

Research spawns inventions



Dr. William Noteboom has patented a device he designed to facilitate his work with culture bottles.

Committee lays groundwork for correcting SIS problems

The Student Information System Policy Committee, established by Dr. Olson as a temporary management structure to recommend policy regarding use and management of the data bank of student records, has outlined its work and has taken steps to ensure open channels of communication.

Based on Dr. Olson's instructions, the following objectives have been established by the committee:

- Determine the original service goals for the SIS.
- Determine the extent to which these goals require modification to meet the University's present needs.
- Identify inadequacies of the present SIS for meeting current service goals.
- Identify and estimate the costs of alternatives for correcting the deficiencies of the present system.
- Make recommendations to Dr. Olson for any changes deemed efficient and beneficial.

The committee has also decided to review the communications linkages between the Office of Management Systems and the users of the SIS on the four campuses in order to ensure that operation of the system as it now exists is as efficient as possible.

Dr. Richard Wallace, associate dean of the UMC graduate school and newly appointed executive officer for the SIS, spent much of August visiting users and reviewing documents developed in the initial planning, design and early implementation phases of the SIS.

At its most recent meeting the committee discussed the various communication needs associated with their work. Plans call for frequent reports to the University community on the committee's progress, and the various members of the community, including students, will be

encouraged to respond with comments and suggestions.

Members of the committee are to assume responsibility for two-way communication with faculty, administrative and student groups on their campuses. And each campus is to create mechanisms by which draft policies and suggested actions to be taken by the committee can be widely reviewed.

ACLS award to UM Press

The American Council of Learned Societies has awarded \$5,000 to the University of Missouri Press to support the publication of first or second books by scholars in the humanities.

The UM Press is one of 25 scholarly presses to receive awards—ranging from \$5,000 to \$20,000. The purpose of the awards, which are funded by the Andrew Mellon Foundation, is to improve publication opportunities for younger scholars in the humanities.

Academic life is full of false dichotomies . . . teaching versus research, teaching versus publishing, research versus service.

Their real interrelationships are sometimes forgotten. Or overlooked—as in the case of research and patentable inventions.

"Researchers are so consumed with solving a basic scientific problem that they don't realize something done in the course of solving the problem may have widespread applications in other areas. . . . Investigators may be overlooking a very valuable aspect of research in concentrating only on the basic problem," says UMC biochemist Bill Noteboom.

Investigators, trying to solve a problem in their research, have to devise many pieces of apparatus and sometimes these may be patentable and marketable, Noteboom observes.

His own patent, issued last spring, had just such an origin. The invention is a collapsible, rolled sheet of plastic designed to be inserted and removed from culture bottles. Animal cells attach to the sheet and reproduce themselves, fed by a liquid culturing medium uniformly distributed as the bottles are being mechanically rolled for a specified period of time.

Noteboom's sheet is simple in design and increases the number of cells that can be produced in roller culture bottles by four to five times previously attainable levels. "It saves time, space and labor in laboratories and may be perfected so that cell production rises to 30, 40 or even 100 times current levels," Noteboom says.

Such unique applications and improvements are what make a device patentable, he says. If the invention is properly marketed and the economic edge which it gives is significant enough, the device should succeed.

Labline, a Chicago manufacturer of laboratory equipment and supplies, has been granted the exclusive license to make and market the plastic insert. The firm's familiarity with existing tissue culture equipment, demand factors and lab marketing techniques will help in exciting the interest of potential users of the device.

This very aspect of creating mass demand for a useful product is part of the reason why patents and licensing are necessary, says another UM researcher/inventor, Dr. Charles Merilan.

The dairy husbandry professor and colleague Dr. John Sikes were also awarded a patent last spring. Theirs is for a carefully controlled freezing and thawing process to preserve animal semen, blood and other biological materials. The process assures a higher rate of survival in sperm cells used for the artificial insemination of cattle, and field trials with other species indicate the process—with modifications—can be broadly applied. Sikes and Merilan are long-time research colleagues, and their process patent is a result of years of basic research into the response of cells to their microenvironment. The beauty of the process, they say, is that the variables of cell response and environment are used constructively to achieve the desired objective rather than merely submerging or overcoming the environmental effects. These researchers theorize that "learning more about cellular response to the microenvironment may provide the key to dealing with the larger issues of environmental impact on all forms of life."

Sikes and Merilan are pleased that, despite frustrations and blind alleys encountered, their work has yielded useful information. "The process has the potential for helping at both the state and national level," Merilan observes. "And it relates closely to the clientele we as a faculty are supposed to serve," Sikes adds. The men share a firm conviction that "teaching and the acquisition of new knowledge are the primary objectives of the University—our

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Sidelines

Litton fund

A memorial fund has been established at UMC in honor of U.S. Rep. Jerry Litton, who was killed Aug. 3 in a plane crash.

Litton, who won the Democratic nomination for U.S. Senate, held a degree in agricultural journalism from UMC, from which he graduated in 1961.

John Sweeney, director of the UMC Development Fund, says donations to the Litton fund should be sent to University Development Fund, 310 Jesse Hall, UMC, Columbia, Mo. 65201.

Nebraska rumors

Dr. Olson, UM's interim president, expressed surprise last week when *The Kansas City Times* reported that he might be among nominees for the presidency of the University of Nebraska.

"This news is a surprise to me," he said. "I have had no communication with the Search Committee at the University of Nebraska."

"I would only add that I am just getting into my job as interim president of the University of Missouri, and I really am not available for anything else."

The head of Nebraska's Search Committee, Paul Schorr, declined to identify anyone on the list of prospective presidents. He said there had been, at that point, no communication with any of the nominees, but he indicated that those who were being considered most seriously would soon be notified.

Marillac dedication

UMSL's recently acquired Marillac College property will be dedicated Sunday, Sept. 12, amid tours, a band concert and speeches by various dignitaries, including President Olson, Chancellor Grobman and members of the Board of Curators.

Tours of the 44-acre campus, at 7800 Natural Bridge Rd., will be conducted from 1:30 to 4 p.m. A concert by UMC's Mini Mizzou is scheduled for 4 p.m., to be followed by the dedication ceremony.

A bill authorizing the purchase of the property to alleviate crowding at UMSL was passed in the last session of the General Assembly and signed by Governor Bond. The University took possession of the property on July 16.

'Open Meeting'

"Open Meeting," broadcast from September through May on the first Sunday of each month, will begin its new season Sept. 5 over the University of Missouri's FM stations.

Dr. James C. Olson, the University's interim president, will have as his guests Van C. Williams, president of the Board of Curators, and UMC Chancellor Herbert W. Schooling.

The focus of the discussion will be the effects of present and future enrollments at UM. Questions from listeners on this and other subjects also will be handled on the half-hour program.

"Open Meeting" can be heard at 5:30 p.m. over KBIA, Columbia; KUMR, Rolla; KWMU, St. Louis; and KCUR, Kansas City. The number to call is 314-882-7593.

Design display

Works by members of the University and College Designers Association are on display in the Fine Arts Gallery at UMC. The show, consisting of publications, brochures, posters and miscellaneous printed materials, will run through Sept. 17.

Gallery hours are 9 a.m. to 3 p.m., Monday through Friday, and 2:30 to 4:30 on Sundays.

Associate dean

Dr. Louis W. Potts, UMKC assistant professor of history, has been named associate dean of the School of Graduate Studies.

Dr. Potts, an authority in psycho-history and U.S. constitutional history, joined the UMKC faculty in 1971.

UMKC's Cockefair lecture

Galbraith on the craft of writing

John Kenneth Galbraith, professor of economics at Harvard, spoke Aug. 16 at the annual luncheon-lecture of the Carolyn Benton Cockefair Chair in Continuing Education. Following is a condensed transcript of his lecture:

... I want to talk today, using the opportunity presented by this chair, of something in which I have been engaged for much of my life, and which might be called "the craft of writing." My mind was turned to this... when four or five years ago I received a proposal of distinct interest from my old university at Berkeley. It was that I leave my Harvard job and accept a teaching post there in English. More precisely, it was to be in the related department of rhetoric. And I was assured that rhetoric was a traditional and not a pejorative title and had nothing to do with political conventions.

My task would be to teach the young what I had learned about writing. I was attracted by the idea. I had by then spent several decades trying to teach the young about economics. And the practical consequences were not very reassuring. . . .

Then I began to consider what I could tell about writing. My experience was certainly ample. I had been initiated in the craft by two inspired professors in Canada when I was an undergraduate, men who were writers themselves and who deeply loved writing. An economist does not have to prove himself as an economist by making money, but I do think a teacher of writing has to be able to write. Both of these men were very good writers. Also, as my distinguished friend the dean said in introducing me, I had once been an editor of *Fortune*. And that, in my day, meant mostly being a writer. It was only that "editor" was then thought to be a more distinguished title, carrying more pay.

Both as an editor and as a writer, I had had the close attention of Henry Luce. Henry Luce is remembered for his political judgments, which left a great deal to be desired. So great was Henry's need to find philosophic depth in businessmen—and in Republican politicians—that he often invented it and sometimes imagined it. And there was his love for Chiang Kai-shek. James Wechsler once said that men of his generation had only three heroes, all of them immortal. They were Hoover, J. Edgar Hoover and Chiang Kai-shek. But Henry Luce, the founder of *Time*, Inc. was also—and this is very important—a most acute businessman. He hated any enterprise that lost money. And he was a truly brilliant editor. One proof is that while *Time*



Galbraith

publications have since Henry's departure and death become politically much more rational, they have also become much less prosperous—and spectacularly more dull.

Finally, as I reflected on these qualifications, there was the amount of my own life that I had spent at a typewriter. Nominally I have been a teacher; in practice I have been a writer, as generations of Harvard students have suspected. Faced with the choice between spending time on the unpublished scholarship of a graduate student and an unpublished work of my own, I have very rarely hesitated.

So, superficially at least, I was well-qualified to go to California. However, a major difficulty then emerged. It was that I could tell everything I knew about writing in a little more than half an hour. For the rest of the term I would have nothing to say except as I invited discussion from the students, this being, as my academic colleagues here know, the last resort of the empty academic mind. . . .

To come to the few things that there would be to teach. . . . The first would be on the hideous lesson of inspiration. All writers know that on some golden mornings they are touched by the wand and are on intimate

terms with poetry and with cosmic truth. I experience those moments myself. The lesson here is simple: it's totally an illusion, a manic phase ungrounded in reality of any kind. And the danger is that you will wait for those moments. And such is the intrinsic horror of having to face a typewriter that you will spend the rest of your life waiting. I am persuaded that most writers, like most shoemakers and most candlemakers—these were comparisons that were first made by Anthony Trollope—are about as good one day as the next. Hangovers apart. The supposed difference is in the product, partly the result of vanity and the rest of imagination. The meaning is that one must go to his or her typewriter every morning and stay there regardless of the result.

All professions have their own way of justifying laziness. Harvard professors—and possibly, Mr. Chancellor, this may be true of professors at the University of Missouri—are deeply impressed by the jewelled fragility of their minds. More than the thinnest metal these minds are subject terribly to fatigue. So at any given moment, they are resting their minds in preparation for the next great orgiastic test of insight or revelation.

Writers justify laziness by believing that they are waiting for inspiration. In my own case, there are days when the result is so bad that not fewer than five revisions are needed. In contrast, when I am greatly inspired, only four revisions are needed. And then in both cases, as I've often said, I put in that note of spontaneity that even my meanest critics admire. My advice to you and to all eager students in California would be: Do not wait for the golden moment. It won't be better; it won't be worse; it will in all likelihood be the same. . . .

Reluctantly, and out of very long experience, I would urge all young writers to avoid all attempts at humor. It's something that greatly lightens one's task, I must say. I've often wondered what sadist it was who made it wrong for one to laugh at his own jokes. It's one of the major enjoyments of life. And perhaps that is the point. Humor is an intensely personal, largely internal thing. What pleases you only rarely pleases other people. One laughs and another says "What terrible taste!" And the second opinion has just as much standing as the first. Where humor is concerned there are no standards; no one can say what is good or bad, although you can be sure that everyone will. Only a very foolish man will use a form of language that is wholly uncertain in what it communicates to others. Humor also impairs confidence and to some extent repels belief. Adlai Stevenson held his audiences by his sense of fun. But I think it's very much less certain that it got Adlai Stevenson votes. . . .

Then there's the problem of the ease with which—if you're trying to use humor, which has always some aspects of theater—you can move into the area of the real world. I had again, if I might be permitted, an example of that some years ago. . . . The first book I ever wrote that got any generally widespread attention was the book I wrote on the Crash of 1929. The Great Crash. It had a bright-red cover and it was briefly on the best-seller list of *The Times*, and it's something from which you never recover. You never go by a bookstore again without looking to see whether it's there or not. And in those days, there was a bookstall in the old LaGuardia terminal, which you came to before you went out to the planes, and I always looked there to see if it was there when I was catching the train back to Boston. It was never there. And finally I couldn't stand it any longer so I walked in one night, realizing that this was an exercise in comedy, and I stood around and finally

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Vacancies

Among openings listed with *Spectrum* are those of president of the University, administrative vice president and assistant to the president for governmental relations. The description of responsibilities accompanying the announcement of the position of administrative vice president is as follows:

Reporting directly to the president of a multi-campus university, the administrative vice president is charged with high-level management and organizational responsibility principally in the areas of fiscal and physical plant support, which include: accounting; budget preparation and administration; financial administration of grants, research, training and teaching contracts; purchasing; planning, construction, operation, and maintenance of physical facilities; and other related activities.

Responsibilities of the assistant to the president for governmental relations:

Maintain liaison with the executive and legislative branches of state government and with federal agencies. Keep the University community advised of actions in government affecting the University and assist in developing related University policies.

Applications and nominations for the position of president should be directed to Office of the Secretary, 316 University Hall, UM, Columbia, Mo. 65201. Persons wishing

to apply for either of the other positions should write to Office of the President, 321 University Hall.

In addition, the following administrative, professional and academic vacancies were reported to *Spectrum* as of Aug. 25:

UMC—Asst. conference coord.; chief engr. (in training); computer proj. mgr.; info. spec. II; mgr., reactor health physics; sr. fisc. analyst (2); sr. methods & procedures analyst; sr. res. sci.; sr. systems analyst (2); systems programmer/analyst (2).

UMC MED CENTER—Chief nuc. med. tech.; mgr., accounts payable; nurse anesthetist; staff dev. coord.; reg. med. tech. (ASCP); staff nurse I (20); staff nurse II (15); head nurse.

UMKC—Nurse clinician.

UMR—Publications designer; asst. supervisor (physical plant); chief engr.; asst. mgr., food service; announcer; post-doc. colloid chem., chem. dept.; res. analyst, cloud physics res.; res. asst. prof., cloud physics res.; tchnng. vac., computer sci. dept.

UMSL—Contracts officer; asst. dir., stud. fin. aids; admin. asst., affirm. action; coord. of vet. affairs.

What about patent income?

Questions to be answered in this column should be addressed to Answer Line, 424 Lewis Hall, Columbia. Correspondents need not identify themselves, but they are urged to do so, should some clarification be required. The editor guarantees absolute anonymity.

Q — One measure of applied research is the patentability and subsequent sale or licensing of patent rights which result from that research. Campus folklore says that getting a patent in the UM system is a sure way to keep an invention from being used, because of the ultraconservative attitude of the UM central administration in legalistic matters. I've been here nearly 20 years without hearing any mention of any income from any patent. Is there any information available as to the amount of income for the University system and for the inventor?

Name withheld

A — Since the inception of the patent program in 1958, UMca's policies in patent matters have been modified to meet changing conditions and circumstances. Throughout this history, it has been the objective of the program to protect the rights of the institution and of the people of the state. A primary purpose has also been to protect and support faculty and staff in securing their rights and to provide encouragement to them to advance their professional careers.

The UM system has a committee comprised of faculty and staff from all four campuses to do preliminary evaluation of each invention disclosure and to formulate recommendations to the president for action on the disclosure. The UM system also employs a patent attorney to act as a consultant in helping to achieve optimum disposition of invention disclosures by staff and faculty.

The UM system has an ongoing program in patent activity. The accompanying table provides only a minimum indication of the effort expended. It covers the period of time since the current patent policy has been operational.

The following should also be considered:

- Some of the patent applications being developed include foreign patents.
- Certain of the patents have developed an interest on the part of

Patent Activity in the UM System (1970-71 through 1974-75)

	1970-71	1971-72	1972-73	1973-74	1974-75
Disclosures Filed	31	33	19	24	30
Searches Conducted	2	4	6	3	7
Applications Filed	2	2	-	2	3
Patents Issued	-	2	-	2	4
Applications in Process	-	2	5	7	7
License Agreements Released to Inventors	1	1	1	4	5
Royalty Income	11	13	16	20	7
	*	\$708.73	\$902.00	\$1,557.00	\$4,936.53

*Figures not available. Amount included in general operating account.

commercial organizations to the point that they have contributed additional monies to the institution to permit the further development of patentable concepts, which they desire to market.

- The University has participated in regional, national and international symposia on the transfer of technology. This has broadened the market base for patentable ideas.

- The leadership role of this institution in the field of patent management has been recognized nationally. We have responded to requests to testify before congressional subcommittees on patent legislation. Also, written responses to proposed legislation have been provided and have exerted significant impact.

C. P. MERILAN
Professor
Dairy Husbandry
UMC

PAUL R. KEEENAN
Asst. to VP for Research
Columbia

(Note: Professor Merilan is chairman of the patent and copyright committee.)

Inventions

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findings are a byproduct of that primary activity."

Merilan's 13 years' service as head of the patent and copyright committee makes him sensitive to the needs of researchers for information on patents. "Patenting protects the interests of both the inventor and the University while licensing protects commerce. It is expensive to develop a patent into an economically sound commercial venture, thus licensing arrangements provide a measure of protection for manufacturers as they seek to recoup their investment and make a profit with the product or process at the public market place."

Members of the patent and copyright committee come from all four campuses of the University and are available to assist faculty and staff members of their particular campus. Additionally, Ray Snyder, a patent lawyer retained as a consultant by the University, schedules periodic trips to all campuses to talk with faculty about potentially patentable inventions arising from their research.

Clear writing is risky business

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the lady came up and I knew I had to do something then, so I said, "Well, I'm looking for a book. I forget the author's name. Something like 'Galbraith.'" I realized I wasn't doing very well, so then I came in strong with the title. I said: "But I do remember what the title was. It was called *The Great Crash*." And she said: "Well, you don't think that's a book you could sell in an airport, do you?"

My last point is one of some special personal interest. It concerns the peculiar pitfalls of a writer who is dealing with presumptively difficult or technical matters, of which economics is an example. The specialist who ventures to write on such subjects with a view to making himself intelligible must expect always to be accused of oversimplification. The charge will be made by his fellow professionals, whether they are competent or incompetent, and they will always have a sympathetic hearing from the layman. The fact is that no layman ever really expects to understand about money, inflation or the deeper economic problems of India. And if he does, he is open to the feeling that maybe he is being fooled, and therefore his respect is reserved always—almost always—for somebody who is decently obscure.

Economics—if I may continue with what is possibly a self-serving example—is a subject which lends itself to an extraordinary amount of qualification and refinement, and the refinements can be of much technical complexity. But the refinements in economics rarely—if

ever—affect the essential point. One can have endless refinements without ever, for example, diminishing the fact that wages shove up prices, and that prices then pull up wages, and that there is a continuing spiral which is only arrested, by normal means, by a very large amount of unemployment. A very simple, very straightforward fact that, however, is subject to infinite obscurantism and refinement. The writer who seeks to be intelligible must always be right. He must expect to be challenged if his conclusions lead to an erroneous conclusion. But he cannot be put off by the charge that he has made things too easy. The pivot on which understanding turns may be hard to identify, but it is never hard to grasp. But this is something which very few people will accept. Complexity and obscurity have a certain amount of professional value. They are the academic equivalent of the apprenticeship rules in the building trades. They are also, to some extent, a filter against the incompetent. They also keep down the competition and mean that the people who are within the technical field are in some degree protected and even privileged and even priestly class. So the man who makes things click, who brings clarity of writing to a difficult or technical subject can always be

counted upon to be seen as a threat to the position of a priestly order or to the position of his trade union.

Additionally of course and especially in the social sciences, a great deal of the unclear writing that you encounter is the result of unclear or incomplete thought. It's impossible to be wholly clear about something that you do not yourself understand. The person who makes difficult matters clear, therefore, is infringing not only on the trade union of the profession but also on the sovereign right of sociologists and political scientists and economists to make bad writing a disguise for laziness or sloppy thought.

Had any of my California students come to me from the learned professions, I would have counseled them to keep the confidence of their colleagues in all their writing by being complex and obscure. If anything is clear, immediately criticize it as lacking in rigor or suggesting oversimplification. This, while it will not seem as short as I intended it, would have been the total of my California course. You have it all. Ronald Reagan was then the governor of California, and Ronald Reagan and the other regents, knowing that I had finished it all in one hour, would have wondered what I was being paid for the rest of the term. They would also have thought it was a very sparse yield for a lifetime. But I have been talking about writing, and it's possible that I have misused the word "writing," because, . . . as somebody once said of Kerouac, . . . his was not writing but just typing.

is published every other week during the academic year and monthly during the summer session by University Information Services in co-operation with the Columbia, Kansas City, Rolla and St. Louis Offices of Public Information
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Air Force contract

The Air Force has awarded research contracts to several major institutions, among them the University of Missouri, in connection with the development of more precise infrared television cameras.

Infrared cameras are essential to the early-warning satellites in the ballistic missile system and to sensors being used on aircraft and helicopters. Infrared detection uses silicon, which has the property of detecting heat and transforming it into electrical impulses, which in turn can be converted into a visual image. UM's Research Park reactor will irradiate silicon to transform a small amount of it into phosphorus. As an impurity in the silicon, the phosphorus controls the electrical properties of the silicon to a degree of precision not available with conventional control techniques.

The irradiated material will then go to another Air Force contractor, North American Rockwell, where it will be made into a low-cost infrared photo-conductor array, a device which receives the energy collected by a telescope, focuses and converts it into electrical signals. The photoconductor array will then be sent to UM, where reactor personnel will evaluate its performance.

The \$50,000 contract with UM is under the direction of Dr. Jon Meese, radiation applications leader, and Dr. Don Alger, reactor associate director.

Scales to UMKC

Dr. Robert Scales, known internationally for his work in technical theater, has been appointed technical production director of University theatres and professor of theatre at UMKC.

For the last five years Professor Scales has been technical director of the Stratford Festival in Ontario. He has also served as production coordinator of the Annenberg Center of the Performing Arts at the University of Pennsylvania and as technical and lighting designer for the Guthrie Theatre in Minneapolis.

Reactor safety

How safe are nuclear reactor facilities? The variability of opinion aside, the insurance industry has not had a claim for radiation damage arising from reactor facilities in the entire 19 years it has offered liability protection to nuclear facilities.

In fact, if an insured facility incurs no claims radiation damage, it becomes eligible for premium refunds during its 10th insured year. The University of Missouri recently received a refund of \$1,500, this being its 10th claim-free year.

According to *Business Insurance* (Aug. 9, 1976), premium refunds to the nuclear industry have been made since 1967. Some 350 of those insured are protected by the Nuclear Energy Liability-Property Insurance Association and the Mutual Atomic Energy Liability Underwriters, who have refunded some \$1.6 million this year.

Art on the road

Part of the extensive art collection of the State Historical Society of Missouri has gone on the road. George Caleb Bingham's "Watching the Cargo" has been lent to the U.S. Information Agency for shows in Bonn, Belgrade, Rome and Warsaw; and 150 illustrations by Thomas Hart Benton—for *The Adventures of Tom Sawyer*, *The Adventures of Huckleberry Finn* and *Life on the Mississippi*—have been lent to the Mid-America Arts Alliance of Kansas City, for shows throughout the Midwest.

Eyestone honored

Dr. Willard H. Eyestone, head of UMC's department of veterinary pathology, has been named an honorary member of the American College of Laboratory Animal Medicine.

Dr. Eyestone, who was commended for his leadership in, and contributions to, laboratory medicine, is only the fourth person to be named to honorary membership in the ACLAM.

New B.S. program

A new B.S. program in applied mathematics, designed to provide students with practical mathematical and computer skills necessary to work in industry, is being offered this fall at UMSL.

The primary difference between the new program and the B.A. program in mathematical sciences already established at UMSL is that the new program emphasizes computer science and de-emphasizes theory. The new program is the only one of its kind in St. Louis.

Spectrum's calendar carries announcements that may be of interest to persons throughout the University system. Anyone wishing to place an announcement in Spectrum should write to Calendar, 424 Lewis Hall, Columbia. The next issue of Spectrum will appear Sept. 10, and the deadline is 1 p.m. Friday, Sept. 3.

1776 (starring Peter Graves and Howard da Silva)—Muny Opera, St. Louis; through Sept. 5; ticket info.: 314-367-8686.

Drawings—pencil, pastel and wash—by Kansas City-area artists; UMKC Art Dept. Gallery, 50th & Holmes; show to run to Sept. 10; open 8-5 weekdays and 2-5 on Sat. & Sun.

Design exhibition—winning entries in competition among members of the University and College Designers Association; Fine Arts Gallery, UMC; 9-3 weekdays, 2:30-4:30 on Sun.; through Sept. 17.

"Artists Behind Bars"—exhibition of penitentiary workshop art; Jewish Community Center, 8201 Holmes, Kansas City; 10-10 Sun.-Thur., 10-6 Fri., 1-10 Sat.; through Sept. 19.

"The Tallgrass Prairie"—exhibition of photographs and illustrations by Patricia Duncan; Museum of Science and Natural History, Oak Knoll Park, Clayton & Big Bend Blvd., St. Louis; 9-5 Mon.-Sat., 1-5 Sun.; through Sept. 26.

Contemporary Japanese Prints—Gallery 210, 210 Lucas Hall, UMSL, 8001 Natural Bridge Rd., St. Louis; through Sept. 28.

Religious Art—from 15th to 18th century; Van Ackeren Gallery, Rockhurst College, 52nd & Troost, Kansas City; by appointment.

"Selection '76," cross-section of collections, upstairs galleries; through Dec.; "American Art: The Westward Movement," bicentennial exhibit featuring works of Bingham, Wimar and Seth Eastman; St. Louis Art Museum, Forest Park.

The Heiress—Missouri Repertory Theatre; UMKC Playhouse, 51st & Holmes; 8 p.m., except as indicated, Sept. 3, 9, 15 (mat.), 15 (8 p.m.); tickets for Fri. & Sat. nights/\$5, all others/\$4; univ. ticket off., on Rockhill bet. 50th & 51st, open 10:30-6, Mon.-Fri., & noon-6, Sat. & Sun. (ph. 816-276-2705); Playhouse box off., 51st & Holmes, open two hours prior to curtain until 30 minutes after performance (ph. 816-276-2704).

Ringling Bros. and Barnum & Bailey Circus—St. Louis Arena; through Sept. 6 (performances at 1 p.m. & 8 p.m. Sept. 3; at 11 a.m., 3 p.m. & 8 p.m. Sept. 4; at 1 p.m. & 5 p.m. both Sept. 5 & 6); tickets priced at \$3.50; \$4.50, \$5.50 & \$6.50; Ringling Bros. and Barnum & Bailey Circus, St. Louis Arena, 5700 Oakland Ave., St. Louis, Mo. 63110 (ph. 314-644-0900).

The Drunkard—Missouri Repertory Theatre; UMKC Playhouse, 51st & Holmes; 8 p.m.,

Calendar

Broadway series

Season tickets for the 1976-77 Missouri Students Association Series, on the Columbia campus, will go on sale Sept. 8 at the ticket window in the Memorial Union, UMC.

Season tickets will be priced at \$12, \$14.50 and \$17. The prices of individual performance tickets vary, as indicated below:

Equus (Oct. 7); \$3.50, \$4.25 and \$5.

A Little Night Music (Nov. 1); \$3.50, \$4.50 and \$5.50.

Sherlock Holmes (Feb. 17); \$3.50, \$4.25 and \$5.

Three Penny Opera (Apr. 20); \$2.50, \$3 and \$3.50.

The plays will be presented in Jesse Auditorium, each scheduled to begin at 8 p.m.

except as indicated, Sept. 4, 5 (mat.), 11 (mat.), 17; ticket info. under *The Heiress*.

Gentry Fair—arts, crafts & antiques; Gentry Park, 4211 Fee Fee Rd., St. Louis; Sept. 4.

Don Juan of Flatbush—Missouri Repertory Theatre; UMKC Playhouse, 51st & Holmes; 8 p.m., except as indicated, Sept. 5, 11, 12 (mat.), 18 (mat.); ticket info. under *The Heiress*.

Labor Day Holiday—Mon., Sept. 6.

Aviva Cantor-Zuckoff—lecture entitled "The Condition of the American Jew: And the Jewish Woman"; 8 p.m., Sept. 7; Pierson Hall, UMKC; tickets are \$2.50 each, \$6.50 for series (Ms. Zuckoff's lecture; a lecture by Abram Leon Sachar, chancellor of Brandeis, entitled "Entering the Third Century," on Sept. 14; and Isaac Bashevis Singer, to speak Sept. 22 on Jewish literature); all at same time and place; for tickets write to University Ticket Office, 5100 Rockhill Rd., Kansas City, Mo. 64110, or call 816-276-2705; individual tickets to be available at the door.

The Great White Hope—Missouri Repertory Theatre; UMKC Playhouse, 51st & Holmes; 8 p.m., except as indicated, Sept. 7, 12, 18, 19 (mat.); ticket info. under *The Heiress*.

Once in a Lifetime—Missouri Repertory Theatre; UMKC Playhouse, 51st & Holmes; 8 p.m., except as indicated, Sept. 8 (mat.), 8 (8 p.m.), 14, 19; ticket info. under *The Heiress*.

Frank Marini, dean of the College of Arts and Letters, San Diego State University, first holder of the Martin L. Faust Distinguished Lecture-ship, to deliver the third of six lectures under the title "The Search for Democratic Public

Committee

*Men have through all ages sat in council
And sometimes around tables, Homeric
Men, and standing men, Indians, and these
Men in their dark ties. We are in a circle
And talking in a circle and making the
Choices of our lives:*

*backache,
the green blackboard,
the pipe to be chewed,
the cough drop, the bitter lemon,
the coil of red cellophane
around the finger,*

Paper Topics

*sad doodles of cages and zigzags,
the Regional Report,
sinus-carrying Nile sludge,
no place to spit,
all the windows closed,
backache,
courtyard brick,
a report from the other committee,
the sun moving away as if appalled,*

*All afternoon on the ship where there is no leader
and the garrulous lap at us like endless ocean
waves, insignificant and tireless.
Sometimes around this magnificent table
Men who have always been dull and defeated
Seem to take on life as they say "It seems to me . . ."
Or "I should think . . ." or "If you ask me . . ." (Nobody did)
Often we get up as if we'd decided where
To send our frogmen or how to scale the wall.
But no one can find a wall or name a sea.*

David Ray
Professor of English
UMKC

(From *Gathering Firewood*; Wesleyan University Press, Middletown, Conn.)

Administration"; Memorial Union Auditorium, UMC; 7:30, Sept. 9.

Leslie Parnas, cellist, in concert, Unitarian Church, 121 W. Eighth, Kansas City, Mo. 64105 (ph. 816-531-2297, 816-561-2159); tickets \$6.50 in advance, \$7 at the door; 8 p.m., Sept. 10.

Who's Afraid of Virginia Woolf—Missouri Repertory Theatre, 51st & Holmes; 8 p.m., Sept. 10, 16; ticket info. under *The Heiress*.

Frank Marini—fourth lecture in Faust series; Memorial Union Auditorium, UMC; 1:30, Sept. 10.

Greater St. Louis Dahlia Society Show—Missouri Botanical Gardens; Sept. 11-12.

Badenfest—booths, food, entertainment; 8100 N. Broadway, St. Louis; Sept. 12.

Frank Marini—fifth lecture in Faust series; Memorial Union Auditorium, UMC; 7:30, Sept. 13.

Frank Marini—sixth lecture in Faust series; Memorial Union Auditorium, UMC; 1:30, Sept. 14.

Abram Leon Sachar—lecture entitled "The Condition of the American Jew: Entering the Third Century"; Sept. 14; further info. above, in Aviva Cantor-Zuckoff listing.

Alger Hiss—lecture entitled "The McCarthy Era"; 8 p.m., Sept. 16; Jesse Aud., UMC.

Philharmonic Orchestra—Music-Media Experience I (Mozart's "Serenata Notturna" and "Piano Concerto No. 24" and Beethoven's "Symphony No. 2"); Crown Center Multi-Media Forum; 7:45, Sept. 17 & 18; single tickets \$6.50 & \$5.50, tickets for all three Crown Center concerts (Sept. 17/18; Sept. 23/25; Oct. 1/2) \$17 & \$14; Kansas City Philharmonic, 210 W. Tenth St., Kansas City, Mo. 64105 (ph. 816-842-9300).

Forest Park Balloon Rally—about 35 hot-air balloons; take-off 5 p.m. Sat., 9 a.m. Sun., Sept. 18-19; Balloon Field, Forest Park, St. Louis.

Football: UMR vs. Wayne State—1:30, Sept. 18; Rolla.

Football: UMC vs. Illinois—1:30, Sept. 18; Columbia.

Bob Hope Show—two-hour program beginning at 8 p.m., Sept. 18, Hearnes Multipurpose Building, UMC; box office to open Aug. 30; tickets: \$6, \$5 and \$4.

The Ballad of Baby Doe—Lyric Theater; Sept. 18, 21, 23 and 29, and Oct. 1; 11th and Central, Kansas City.

Isaac Bashevis Singer—lecture entitled "The Condition of the American Jew: And Jewish Literature"; Sept. 22; further info. above, in Aviva Cantor-Zuckoff listing.

The Pirates of Penzance—Lyric Theater; Sept. 22, 24 and 25, and Oct. 19 and 21; 11th and Central, Kansas City.

Midwest Interprofessional Seminar on Diseases Common to Animals and Man—UMC; Sept. 21-22. The annual seminar focuses on zoonotic and comparative medicine. This year's keynote speaker will be Dr. Michael W. Fox, director of the Institute for the Study of Animal Problems, Humane Society of the United States. Further information may be obtained from the Office of Continuing Education and Extension, College of Veterinary Medicine, 23 Veterinary Sciences Building, Columbia, Mo. 65201.

Philharmonic Orchestra—Music-Media Experience II (Bach's "Brandenburg Concerto No. 1" and Mozart's "Mass in C Minor"); Crown Center Multi-Media Forum; 7:45, Sept. 23 & 25; ticket info. under earlier Philharmonic listing.

Football: UMR vs. Kansas State-Pittsburg—1:30, Sept. 25; Rolla.

Glenn Miller Orchestra—directed by Jimmy Henderson; in concert, Sept. 26 & 27, at the Plantation dinner theater in St. Louis; ph. 314-869-9400.

Andrea Chenier—Lyric Theater; Sept. 28 and 30, and Oct. 2, 6 and 8; 11th and Central, Kansas City.

Marilyn Horne, soprano, in concert, Kansas City Music Hall; Sept. 28; for tickets write to Fine Arts Program, William Jewell College, Liberty, Mo. 64068.

Ruth Laredo, pianist; Jesse Aud., UMC; 8 p.m., Sept. 28; tickets to go on sale at Memorial Union ticket window about two weeks prior to concert, priced at \$2 & \$3; season tickets (for Laredo; Musica di Camera, Oct. 25; and Guameri String Quartet, Nov. 22) to be available about mid-Sept., priced at \$5 & \$8.

Philharmonic Orchestra—Music-Media Experience III (Haydn's "Cassation" and Mozart's "Clarinet Concerto" and "Symphony No. 41"); Crown Center Multi-Media Forum; 7:45, Oct. 1 & 2; ticket info. under earlier Philharmonic listing.