During the Renaissance, but increasingly in modern times, moved closer together in St. Louis this week with the establishment of a Center for Archaeometry and history of art. It comprises the center's leadership. It will be directed by David W. Zimmerman, senior research associate, Department of Physics.

The center owes its origin to a number of developments which have been gaining momentum on the WU campus since the mid-1960's when two independent studies were underway on campus. One of these involved a joint effort by conservator Phoebe Weil, chemistry professor Peter Gaspar, one of his graduate students, Robert Conlin, and Stanley Sun, formerly an earth sciences faculty member. They contributed significantly to the knowledge and understanding of the causes of deterioration and methods of treatment for conserving outdoor bronze sculpture.

The second study originated in the Department of Physics and involved methods of dating archaeological artifacts. In 1965 R. M. Walker, McDonnell Professor of Space Sciences, and L.S.B. Leakey of the National Museum Centre for Prehistory and Paleontology at the Metropolitan Museum of Art's famous Greek sculpture was declared a modern forgery. Thermoluminescence is the emission of light produced when a ceramic sample is heated.

By Dorothy Brockhoff

Thermoluminescence dating techniques proved that this Pre-Columbian Mexican funeral urn from the St. Louis Art Museum is authentic.

The arts and sciences, closely allied during the Renaissance, but increasingly disparate in modern times, moved closer together in St. Louis this week with the establishment of a Center for Archaeometry at Washington University. The center is concerned with physical sciences in archaeology and in the conservation and history of art. It is composed of anthropologists, archaeologists, art conservators, art historians, museum curators and physical scientists. Some of them already have been active in significant collaborations.

About two years ago, for example, WU physicists joined with a number of art authorities to prove that the New York Metropolitan Museum of Art's famous and controversial bronze horse was an ancient art work (in 1967 this classic Greek sculpture was declared a modern forgery). Thermoluminescence measurements at WU established that the horse was between 2000 and 4000 years old. Thermoluminescence is the emission of

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Shaffer Play Challenges PAA’s Theatrical Talents and Edison’s Technical Capabilities

By Anne Hallett

In its sheer technical demands alone, Peter Shaffer’s play, *The Royal Hunt of the Sun*, will make full use of WU’s theatrical talents and of Edison Theatre itself.

Shaffer’s highly acclaimed drama utilizes dynamic pageantry, movement and color to portray the 16th century clash between the Incas and their Spanish conquerors. One of the most challenging productions ever presented by the WU Performing Arts Area, the play will be given Friday-Sunday, February 21-23. The Friday and Saturday performances will be at 8 p.m.; the Sunday matinee at 2:30 p.m.

The production staff has gone to extreme ends to oblige the commands of the script. Several tons of scaffolding must be assembled to provide the foundation for multi-level ramps and towering platforms, giving vertical as well as horizontal dimension to the production. In the great ascent scene, a rope bridge effecting the connecting point between symbolic mountains in the Andes is lowered to provide the juncture point for the Spanish-Inca confrontation.

“The immense proportions of the play using the whole theatre as an environment present technical challenges beyond those faced in any Edison Theatre production to date,” said Richard Palmer, PAA chairman at WU and director of the play.

He pointed out that an open stage is required to accommodate the play’s pageantry; the play also calls for a large cast skilled in the techniques of mime, music and stylized acting.

This is not to say that *The Royal Hunt of the Sun* is lacking in the force of essential drama. Its opening theme focuses on the brutality and fear of the Spanish invaders of Peru led by Francisco Pizarro (in the play a romanticized character when compared to the historical Pizarro). The brutalized are the Incas, held together by reverence for their living Sun God Atahuallpa (played by David Leibowitz).

Atahuallpa and his people believe with child-like simplicity that he is immortal. This simple and implicit faith in the Sun God is contrasted with the fear-ridden, greed-driven Spaniards who hypocritically invoke the “judgment” of a vengeful God against their pagan victims. The heart of the conflict arises, however, from a change that takes place in Pizarro (played by Trip Bates). He begins to believe in the Incan philosophy and in Atahuallpa.

Characters in the PAA production of *Royal Hunt of the Sun* include, from left to right: Trip Bates (Pizarro), Blade Hawth (Villac Umu), Michael Weiser (Challcuchima), Ron Kimmel (Manco), and Alan Birnkrant (Headman)

(Pho To by Richard N. Levine)

The change in Pizarro is subtle. He is basically tough, commanding, cruel. Although he lacks the education and polish, for example, of his fellow conquerer DeSoto (played by Stuart Goodale), Pizarro is more complex than his fellow soldiers in one regard: he seems to catch a glimpse of what is beautiful in the Incan culture.

The captive Atahuallpa—who is being held for 9000 pounds of gold in ransom by the Spaniards—communicates with and trusts the curious Pizarro. The latter postpones putting Atahuallpa to death despite pressure from the soldiers who finally mutiny, try Atahuallpa in a sham court and garrote him.

Critic John Elsom wrote, “Pizarro is overwhelmed by the finality of Atahuallpa’s death and the conquistadores are shocked into shame. Shaffer’s most tragic plays still end with an assertion, sometimes oblique but always present, of human dignity and faith: and this optimism sets him apart from his contemporaries.”

Shaffer himself wrote, “The greatest tragic figure in history is man’s apparent need to mark the intensity of his reaction to life by joining a band; for a band, to give itself definition, must find a rival, or an enemy.”

General admission to each performance of *The Royal Hunt of the Sun* is $3; WU community and student admission is $1.50. For further information call the theatre box office, 863-0100, ext. 4113 or 4114.

Archaeometry

(Continued from page 1)

Nairobi, used the fission-track method to date Leakey’s famous anthropological finds at Olduvai Gorge in Africa. In 1971, research began on thermoluminescence dating, and led to its application in dating the bronze horse. The thermoluminescence (TL) research is supported by the National Science Foundation. Last year Zimmerman and Philippa D. Shaplin, a former assistant curator of ancient and primitive art at the St. Louis Art Museum, used thermoluminescence dating techniques to determine if 120 Pre-Columbian Mexican funeral urns were authentic. All but seven proved to be genuine.

By the time the work on the urns was completed in December, 1973, a Working Group for the Physical Sciences in Art and Archaeology had been formed at the University. It met regularly for seminars and study and through these efforts important developments relating to three more projects were made. These included the expansion of the TL dating of the Oaxacan urns into a more comprehensive study of Pre-Columbian Mexican ceramics by TL dating and elemental analysis; the use of atomic absorption spectrometry for the elemental analysis of ceramic potsherds from Cyprus; and the modification of a sandblasting technique using non-abrasive glass spheres for cleaning the Milles Fountain in front of Union Station in St. Louis. The application of this glass-bead peening method to clean outdoor bronze sculpture has attracted worldwide attention. It was perfected by Weil, who is now doing additional restoration work, supported locally by the St. Louis Ambassadors Art and Fountains Foundation.

Funding is now being sought to undertake a variety of new projects. These range in scope from research on the conservation and inhibition of the deterioration of paper as evidenced in the Eads Bridge drawings recently acquired by the University to an elemental analysis of obsidians and cherts from the Near East and North America to determine provenances and trade routes.

In addition to Zimmerman, the staff of the new Center includes Weil and Stephen Sutton. Center associates are: Gaspar; Walker; Richard Cleveland, curator, St. Louis Art Museum; Lee Parsons, lecturer in the Art and Archaeology Department and curator of Primitive Art, St. Louis Art Museum; art and archaeology professors Sarantis Symeonoglou and Mark Weil; and anthropology professor Patty Jo Watson.
Hiss To Speak Wednesday

Alger Hiss, who became the center of a national controversy over Communist infiltration in the government during the Truman administration, will speak on "The McCarthy Era" at 11 a.m. Wednesday, Feb. 19, in Graham Chapel at Washington University. His talk, which is free and open to the public, is sponsored by the Student Academic Committee.

Republicans, including Senator Joseph R. McCarthy and Richard M. Nixon, then a Representative, had charged the government with unwittingly employing individuals who acted as agents for Russia.

At the height of the controversy, Whittaker Chambers, a confessed former spy, accused Hiss, a former high official in the State Department, of having given him military secrets in the 1930s. Hiss denied the charge, but a jury returned a perjury verdict against him in 1950 and sentenced him to five years in prison.

Hiss served his prison term but continued to declare his innocence. Now an executive with a New York printing firm, Hiss has written a book, In the Court of Public Opinion.

ANNOUNCEMENTS

NEW ACCESS ROUTES for Francis Gymnasium, Wilson Pool and the Field House have been established and marked for the convenience of the WU community. Entry for all facilities is now available through Francis Gymnasium, with access to the women's dressing rooms in Wilson Pool through the upper ramp between the gym and the pool, then via the east pool balcony. The Field House is now easily accessible to women using the stairs at the south balcony of Wilson Pool. Men may use the lower ramp door to Wilson Pool at all times. The schedule for athletic facilities is available from the Athletics Department office, Box 1067.

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Nelson Named to New Post

Michael U. Nelson, director of the Summer School at Washington University since 1969, has assumed additional responsibilities with his appointment as director of the Division of Professional and Community Programs in the School of Continuing Education. He will replace Mal Van Deursen, who recently resigned to accept a position as director of education and general manager of the American Public Works Association, an educational foundation located in Chicago. Nelson's new title is director of the Summer School and community programs.

Nelson will administer the work of four professional coordinators working in the areas of general programming continuing education for women, continuing professional education and urban programming. He will also supervise Bromwoods, the University's residential conference center, located near St. Clair, Mo.

In announcing the appointment, John B. Ervin, dean of the School of Continuing Education, said, "In the past few years, more and more people have become interested in personal and professional development. We feel fortunate to have a man of Mr. Nelson's capabilities to assume the responsibilities of this position, which Mr. Van Deursen carried out so ably for the past ten years."

Before coming to the University in 1969, Mr. Nelson served as assistant director of the Rutgers University Summer Session for eight years. He received his bachelor's degree in journalism and master's degree in adult education at Rutgers University. He is president of the North Central Conference on Summer Schools; a member of the American Association of University Administrators, National Association of Summer Sessions, and Phi Delta Kappa and an honorary member of Alpha Sigma Lambda.

THE ASSOCIATION OF BLACK STUDENTS will sponsor a hypertension clinic Thursday, February 20, from 11 a.m.-4 p.m. in the Women's Building Lounge. All members of the St. Louis community are invited to have their blood pressure checked by volunteers free of charge; a presentation and discussion of hypertension by doctors from the black community will also be offered. For more information call Mark Sanford, 863-0100, ext. 4203.

Priorities Committee Named by Danforth

Chancellor William H. Danforth has appointed an all-University advisory committee to review the administration's priorities for the 1976-77 central fiscal unit and to make suggestions for balancing the budget.

Committee members are: Ira J. Hirsh, professor of psychology, chairman; Lucius J. Barker, Edna Fischel Gellhorn University Professor of Public Affairs; and chairman, Political Science Department; Francis J. Connelly, assistant professor of marketing; John B. Ervin, dean, School of Continuing Education; Bruce E. Goodman, junior, liberal arts; Edward Greenberg, professor of economics; Karl A. Hill, dean, School of Business and Public Administration; Gregory J. Kamer, junior, liberal arts; Merle Kling, dean, Faculty of Arts and Sciences; Nancy M. Koetting, senior, fine arts.

Lucian Krukowski, dean, School of Fine Arts; William G. Madsen, chairman, English Department; James M. McKelvey, dean, School of Engineering and Applied Science and director of the Sever Institute; Constantine Michaelides, dean, School of Architecture; Richard E. Norberg, professor and chairman, Physics Department; Donald C. Royse, associate professor of architecture; Sharon D. Scoby, sophmore, liberal arts; Joseph E. Varner, professor of biology; Linda S. Wilson, Associate Vice Chancellor for Research; and Patty Jo Watson, professor of anthropology.

The Board of Trustees' budget committee has agreed to recommend to the full board a budgeted deficit no larger than $1 million in the central budget for the 1975-76 academic year with the stipulation that the 1976-77 budget be balanced. Danforth said, "It is evident that, although the 1975-76 budget can be put together by squeezing and trimming, the 1976-77 budget will require much more careful planning and some difficult setting of priorities."

RECOGNITIONS

JANE LEE ANTON, assistant professor of counseling at WU, will be a co-leader of the National Conference on Behavioral Self-Control Feb. 24-27 in Salt Lake City, Utah. The conference is sponsored by the University of Utah. Anton received her Ph.D. degree in counseling psychology from Stanford University, and was on the staff of the Stanford Institute for Behavioral Counseling.
EXHIBITIONS

Albert Schweitzer Exhibit, a collection of Schweitzer memorabilia including letters, books, manuscripts, and documents showing his influence, on display in Olin Library, level three. Monday-Thursday, 8 a.m.-midnight; Friday, 8 a.m.-10 p.m.; Saturday, 9 a.m.-10 p.m.; Sunday, 11 a.m.-midnight.

Gifts ’74, a special exhibition of 27 works of art presented to Washington University last year, on display in Steinberg Hall, lower gallery. Included are paintings, a canvas wall hanging, prints, watercolors and sculpture. Monday-Friday, 9 a.m.-5 p.m.; Saturday, 10 a.m.-4 p.m.; Sunday, 1-5 p.m.

Gertrude Stein Exhibit, documenting the progress of her work with fine printing items from Banyan Press, a number of limited editions from the Department of Special Collections and private collections, and other assorted Steiniiana. Olin Library, level three. Through Feb. 15.

Literary Manuscripts Exhibit, illustrating relationship of authors, editors and publishers working together to achieve publication of a literary work. Olin Library, fifth level. Weekdays 8:30 a.m.-5 p.m.

MUSIC

SUNDAY, FEBRUARY 16
4 p.m. Senior Voice Recital, Susan Greenleaf, soprano. Sponsored by the WU Department of Music. Graham Chapel.

8 p.m. Concert by The Rose Hip String Band, from Chicago. Admission $1 at door. Graham Chapel.

WEDNESDAY, FEBRUARY 19
11:30 a.m. Noon Music with Bob Brozman, WU music student, singing and playing blues and ragtime. Mallinckrodt Gallery.


Hill

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Commenting on Hill's retirement, Chancellor William H. Danforth said, “Substantial progress toward the goal of excellence in its field has been made by the school under Dean Hill’s guidance.” Danforth said that Hill's accomplishments include curricula reform, establishment of a sound faculty research and development program, improved relations with the business community, and improved effectiveness and service to students.

A graduate of Dartmouth College and its Amos Tuck School of Business, Hill joined the Tuck School faculty in 1946 and served as its dean from 1951 to 1968. He holds an honorary Doctor of Law degree from Drury College. Hill is a member of the board of directors of several business corporations and of the St. Louis Interracial Council for Business Opportunity.