Institutions share Pew science grant

Washington University and 12 other mid-country universities and colleges will share a $7.1 million grant from the Pew Charitable Trusts, Philadelphia, to enhance undergraduate science education and attract and retain students and faculty in the sciences. The grant, a renewal of a prior award made three years ago to the institutions, is part of a national effort by Pew Charitable Trusts to improve undergraduate science and mathematics education. The participating colleges and universities are members of the Midstates Science and Mathematics Consortium. Under terms of the grant, they will collaborate for three years through workshops, field trips, student exchanges, undergraduate research symposium, and summer research awards for faculty and undergraduates, among other activities.

Washington University and the University of Chicago are the two research universities working with the consortium. Participating colleges (in alphabetical order) are Beloit College (Wis.), Beloit College (Ill.), Grinnell College (Iowa), Hope College (Mich.), Kalamazoo College (Mich.), Knox College (Ill.), Macalester College (Minn.), Rhodes College (Tenn.), St. Olaf College (Minn.), and Trinity University (Texas). Macalester College in St. Paul, Minn., will also participate in the program, with assistance from an executive committee comprising a representative from each of the consortium institutions. John R. Bleeke, Ph.D., associate professor of chemistry, is the St. Olaf University faculty representative.

“American’s continued leadership in science depends on the steady supply of trained scientific minds flowing from the nation’s undergraduate and graduate institutions,” said Joan S. Gugins, Ph.D., director of the Pew Science Program and professor of psychology at Princeton University. “We are expecting enormous flow from the nation’s undergraduates, and part of the reason our efforts have been successful,”

As an example of how the consortium works, Washington hosted science and mathematics symposia under the direction of David L. Kirsh, Ph.D., professor of psychology, decided it was time to pause and take a look back.

By the time of the ancient Greeks, trepanation — the act of drilling or scraping holes in the skull — was definitely being performed for medical purposes. They did this to let bad humors out,” Finger says, “but only for closed head injuries, not ones that exposed the brain. If the skull were badlyashed, the accumulated humors that affected behavior automatically had a way to escape.” Ironically, these procedures may actually have relieved the dangerous buildup of pressure caused by swelling in the brains of people with closed head injuries.

The Egyptian prescription

The earliest known written document describing the effects of brain injuries. Known as the Edwin Smith Surgical Papyruses (named for the man who bought it in 1862), the scroll appears to be a medical student’s lecture notes. The document includes 4,500-year-old descriptions of some 48 different clinical cases, giving the history, examination, diagnosis, prognosis and treatment for each.

"Considerable space was devoted to wounds of the head and spinal cord. Most of these were caused by injuries sustained in combat," says Finger. "The doctors using this information were the MASH units for the ancient Egyptian military. They had to decide on the spot to treat, or not to treat, each case."

A cerebral pursuit

Tracking the neurological sciences through history

The blade is long, curved and sharp, ideal for its intended purpose of delicately removing a circle of bone at the top of the skull, permitting surgeons to expose the living brain beneath. A gleaming steel device found in a modern operating room! Not this tool. Made of bronze, this surgical implement called a turin may be several thousand years old. It comes from ancient Peru, where in some regions an astounding 21 percent of the skulls showed evidence of craniotomies. In an age when radiologists embark on survey expeditions to map the twisting canyons of the brain, when computer cowboys herd synthetic neural networks into patterns that mimic the mind, it is anachronistic to think of the mind, and when MENSA members choose mates based on whether their genius springs from the right brain or the left, Stanley Finger, Ph.D., professor of psychology, decided it was time to pause and take a look back.

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This often depended on how many cases they had at a given time." He adds, "ancient Egyptian physicians were among the first to postulate that brain function was localized. Better known for his later theological work, in 1754 Swe- denborg began a series of treaties in which he predicted many later discoveries, among them the notions that the brain was the seat of the intellect and emotions, and that it was "the seat of reason and judgment." He wrote, "The brain’s role is to mediate between the senses and the world outside."

Unfortunately, his work was not circulated in his lifetime." Finger notes. "These pronouncements of what would later be demonstrated experimentally had little or no impact on his scientific contemporaries or on the history of localization." 

Around 1800, anatomist Franz Gall proposed that there were "independent faculties of the mind," which might or might not flourish in a given individual. "He was the first to suggest publicly that the cerebral cortex could be divided into different units," says Finger. "But Gall was better known for the pseudoscience of phrenology — the notion that mental functions resided in different parts of the cerebral dome — than for his scientific contemporaries or on the history of localization." 

The first scientist to document... Continued on p. 2
an ancient bronze Peruvian tumi, which was used to remove a circle of bone on the top of the skull.

Foremost performers of classical Indian music to present concerts

The classical music of India is different in every imaginable way from classical music known to Westerners. Originating centuries before the invention of recorded music, the composition was sung and played as part of a ritual or for entertainment. Today, many composers seek to incorporate the classical forms of Indian music into their modern compositions.

The first concert, on April 14 in Holmes Lounge, Ridgley Hall, will highlight northern Indian vocalists, who for years were known as concert performers by the general public. Most are now teaching in the United States or performing in other countries. This concert will feature four vocalists.

The second concert, held April 15 in Ethical Society of St. Louis, will feature northern Indian vocalists. Tickets for each concert are $15 for the general public; $8 for students and seniors. For more information, call 889-5581.

The lecture, free and open to the public, will be held at 8 p.m. April 15 in Steinberg Hall auditorium.

Roadside America is topic of lecture

Roadside America will be the topic of a lecture April 8 in Steinberg Hall auditorium.

For information, call 889-6200.

Food festival to help homeless

A Metropolitan of Christian Ethics Be A Feminist Perspective: "Christian Ethics Be A Feminist Perspective," will be held from 11 a.m. to 4 p.m. April 9 on the Washington University campus.

The event, sponsored by Chiónes, a junior honorary society at the University, is open to the public.

Health Care for the Homeless, an organization that works with emergency shelters and hospitals to help provide health services for the homeless, will receive 25 percent of the festival's proceeds. Last year Chiónes raised approximately $1,000 for the homeless.

For more information, call 862-3882.

Feminist view to be given in ethics talk

Author Margaret Farley will give the final talk in the lecture series "Moral Absolutism/Moral Relativism: By What Criteria Shall We Decide," which began April 4 in Room 110 January Hall.

The series, sponsored by the Bioethics Committee and the Hastings Center, Institute of Society, Ethics and Life Sciences, discusses the role of science in the development of a just society.

The series will conclude April 15 at 4 p.m. in the Holmes Lounge, Ridgley Hall.

For information, call 889-5115.

Roadside America is topic of lecture

John Margolies, New York photographer and writer, will give an illustrated lecture titled "Roadside America" at 8 p.m. April 8 in Steinberg Hall auditorium.

The lecture is open to the public, is sponsored by the School of Architecture and Assembly Series, and will feature additional support from St. Louis Union Station, the Ethical Society of St. Louis, the St. Louis Chapter of the National Trust for Historic Preservation, and the Committee on Religious Studies.

For information, call 889-6200.

Progressive Youth Center, a crisis intervention center for local teenagers, will participate in the event are: Amiga's, a women's health center; CareDrop, a health center; and Foodshare, a food bank.

The event, sponsored by the Community Development Organization, the Christian Science Monitor, and the Center for the Visually Impaired, will feature a variety of performers from throughout North America.

For information, call 889-6200.
Robert M. Walker, Ph.D., director of the McDonnell Center for the Study of Sciences at Washington University, has received the J. Lawrence Smith Medal from the National Academy of Sciences for his work in the field of meteoritics. The award, which carries a $10,000 prize, was given in recognition of Walker’s pioneering research and numerous contributions to both the study of asteroids and the analysis of extraterrestrial dust particles. The citation noted his pioneering work in the identification of meteorites and the development of new methods for studying meteorites.

Walker was a co-investigator on an experiment that flew on the recently recovered LDEF satellite and is principal investigator on a project selected to fly on the proposed space station, Freedom. He was a co-founder and the first president of the Society for the Study of Meteoritics and Planetary Science.

Walker is a fellow of the American Physical Society, the American Geophysical Union, and the American Association for the Advancement of Science. Among the many honors he has received are the J. Lawrence Smith Medal from the National Academy of Sciences, the NASA Exceptional Service Medal, and over 20 other awards.

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Thursday, April 4
2:30 p.m. Dept. of Mechanical Engineering Seminar, "Experimental Investigation of Longitudinal Warehouse Structures in Composite Materials," by Dr. H. T. Tung, University of Illinois at Urbana. Room 100 Cappel II. For more info., call 889-6014.
2:45 p.m. Dept. of Physics Special Condensed Matter Seminar, "NMR Study of HD in Millstone Lounge," by Dr. G. M. Fedder. Room 411A Compton Hall. (Refreshments: 3:30 p.m., Millstone Lounge.)
4 p.m. Asian Studies Colloquium, "Women's Environmentalism and the Oppression of Women's Rights in Japan," by Barbara Pongningh, Ph.D., of anthropology and sociology, University of Hong Kong. Rose-Hulman Institute of Technology. Room 30 January Hall. For info., call 728-4418.
4 p.m. Dept. of Anthropology Colloquium, "Tracing the Signatures: Native American Ancestral Practices," by Dr. John Steadman. Room 241 Compton Hall. (Refreshments: 3:30 p.m., Millstone Lounge.)
4 p.m. Dept. of Pathology Seminar, "Acute Phase Complement Gene Expression," by Dr. Donald C. Bollers, University of California at San Francisco and professor and head of the WU Dept. of Pediatrics, Third Floor Aud., Children's Hospital, 660 S. Kingshighway Blvd.
6:15 p.m. Dept. of Biology Seminar, "The 10: Ancestral Players and Their Roles in Human Development," by Dr. John Scaife, III. Room 241 Compton Hall.
Friday, April 5
11 a.m. Dept. of Cell Biology and Physiology Seminar, "McDowell's College and Pope's College," by David May Graham, president, St. Mary's University. Room 408 McDermott Medical Sciences Bldg.
11 a.m. Dept. of Physics Brown Bag Lunch Seminar, "The Bitter Tears of Petra von Kant," a German film with English subtitles. Room 100 Brown Hall. $3. For more info., call 889-5581.
2:30 p.m. Dept. of Epidemiology Seminar, "Fetal Alcohol Syndrome: Is There a Problem About Reality?" by John Scaife, III. Room 241 Compton Hall.
Saturday, April 6
8 a.m. Saturday Morning Neuro Science Seminar, "Is Alzheimer's Disease Present in the Brain of Patients with Parkinsonism?" by Dr. Armand H. Schein Goldman, award-winning painter and sculptor. Steinberg Hall Aud. For more info., call 889-5220.
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