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RECORD

Washington
WASHINGTON · UNIVERSITY · IN · ST. LOUIS

Vol. 15 No. 20/Feb. 14, 1991

Former education secretary is among campus speakers

Three distinguished women — a Soviet theatre specialist, a former U.S. secretary of education and the president of Radcliffe College — will be giving Assembly Series lectures next week. The lectures of Alma Law, Shirley Hufstедler and Linda Wilson are free and open to the public.

Alma Law, a nationally recognized authority on modern Soviet theatre, will keynote a symposium on Soviet theatre with her talk, "Revolutionary Russian Theatre," at 11 a.m. Wednesday, Feb. 20, in Edison Theatre. The symposium, "Lifting the Veil: Contemporary Soviet Theatre," runs Feb. 15-23 at the University. Her lecture is co-sponsored by the Assembly Series and the departments of Performing Arts and Russian.

Law, who specializes in Russian theatre from Chekhov to the present, will show rare film footage of Russian theatre, including early 20th-century productions of Chekhov and Stanislavsky. She also is a leading translator of Soviet theatre and has translated Olga Pavlova's "The Passion According to Varvara," which the Performing Arts Department will be presenting as part of the symposium. All events in the symposium, except the play, are free and open to the public.

Law co-directs the Institute for Contemporary Soviet and East European Drama and Theatre, part of the Center for Advanced Study in the Theatre Arts at City University of New York. She also co-edits the center's journal on Soviet film and theatre.

She has participated in a number of reconstructions of theatre productions from early in this century and has written extensively on the subject. Law recently co-authored the book *Meyerhold's Biomechanics: Actor Training in Revolutionary Russia*.

Former Secretary of Education Shirley Hufstедler will give the Tyrrell Williams Lecture on "The Once and Future Law" at 4 p.m. Wednesday, Feb. 20, in Graham Chapel. She sat as the first woman judge on the 9th U.S. Circuit Court of Appeals, one of the nation's most prestigious courts, before her appointment to former President Jimmy Carter's Cabinet.

Hufstедler returned to private

Continued on p. 3

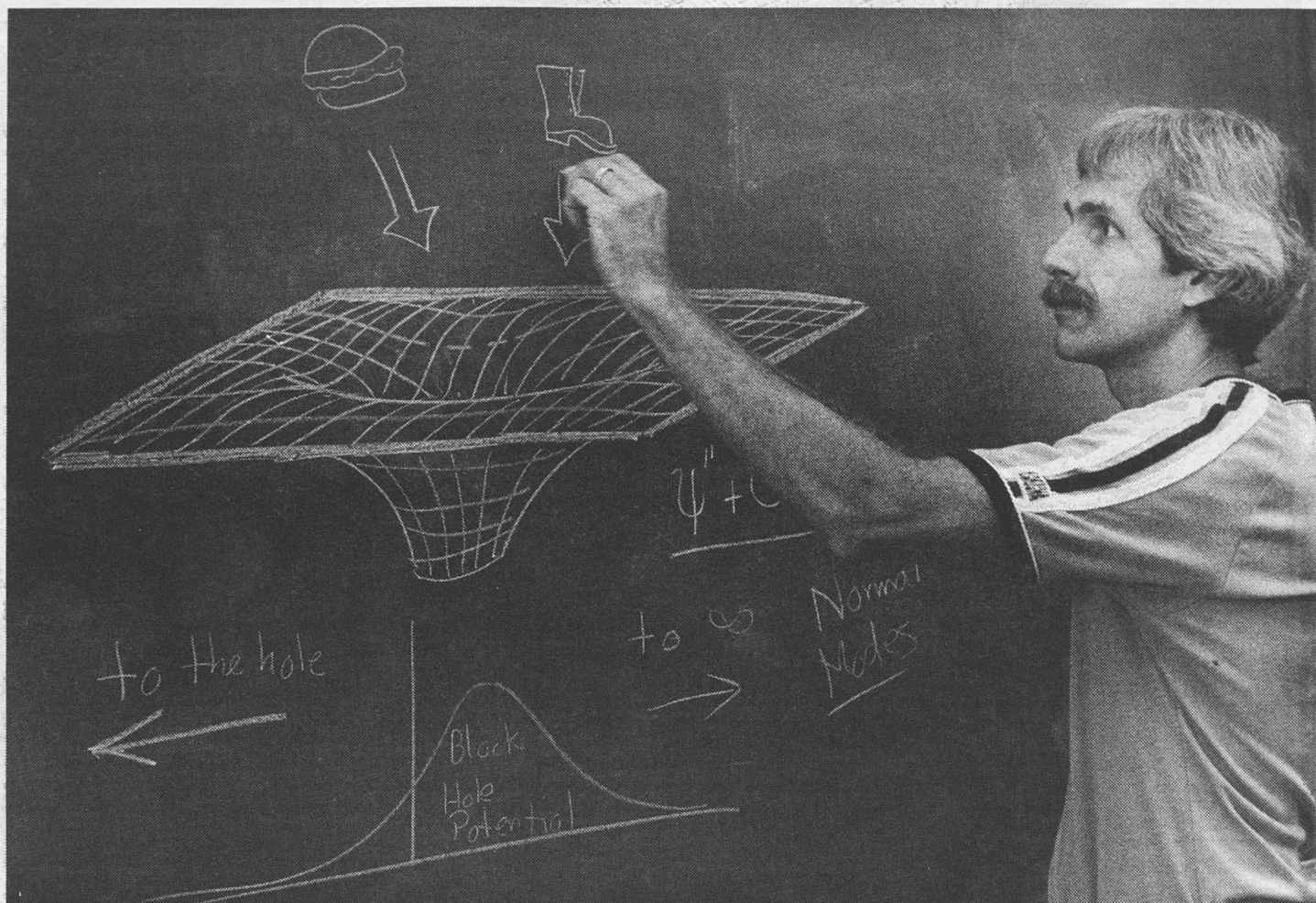
Clayton expands no-parking hours along Forsyth

The City of Clayton has notified Washington University that parking along the north side of Forsyth Boulevard between Olympian Way and Big Bend Boulevard will be prohibited between 3:30 and 6 p.m., on a trial basis, beginning Feb. 18. Currently, no-parking hours are from 4 to 6 p.m.

According to Clayton officials, this change will be in effect for a 90-day period, after which time a decision will be made whether to permanently maintain the 3:30 to 6 p.m. parking restriction.

University faculty, staff and students should be aware that cars parked in this area during the prohibited times will be ticketed and towed by Clayton authorities at the owner's expense.

Clayton indicates that expanding the prohibited parking hours will allow more time to clear parked cars from rush-hour lanes, thus expediting the flow of westbound traffic along Forsyth.



Clifford Will, who updated the status of relativity research in a recent issue of *Science*, illustrates the consequences of general relativity near black holes.

Was Einstein right? General relativity theory withstands 75 years of scrutiny

It has been three-quarters of a century since Albert Einstein revolutionized science with the publication of his theory of general relativity. Since then, researchers have wrestled with the notion that gravity is a property of space-time's curves and valleys, and have sought to confirm or disprove his idea with experiments that reach literally to the ends of the universe.

Working from a concept that Einstein himself described as significant primarily for its simplicity and consistency, physicists and astronomers have examined the properties of gravity in the laboratory, Earth orbit and deep space. In the process, they have spun off new scientific disciplines and posed questions that the German-born researcher never dreamed of asking. The most important one, though, may be the most basic: Was Einstein right?

The answer is yes, for now, according to Clifford M. Will, Ph.D., professor of physics at the McDonnell Center for the Space Sciences and author of the award-winning 1987 book *Was Einstein Right?* Will, a theoretical physicist, updates the status of relativity research in the November 1990 issue of *Science*.

"At the time of the birth of general relativity, experimental confirmation was almost a side issue," Will writes. "To be sure, Einstein did calculate observable effects of general relativity, such as the deflection of light, which were tested, but compared to the inner consistency and elegance of the theory, he regarded such empirical questions as almost peripheral."

Will has studied some 100 experiments in his efforts to determine how well Einstein's theory has held up under the piercing scrutiny of modern physics. Why bother to continue testing a theory that has stood for 75 years?

"Although it is remarkable that this theory, born 75 years ago out of almost pure thought, has managed to survive every test, the possibility of suddenly finding a discrepancy will continue to drive experiments for years to come," Will says.

"One reason is that gravity is a

fundamental interaction of nature and as such requires the most solid empirical underpinning we can provide. Another is that all attempts to quantize gravity and to unify it with the other forces suggest that gravity stands apart from the other interactions in many ways. Finally, and most importantly, the predictions of general relativity are fixed; the theory contains no adjustable constants, so nothing can be changed. Thus every test of the theory is potentially a deadly test."

In addition, advancing technology has reached such levels of precision that the small corrections predicted by relativity take on important, practical significance. For example, the Air Force's satellite-based Global Positioning System is under current heavy use in the Persian Gulf war, says Will.

"Although it is remarkable that this theory ... has managed to survive every test, the possibility of suddenly finding a discrepancy will continue to drive experiments for years to come."

— Clifford M. Will

"Using hand-held G.P.S. receivers, allied forces can determine their precise location to better than 100 feet," says Will. "In order for this system to achieve such accuracy, the relativistic effects on time measured by the atomic clocks on the satellites MUST be accounted for. If they weren't, the system would be useless for accurate navigation."

In the public mind, Einstein is forever associated with "E = mc²." That equation, however, of energy being equal to mass times the speed of light squared, belongs with a different Einstein theory — special relativity.

"General relativity," Will says, "is a theory in which gravity is explained or understood as a property of space-time itself. A fundamental idea is that space-time is curved; when bodies move around, what they're really doing is following the valleys and ridges of this curved space-time. Within our solar system, gravity is pretty weak, so the curvature is quite small. It's enough, though, that it produces the motion of the planets and causes light to follow a slightly curved path."

These curves in the fabric of space-time produced anomalies in the planetary orbits that had been observed in the mid-19th century but not accounted for mathematically. Studies had concentrated on Mercury, orbiting the sun in an elliptical path with the perihelion, or point on the orbit closest to the sun, advancing forward by 574 arc seconds per century. Over a period of 2,250 years, the changing path of Mercury's many orbits would trace a rosette rather than an ellipse.

To their great frustration, none of the scientists who observed this phenomenon was able to account for it with standard Newtonian mathematics. Then, in one of the four papers Einstein published in the proceedings of the Prussian Academy of Sciences in November 1915, he corrected their calculations to allow for the curvature of space and neatly accounted for every arc second of Mercury's orbit.

In the same set of papers, Einstein made a second important assertion. A light ray passing very close to the sun, he wrote, would be deflected from a straight path by the dip in the fabric of space-time around the sun.

Four years later, British astronomer Sir Arthur Eddington led a team that studied a 1919 solar eclipse from sites in Africa and South America and proved Einstein right. This verification brought him the scientific and popular attention that made his name a household word.

Will has analyzed and critiqued 75 years of general relativity experiments, evaluating them for accuracy and reliability. He has traced the evolution of experimental procedures

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Seismically sound: A worker from Peterson Business Systems Inc. in St. Louis reinforces Olin Library's shelving units with a seismic strut as part of the Washington University Libraries' plan to upgrade book stacks to meet current seismic zone codes. Officials developed the project after receiving information on damages that occurred at San Francisco libraries when a major earthquake hit the area on Oct. 17, 1989. The project began at Olin Library Dec. 26 and workers are now securing the stacks at departmental libraries throughout the University.

Olin Cup challenge

Business students to take environmental stand

"Environmentalism and Profitability: Conflict or Opportunity?" is the theme of the third John M. Olin Cup — an annual business school competition in which student teams are judged on their ability to make a stand on a controversial issue.

"The Olin Cup is one of our school's signature special events," said Robert L. Virgil, D.B.A., dean of the John M. Olin School of Business. "It provides our students a unique opportunity to develop and defend a thoughtful position on a topic of importance to American business and to be recognized by an audience of alumni, business leaders, faculty, administration and peers."

The public is invited to attend the finals of this year's competition, which will be held from 8:30 to 11:30 a.m. Feb. 19 in The May Auditorium of Simon Hall. Other events are planned throughout the day as part of a business school "open house." The schedule includes a free lunch at 11:30 a.m., announcement of winners at 1 p.m., and various live musical events. For more details or lunch reservations, call Ida Early at 889-6398.

The environmental theme of this Olin Cup promises to bring forth an abundance of both viewpoints and controversy, as students offer their insight on issues as diverse as the Clean Air Act, alternative energy sources, the timber industry, recycling and landfill management. Many of the presentations are expected to focus on the role businesses can play in addressing these issues.

The Olin Cup Competition was first held in 1988 as part of ceremonies celebrating the naming of the business school for St. Louis entrepreneur and philanthropist John M. Olin. Plans call for the competition eventually to be opened to students from other business schools.

Business undergraduates and MBA students compete separately, with one team winning in each group. Teams may consist of up to four students, the majority of whom must be from the business school. Several students from outside the business school are competing in the current Olin Cup.

Students are judged on their ability to develop a strong position on a business issue and defend their premises before a panel of distinguished judges. Teams are given 15 minutes to make their case; an additional 10 minutes is reserved for questions from the judges. Three teams from each level advance to the finals.

Students reaching the finals this year will have to defend their views before a panel that includes Richard M. Furlaud, president of Bristol-Myers Squibb Co.; Charles Knight, chairman, president and CEO at Emerson Electric; and William Simon, former secretary of the treasury and current chairman of the Olin Foundation.

Winning teams receive cash

awards and their names placed on the Olin Cup plaque in the business library. Each member of the top three teams at both levels will receive a cash prize: \$1,000 to each first-place team member; \$500 to second; and \$300 to third.

Winning teams at the MBA and BSBA levels are scheduled to repeat their presentations at a special breakfast meeting of the business school's Century Club on Feb. 22. A continental breakfast will be served at 7:30 a.m. in the Kiefer Foyer of Simon Hall. The program in The May Auditorium will begin at 8 a.m. and adjourn no later than 8:50 a.m. The event is free and open to the public. For reservations, call Jill Williams at 889-5872.

University sets 1991-92 tuition, fees

Undergraduate tuition and fees at Washington University next fall will be \$16,110 for the 1991-92 academic year, a 7.8 percent increase above the current year, according to Chancellor William H. Danforth.

Tuition and fees for the current year are \$14,948, and include a \$148 required student activity fee. Typical room and board charges will be \$5,127 — a 6.2 percent increase over the current charge of \$4,826.

For 1991-92, tuition will be \$15,950 plus a \$160 required student activity fee, for a total of \$16,110.

In a letter to parents, Danforth said the increase was necessary to attract and keep an outstanding faculty and staff at Washington University through competitive salaries and benefits. These people-related costs are outpacing inflation, as are the costs of library books and periodicals, laboratory equipment, and scientific supplies. He noted that tuition remains the largest source of operating income for the University's five undergraduate schools.

Danforth emphasized that the University remains "committed to a strong student aid program" to help deserving students and their families meet the rising costs of a quality education. About half of the University's undergraduates receive need-based aid from

federal, state and institutional sources, with awards averaging approximately \$12,000 per student.

The University also has the Cost Stabilization Plan (CSP), which freezes tuition and room and board costs at the charges in effect during the first year of the agreement. These costs are not covered by financial aid. The CSP allows monthly installment payments over as many as 10 years at competitive fixed interest rates.

Foreign students sought for group

Washington University's International Student Resource Group is looking for new members.

The group comprises international students who serve as goodwill ambassadors by visiting local schools and speaking about their countries. The students also become acquainted with American culture through tours to local cultural institutions and businesses. Approximately 60 students from 10 foreign countries are current members of the group, which is open to undergraduate and graduate international students.

For more information, contact Beverly Abrahamson at 889-4787.

Photographer Serrano will open art lecture series

Photographer Andres Serrano will lead off the Gallery of Art's Spring 1991 Visiting Artist Program with a lecture at 8 p.m. on Thursday, Feb. 21, in Steinberg Hall auditorium.

The lecture, which is free and open to the public, is co-sponsored by the School of Fine Arts.

The visiting artist lecture series, titled "Tactics of Posture: Personal, Political, and Social Readings of the Body," looks critically at important questions regarding the existence, site and surface of the body. The series will continue with presentations in Steinberg auditorium by Elizabeth Diller at 8 p.m. March 4 and Jana Sterbak at 8 p.m. April 4.

Serrano's lecture is titled "The Bloodstream and Other Vital Bodily Fluids." Known for his large color photographs, which are simultaneously representational and abstract, Serrano has said in an interview with Art In America's Lucy Lippard, that he hopes to "take a formal tradition and subvert it by inverting the images, abstracting that which we take for granted, in an attempt to question not only photography, but my own experience and social reality."

He addresses cultural and social issues including religion, race and the Third World. Using a complex iconography, he explores the theme of spiritual ambivalence and the formal investigation of unorthodox materials.

Since late 1986, Serrano's art has literally been made from body fluids, which he sees as "visually and symbolically charged with meaning." Says Lippard, "Aside from its basic beauty as a series of objects, Serrano's work intentionally raises more questions than it answers."

"Our current year's offerings range from the traditional art of Carl Wimar to the very contemporary views of the artists in this series, and represent a balance between the two ends of the spectrum," says Christopher Scoates, gallery curator. "We're proud of that diversity, and we're excited to be able to present these outstanding artists."

For more information, call the Gallery of Art at 889-5490.

RECORD

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NOTABLES

Carolyn Baum, Elias Michael Director of the Occupational Therapy Program at the School of Medicine, and **Dorothy Farrar Edwards**, Ph.D., assistant professor of occupational therapy and neurology, presented "Quantitative Approach to Functional Assessment in Senile Dementia of the Alzheimer's Type and Normal Elderly" at the 66th annual meeting of the American Occupational Therapy Association. Baum and Edwards had three other presentations on Alzheimer's disease at meetings in Boston and Greenville, N.C.

Martin L. Bryant, M.D., Ph.D., a fellow in the Division of Infectious Diseases in the Department of Pediatrics, received the Young Investigator Award at the 1990 Interscience Conference on Antimicrobial Agents and Chemotherapy in Atlanta. He was among four researchers nationwide to receive the award.

Daniel Cotter, an adjunct instructor in the University College Communications and Journalism Program and marketing manager for the St. Louis Post-Dispatch, has received the 1990 Gerold Zarwell Award for excellence in newspaper research. The Newspaper Research Council presented the award to Cotter at a Zarwell Luncheon held during the council's conference in Toronto, Canada. Cotter's award, the top honor given for newspaper research, was based on a three-part research study to determine the promotional direction of the St. Louis Post-Dispatch after the St. Louis Globe-Democrat ceased publication in 1986.

Susan Crawford, Ph.D., professor and director of the School of Medicine Library and Biomedical Communications Center, chaired the Sixth International Congress on Medical Librarianship in New Delhi, India. She also presented "The Electronic Library" at the event, which is held every four years and focuses on international and technological developments.

Clark D. Cunningham, J.D., associate professor of law, will have his article titled "Why American Lawyers Should Go to India" published in the October 1991 issue of the Law & Social Inquiry publication. He organized and chaired a plenary session titled "The Clinic as Laboratory" and a workshop called "Clinical Scholarship" at the annual Midwest Clinical Confer-

ence in Madison, Wis. During the plenary session he made a presentation, "Ethnography of Legal Discourse." He also presented a paper titled "A New Way of Practicing Law: The Lawyer as Translator" to a section of the first-year class at the University of Michigan School of Law, where he led a follow-up workshop discussion and discussed his paper with the school's law faculty.

Martha N. Ozawa, Ph.D., Bettie Bofinger Brown Professor of Social Policy in the George Warren Brown School of Social Work, has been elected to the National Academy of Social Insurance, a non-profit, non-partisan organization of 200 members who are devoted to furthering the knowledge and understanding of Social Security and related social insurance programs. The academy members are noted for improving the quality of research, teaching, administration and policy-making in the field of social insurance, which, besides Social Security, includes Medicare and unemployment insurance.

Bernard Reams, J.D., Ph.D., professor of law and director of the law library, has been elected president of the Washington University chapter of the American Association of University Professors (AAUP) for the 1990-91 academic year and **Edward Greenberg**, Ph.D., professor of economics, has been elected secretary. The officers elected to the AAUP committee are: **Patrick C. Gibbons**, Ph.D., professor of physics; **Sheldon S. Helfman**, professor of architecture; **Robert P. Morgan**, Ph.D., Elvera and William Stuckenberg Professor of Technology and Human Affairs; **Sondra Schlesinger**, Ph.D., professor of molecular microbiology; and **Michael W. Friedlander**, Ph.D., professor of physics, ex officio and past president.

Have you done something noteworthy?

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

Students host Special Olympics

More than 1,000 Washington University students are busy making preparations for the fifth annual Special Olympics Basketball Tournament, which will be held from 8 a.m. to 4 p.m. Feb. 17 at the athletic complex.

The Special Olympics, free and open to the public, is one of Washington's largest student-run philanthropy events. It is sponsored by the Zeta Beta Tau Fraternity at the University and radio station KSHE-FM. Missouri's Area 13 Special Olympics will conduct the games, which will feature approximately 400 mentally handicapped athletes divided into 39 teams.

"Watching the athletes compete is an inspiring display of courage and determination best described by their oath: 'Let me win, but if I cannot win, let me be brave in the attempt,'" says junior Andrew Grossman, public relations chair for the event and a Zeta fraternity member.

The Special Olympics begins with opening ceremonies at 8 a.m. and includes a torch-lighting activity and speeches by Chancellor William H. Danforth, KTVI-TV anchor Dana King

and Special Olympics chair Andrew Caplan, a senior at Washington. KSHE-FM disc jockey Asher Benrubi, known to his listeners as SMASH, will serve as emcee.

Each 10-member team of Olympians is sponsored by various Washington University student organizations and groups, whose members are paired with an athlete for the day and serve as the athletes' buddies.

Awards will be given to the best teams and athletes. Winning teams will advance to the state competition. An All-Star game between the athletes and KSHE-FM's own basketball team will be played at the end of the event.

In addition to the basketball tournament, the students also will sponsor a Feb. 17 lunch and carnival, which will be held at the athletic complex. The lunch and carnival are for athletes only. Food for the lunch will be donated by Domino's Pizza and other area businesses. Among the carnival activities will be face painting, miniature golf and clowns.

For more information on Special Olympics, call Grossman at 721-5249.

Speakers — *continued from p. 1*

practice in 1981 after stepping down as secretary of education. She served on a three-person delegation from the U.S. State Department and the American Bar Association to negotiate the exchange of legal scholars and judges between the United States and the Soviet Union, Poland and Hungary. A guest lecturer at countries ranging from Nepal to Sweden, Hufstедler has been a visiting professor at several American law schools and has written numerous articles on law, government and international affairs.

Hufstедler also serves on several corporate boards and on the board of the John D. and Catherine T. MacArthur Foundation. She is a trustee of the Carnegie Endowment for International Peace.

The Tyrrell Williams Lecture, established in 1948, honors the late Tyrrell Williams, a Washington School of Law faculty member and alumnus.

Radcliffe President Linda Wilson will deliver the Arthur Holly Compton Memorial Lecture on "Shaping a Vision for a New Era: Science Policy and the American Research University" at 4 p.m. Feb. 21 in Graham Chapel.

Einstein — *continued from p. 1*

from Eddington's crude eclipse photos to precise measurements taken some 60 years later of the orbits of twin neutron stars. In the course of those six decades, agreement between observation and the general relativity theory has climbed to within 0.1 percent.

In the 1960s, Will says, the reliability of general relativity experimentation improved dramatically. After four decades in which relativity studies stagnated, the development of radio astronomy and work on planetary probes catapulted general relativity into a golden era of concentrated research and observation.

In 1964, physicist Irwin Shapiro used general relativity to predict that radar echoes from Mercury and Venus would experience a retardation in passing through curved space close to the sun, which would cause a small delay in the return signal. "Einstein never even thought of having signals going somewhere else and returning, so he never conceived of this effect," Will says.

He may also not have thought of interplanetary space probes, but physicists used the Mariner and Viking missions to make observations that agreed with general relativity to within 0.1 percent.

The discovery of quasars and pulsars, coupled with advances in radio astronomy, also improved the accuracy of attempts to verify general relativity. Very Long Baseline Interferometry, used to study the rotation of the Earth by triangulation with distant stars, gave scientists another method to study how light travels. The technique is important, Will says, not just for its precision but because it requires an Earth-based investigator to take into account how light is deflected over the entire celestial sphere and not just near our sun. The results agree with Einstein to about 0.2 percent.

In 1974, the fortuitous discovery of the binary pulsar PSR 1913 + 16 gave physicists another chance to verify Einstein's theory, this time to within 0.8 percent. The effect seen was the slow decay of the orbit, caused by the loss of energy radiated into space in the form of gravity waves.

Since 1980, Will says, the field has entered what he calls "an Era of Opportunism." "Many of the remaining interesting predictions of the theory are

extremely small and difficult to check, in some cases requiring further technological development to bring them into detectable range."

If Will and others are so certain that general relativity will not fail any of its deadly tests, why do they continue to study it? The answer lies in the enticement of the phenomena the theory predicts, especially the as-yet unproven existence of black holes and gravitational waves.

While there is strong evidence for black holes, Will says, their existence has not yet been verified. He looks to the Hubble Space Telescope and 1996 AXAF (Advanced X-ray Astrophysics Facility) mission to do so, by selecting likely targets to search and scanning the center of galaxies for X-rays emitted by matter about to be pulled into the hole.

Gravitational waves emanate from collisions of black holes, supernova explosions or a double star system falling in upon itself. They have not been detected, even though theory predicts they should be impinging on Earth, Will says. "They are very weak and require extremely sensitive detectors," he explains. "Although this is probably the hardest problem in general relativity, I believe we will be able to detect gravitational waves within this decade."

Detecting gravitational waves will be useful not so much as a proof of general relativity, Will adds, but as a next-generation tool to complement optical and radio astronomy.

Another Einstein prediction is that a rotating body, such as the Earth, could drag space-time around with it as it turns. A Stanford University experiment is set to fly aboard the Space Shuttle in 1996 to look for this effect. The Relativity Gyroscope Experiment will place four superconducting niobium-coated spherical quartz gyroscopes in a low polar orbit, and scientists will measure the precession of the gyroscopes relative to distant stars.

By continuing the work of Albert Einstein, tomorrow's theoretical physicists will do more than confirm the validity of a 75-year-old theory. "The issue is not so much to test general relativity," Will stresses, "but to learn more about quantum mechanics, cosmology and the beginnings of the universe, black holes — in short, how the universe works."

— Maura Mackowski

CALENDAR

Feb. 14-23

LECTURES

Thursday, Feb. 14

11:30 a.m. George Warren Brown School of Social Work Lecture, "African-Americans and the Black Media," Patricia Washington, managing editor, St. Louis American. Co-sponsored by the Society of Black Student Social Workers. Brown Hall Lounge, Room 218.

4 p.m. Dept. of Anthropology Lecture, "Development and Change: Social Change and Reform in Postwar Japan," John W. Bennett, WU prof. emeritus of anthropology. Room 106 Simon Hall.

4 p.m. Assembly Series Lecture with John Jacob, president and CEO, National Urban League Inc. Lecture is in conjunction with Cultural Celebration Week, Feb. 11-17. Graham Chapel. For more info., call 889-4620.

4 p.m. Dept. of Cell Biology and Physiology Seminar, "Glutamate Receptor Channels in Central and Peripheral Neurons," Jim Huettner, Dept. of Neurobiology, Harvard Medical School. Room 423 McDonnell Medical Sciences Bldg.

4 p.m. East Asian Colloquium, "Russian Lysenkoism and Chinese Revolutionary Culture," Laurence Schneider, faculty of social sciences, SUNY-Buffalo. Room 30 January Hall.

8 p.m. Dept. of English Colloquium, "The Story of the State of Nature," William Gass, WU David May Distinguished University Professor in the Humanities. Hurst Lounge, 201 Duncker.

Friday, Feb. 15

9:15 a.m. Pediatric Grand Rounds, "Evolving Treatment for Severe Forms of Congenital Heart Disease," Arnold W. Strauss, WU prof. of pediatrics and of biochemistry and molecular biophysics. Clopton Aud., 4950 Audubon Ave.

Noon. Dept. of Cell Biology and Physiology Seminar, "How Proteins Enter the Yeast Nucleus," Pam Silver, Princeton U. Room 423 McDonnell Medical Sciences Bldg.

12:15 p.m. Irene Walter Johnson Institute of Rehabilitation Grand Rounds, "The Wheelchair and Seating Program — A Case Study," Linda Hunt, WU occupational therapy, and Betsy Malkus, WU physical therapist. Clopton Aud., 4950 Audubon Ave.

Tuesday, Feb. 19

3:30 p.m. Dept. of Chemistry Marcus Colloquium, "Chromium Carbene Complexes in Organic Synthesis," Louis S. Hegedus, Colorado State U. Room 458 Louderman Hall.

6 p.m. Dept. of Germanic Languages and Literatures Lecture, "Kafkas Tagebucher-neu ediert, neu gelesen," Volker Hage, Max Kade Critic-in-Residence, and editor of Die Zeit. Room 241 Simon Hall. For info., call 889-5106.

Wednesday, Feb. 20

11 a.m. Assembly Series Lecture, "Revolutionary Russian Theatre," Alma Law, prof. of Russian, City U., New York, and specialist in contemporary Soviet theatre. Edison Theatre.

4 p.m. Dept. of Biochemistry and Molecular Biophysics Seminar, "Strategies for Transcriptional Control: E. coli Sigma 54, and Sigma 70 and Simple polII Promoters," Jay Gralla, Molecular Biological Institute, U. of Calif.-Los Angeles. Erlanger Aud., McDonnell Medical Sciences Bldg. For more info., call 362-0261.

4 p.m. Assembly Series Presents Tyrrell Williams Lecture, "The Once and Future Law," Shirley Hufstедler, former U.S. secretary of education. Graham Chapel.

8 p.m. Dept. of English Presents Readings From the Writing Program with WU graduate students Catherine Rankovic and Margaret Schoerke. Hurst Lounge, 201 Duncker Hall.

Thursday, Feb. 21

12:10 p.m. Gallery of Art Talk, "Early American Prints of the Plains Frontier," Anna Vemer, asst. to the director, WU Gallery of Art. Gallery of Art, lower gallery, Steinberg Hall. Lecture is in conjunction with the Gallery of Art's Carl F. Wimar exhibition.

4 p.m. Assembly Series Presents Arthur Holly Compton Memorial Lecture with Linda Wilson, president of Radcliffe College. Graham Chapel. For more info., call 889-4620.

4 p.m. Dept. of Chemistry Seminar, "The Chemistry and Transformations of Silacyclobutadienes," Mark J. Fink, Tulane U. Room 311 McMillen Hall. (Coffee: 3:45 p.m.)

4 p.m. Performing Arts Dept. Symposium on Contemporary Russian Theatre, with Olga Pavlova, author of "The Passion According to Varvara"; Oleg P. Tabakov, the Moscow Studio-Theatre founder; and Alma H. Law, co-director of the Institute for Contemporary Soviet and East European Drama and Theatre, City U., New York. Mallinckrodt Center Drama Studio, Room 208.

8 p.m. Gallery of Art Lecture Series, "The Bloodstream and Other Vital Bodily Fluids," photographer Andres Serrano. Co-sponsored by the School of Fine Arts. Steinberg Hall Aud.

Friday, Feb. 22

9:15 a.m. Pediatric Grand Rounds, "Hypoglycemia in Insulin Dependent Diabetes Mellitus," Philip E. Cryer, WU prof. of medicine. Clopton Aud., 4950 Audubon Ave.

Noon. School of Medicine Transplant Seminar, "Hepatitis C in Liver Transplant Recipients," Heather M. White, WU instructor, Dept. of Medicine. Third Floor Aud., Children's Hospital, 400 S. Kingshighway.

Noon. Dept. of Cell Biology and Physiology Seminar, "Ionic Currents in Isolated Heart Cells Under Conditions of Anoxia and Reoxygenation," Klaus Benndorf, U. of Koln. Room 423 McDonnell Medical Sciences Bldg.

3 p.m. Dept. of Biology Seminar, "Sex and the Male Foreleg," Hampton Carson, Dept. of Genetics, U. of Hawaii. Room 309 Rebstock.

4 p.m. Dept. of Biology Seminar, "Meiotic Defects in the Mitotic Mutant Quartet," Chris Cheney, WU Dept. of Genetics. Room 309 Rebstock Hall.

4 p.m. Microbial Pathogenesis Seminar Series, "Monoclonal IgA Antibodies for Mucosal Protection Against Enteric Pathogens," Marian Neutra, GI Cell Biology Laboratory, Children's Hospital, Boston. Room 322 Rebstock Hall.

PERFORMANCES

Friday, Feb. 15

8 p.m. Performing Arts Dept. Presents an English-Language Premiere, Pavlova's "The Passion According to Varvara." (Also Feb. 16, 17, 22 and 23 at 8 p.m., and Feb. 24 at 2 p.m.) Mallinckrodt Center Drama Studio, Room 208. Cost: \$7 for general public; and \$5 for senior citizens, students and WU faculty and staff. For ticket info., call 889-6543.

Friday, Feb. 22

8 p.m. Edison Theatre "OVATIONS!" Series Presents Moscow Studio-Theatre. (Also Feb. 23, same time.) Edison Theatre. Cost: \$18 for general public; \$14 for senior citizens and WU faculty and staff; and \$9 for students. For ticket info., call 889-6543.

MUSIC

Sunday, Feb. 17

2:30 p.m. Dept. of Music Presents a WU Symphony Orchestra Concert featuring Carolbeth True, piano soloist. St. Louis Art Museum Theatre in Forest Park. Free. For more info., call 889-5574.

Friday, Feb. 22

8 p.m. Dept. of Music Presents a Graduate Piano Recital with Joanne Rust, featuring works of Scarlatti, Beethoven, Brahms and Chopin. Graham Chapel. Free.

FILMS

Thursday, Feb. 14

7 and 9:30 p.m. Filmboard Foreign Series, "The Adversary." Room 100 Brown Hall. \$3.

Friday, Feb. 15

7 and 9:30 p.m. Filmboard Feature Series, "Cinema Paradiso." (Also Feb. 16, same times, and Feb. 17 at 7 p.m.) Room 100 Brown. \$3.

Midnight. Filmboard Midnight Series, "Sugar Cane Alley." (Also Feb. 16, same time, and Feb. 17 at 9:30 p.m.) Room 100 Brown Hall. \$3. On Fri. and Sat., both the 9:30 p.m. and midnight films can be seen for a double feature price of \$4; both Sunday films can be seen for \$4.

Monday, Feb. 18

7 and 9:30 p.m. Filmboard Classic Series Presents "Monster on the Campus." (Also Feb. 19, same times.) Room 100 Brown Hall. \$3.

Wednesday, Feb. 20

7 and 9:30 p.m. Filmboard Foreign Series Presents "Diary of a Lost Girl," a German film with English subtitles. (Also Feb. 21, same times.) Room 100 Brown Hall. \$3.

7:30 p.m. Dept. of Romance Languages and Literatures Film, "Ma Nuit chez Maud (My Night at Maud's)," a French film subtitled in English. Room 210 Ridgley Hall. Free.

Friday, Feb. 22

7 and 9:30 p.m. Filmboard Feature Series Presents "Die Hard 2." (Also Feb. 23, same times, and Feb. 24 at 7 p.m.) Room 100 Brown Hall. \$3.

Midnight. Filmboard Feature Series Presents "Death Race 2000." (Also Feb. 23, same time, and Feb. 24 at 9:30 p.m.) Room 100 Brown Hall. \$3. On Fri. and Sat., both the 9:30 p.m. and midnight films can be seen for a double feature price of \$4; both Sunday films can be seen for \$4.

EXHIBITIONS

"Roman Republican Coins." Through May 19. Gallery of Art, lower gallery, Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-4523.

"Washington University Art Collections." Through May. Gallery of Art, lower gallery, Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Carl F. Wimar: Chronicler of the Missouri River Frontier." Through March 24. Gallery of Art, upper gallery, Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Romance and Reality on the Frontier," in conjunction with the Carl F. Wimar exhibit. Through March 24. Gallery of Art, lower gallery, Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Heritage and Mission: Jewish Vienna." Through Feb. 22. Hillel House, 6300 Forsyth Blvd. Hours: 10:30 a.m.-4 p.m. Sunday through Friday; closed Saturday.

"A Temple of Texts: 50 Literary Pillars," selected by William Gass, WU David May Distinguished University Professor in the Humanities. Through April 10. Special Collections, Olin Library, Level 5. Exhibit hours: 8:30 a.m.-5 p.m. weekdays.

"Annual High School Art Competition." Through Feb. 17. Bixby Gallery, Bixby Hall. Gallery hours: 10 a.m.-4 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-4643.

SPORTS

Saturday, Feb. 16

1 p.m. Men's Junior Varsity Basketball. WU vs. Maryville College. Field House.

Monday, Feb. 18

7:30 p.m. Women's Junior Varsity Basketball. WU vs. East Central College. Field House.

Saturday, Feb. 23

6 p.m. Women's Basketball. WU vs. U. of Chicago. Field House.

8 p.m. Men's Basketball. WU vs. U. of Chicago. Field House.

MISCELLANY

Thursday, Feb. 14

7 p.m. Cultural Celebration Presents an International Fashion Fair. The May Aud., Simon Hall.

Friday, Feb. 15

11 a.m. Cultural Celebration Presents World Bazaar. Booths showcase artifacts and books from various countries. Gallery and main floor, Mallinckrodt Center.

5 p.m. Cultural Celebration Presents International Dinner Theatre. Wohl Dining

Soviet playwright to see his work performed for the first time

Soviet playwright Alexander Buravsky, author of "The Teacher of Russian," will see the play performed for the first time when it is presented by the Moscow Studio-Theatre at Washington University on Feb. 23.

Two performances by the company, in St. Louis on its first U.S. tour, will highlight the University's week-long symposium on contemporary Soviet theatre, Feb. 15-23. Presented as part of Edison Theatre's "OVATIONS!" series, The Moscow Studio-Theatre will perform "My Big Land" by Alexander Galich at 8 p.m. Feb. 22 and "The Teacher of Russian" at 8 p.m. Feb. 23.

Both plays will be performed in Russian; audience members will hear simultaneous translations on earphones. Following the Feb. 23 performance of "The Teacher of Russian," the playwright will lead a discussion of his work.

The Moscow Studio-Theatre, the Soviet equivalent of Britain's Young Vic or America's The Acting Company, developed from founder Oleg Tabakov's training program at the Moscow Art Theatre's Studio-School. Tabakov, considered one of the leading experts of Soviet theatre and film, began

Hall. Cost: \$6.25 per person. Limited seating available. To register, call 889-5010.

Saturday, Feb. 16

7 p.m. Woman's Club Dinner Dance. Cash bar opens at 7 p.m. Dinner will be served at 8 p.m. Music for after-dinner dancing will be provided by "CELEBRATION." The Living World at St. Louis Zoological Park. Reservations: \$35 per person. Open to members of the Woman's Club and staff. For more info., call 725-6427.

Wednesday, Feb. 20

5:30 p.m. University College and the Career Center Present "Internships in Advertising, Public Relations and Journalism," featuring a panel of former interns and site supervisors. Program will include discussions on career benefits of internships, how to develop an internship, and creative ways to schedule an internship. Brown Hall Lounge, Room 218. For more info., call 889-6777.

Thursday, Feb. 21

Noon. Hillel Chai Week Discussion, "How Jews Can Respond to Jews for Jesus." Lambert Lounge, Mallinckrodt Center. For more info., call 726-6177.

7:30 p.m. Hillel Chai Week Presents "The Investigation," a play about the Nazi Crime Trials in Nuremberg. Discussion will follow. Graham Chapel. For more info., call 726-6177.

Friday, Feb. 22

5:45 p.m. Hillel Shabbat Dinner Program, "Tikkun Olam: 101 Ways You Can Repair the World," focusing on the environment, the homeless and the aging. Hillel House Lounge, 6300 Forsyth Blvd. (Shabbat services will be held at 5:45 p.m. A dinner at 6:30 p.m. will follow. Pre-paid reservations are needed for dinner. The program begins at 8:30 p.m.) For more info., call 726-6177.

Saturday, Feb. 23

6 p.m. Black Alumni Council Third Annual Scholarship Dinner-dance with guest speaker Susan L. Taylor, editor-in-chief of Essence magazine. Proceeds provide scholarship assistance to African-Americans enrolled at WU and launch the establishment of an endowed scholarship fund for African-American students. Adam's Mark Hotel, Fourth and Chestnut streets. Tickets: \$38 per person, \$380 for table of 10. For more info., call 889-5690.

7 p.m. Hillel Chai Week Presents Coffee House with David Broza, featuring Israeli music. Holmes Lounge. For info., call 726-6177.

Calendar Deadline

The deadline to submit items for the Feb. 21-March 2 calendar of the Record is Feb. 15. Items must be typed and state time, date, place, nature of event, sponsor and admission cost. Incomplete items will not be printed. If available, include speaker's name and identification and the title of the event; also include your name and telephone number. Send items to Deborah Parker, calendar editor, Box 1070, or by electronic mail to p72245DP at WUVMC.