. (Also Sun., July 22, 8 p.m., Edison.)

### Exhibitions

**"Master Prints from the WU Collection,"** and **"Selections from the WU Permanent Collection."** WU Gallery of Art, Steinberg Hall. 9 a.m.-5 p.m., Mon.-Fri.; 1-5 p.m., Sat., Sun. Both through August 30.

**"The Arts of Japan,"** an exhibit of books. Rare Book Department, Olin Library. 8:30 a.m.-5 p.m., Mon.-Fri. Through July 31.

DAVID BRONSEN, WU professor of German and comparative literature, recently jetted off to Vienna at the invitation of the Austrian National Television network to help produce three 45-minute programs based in part on his book *Joseph Roth: Eine Biographie*, first published in 1974. This work, based on the life and works of the well-known Austrian novelist and journalist, Joseph Roth (1894-1939), was recently reissued in paperback. The TV series, directed by Gustav W. Tram-pitsch, will be entitled, "Show Places of World Literature." Bronsen will serve as a TV commentator on these documentaries which will focus on major characters in Roth's works and will be filmed in the areas where they lived. Bronsen will also provide source material and serve as an adviser. Bronsen will spend the fall semester as visiting professor at the University of Arizona in Tucson.