

MISSOURI
ALUMNUS

NEWS FROM THE DIVISIONS
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PIANO LESSONS/4

administration and public affairs

Students Comment on CAPA

The Student Council for the undergraduates of the College of Administration and Public Affairs is publishing a newsletter called "CAPA COMMENTS."

The first issue explains the B&PA reorganization and the College's new name; gives advice to students on designing their own majors within the College; and reports on a variety of clubs and organizations.

Walker Returns to Classroom

Pinkney C. Walker, vice chairman of the Federal Power Commission, will return to Campus in January as a professor of economics.

Walker, who was dean of the old College of Business and Public Administration, now the College of Administration and Public Affairs, will engage in research. He was dean from 1964 until his appointment by President Richard M. Nixon to the power commission in the spring of 1969.

President Nixon accepted "with special regret" Walker's resignation, the White House said.

Press Secretary Ronald L. Ziegler said Walker's letter of resignation was dated Nov. 1 and was in no way related to the President's request that all his appointees submit pro forma resignations.

Walker, 55 years old, his wife and a daughter, 13 years old, will return to their home in Columbia. Their two other daughters are married.

Professor Upsets Students With 'Grade-Income' Experiment

"You can't do this," was the startled reaction of some students when David Stevens, associate professor of economics, proposed pulling the traditional grading system from under their feet.

"Why not?" Stevens answered and, with a serious face, he presented his Labor

Problems class with five alternatives to individual performance grading. Each option distributed differently the 4,989 points earned by 195 members of the class in their first exam.

The choices ranged from a "social dividend" program guaranteeing everyone a minimum number of points, to a "need" system, where students with low GPAs or those taking the class as a suggested elective were given point distribution preference. The alternatives also included "borrowing," "chance," and "equal shares" approaches.

When the students' votes were counted, 57 per cent stuck to the status quo retaining individual performance grading. But grades weren't actually at stake in Stevens' experiment.

Stevens was trying to set up an analogy between students' attitudes toward grading and society's attitudes toward national income distribution processes. Most students do not have monetary income to distribute, but all students do "work" in classes and earn a "grade income."

How they decide to distribute this income could indicate how they will vote when faced with real income issues, Stevens says. And his conclusion-- "People reflect their own self interest naturally."

A vote for the "equal shares" system, similar to a type of socialistic system, would have illustrated an individual's "equality generating motive," Stevens speculates. A vote for the social dividend program could be compared to a vote for national guaranteed minimum income.

But the vote for income distribution on

individual performance, Stevens says, is based "exclusively on self interest." There was not a cooperative spirit in the class, everyone was out for his own advantage.

Stevens stresses that the students' self interest should not be held against them. He accredits this emphasis on the individual to Horatio Alger-ism, the belief that "the opportunity is there for everyone" to succeed. While supporting this "rags-to-riches" myth, though, people often overlook barriers hampering certain individual's success.

Stevens admits he attempted "to get people's stomach juices activated" through his experiment. He was trying to place his students "in a situation where they could individually experience the attitudes of citizens in different income strata of our society toward legislative proposals and enactments."

There was some hostility in the class when Stevens proposed upsetting the grading system. Three students walked out of the room when he first introduced the idea. And later, others threatened to go to the dean to question the teacher's legal responsibilities in rewarding performance.

Stevens intended to follow the traditional system of grading in his economics course all along.

When students critiqued the course at the end of the semester, most said that, once the "initial shock" wore off, they enjoyed Stevens' experiment.

Stevens believes it was a valuable learning experience and wishes he could repeat it spring semester. "I guess I'll just have to wait a while until people forget, though. It just won't work unless people think I'm serious."

Alumni Consider Structure For Council



Considering the proposed constitution and bylaws for the College of Administration and Public Affairs Alumni Council, alumni and members of the University staff work together. (Left to right) John Sweeney, director of the Development Fund; James B. Judd, Oklahoma City; Harriet L. Dewey, Minneapolis; Steve Smith, Eldora, Iowa; Mrs. Barbara Fisher, Joplin; Dr. Ray Lansford, director, CAPA educational services; Dr. Carl Willis, who is under special assignment from the Dean to help with the Council; Roger Fisher, Joplin; Bill Dalzell, director of Alumni Activities; William R. Toler, Columbia, chairman pro-tem of the group; Dr. Sam Wennberg, professor emeritus; Bill Heck, Development Fund; and Dean Robert W. Paterson. J. C. Weiman Jr., Minneapolis, chairman of the group, was unable to attend the meeting on November 17 because of illness.

Business Logistics to Be Major

Business Logistics will be offered as a major beginning in fall 1973.

A logistics system is concerned with the flow of information and products from source of supply through production to the ultimate point of consumption.

Logistics can be viewed as an integrated network through which activities such as transportation, warehousing, packing and packaging, materials handling, inventory control, supply scheduling and order processing are carried out.

The business logistics curriculum emphasizes the design and evaluation of alternate logistical systems leading to theoretically sound as well as practical business strategies, taking into consideration production and marketing requirements as well as financial constraints. The role and relevance of logistics activities to the firm and economy is emphasized.

The Business Logistics major will be provided a professionalized education leading to a variety of careers with carriers, government and industrial users of transportation service, federal and state regulatory commissions, trade associations, consulting firms and public authorities concerned with the planning and use of transportation facilities.

agriculture

Ag Day to Be Feb. 2

Agricultural Science Week will be Jan. 29-Feb. 2 on Campus.

Various agricultural groups and organizations have planned meetings during Ag Science Week. Climax of the week will be Friday, Feb. 2, when a special program called Ag Day is held. It is planned especially for alumni and friends of the College of Agriculture.

Ag Science Week events scheduled at Columbia include: Irrigation Conference and Farm Electrification Conference, Jan. 20; Soil and Water Conservation Contractors Conference and Turkey Day, Jan. 31; Missouri DHI Federation Meeting, Association of Missouri Dairy Organizations, Inc. Meeting, Egg Day,

Nutrition Seminar (for professional animal nutritionists), and Missouri Cattle Feeding Seminar, Feb. 1; and Ag Day, Feb. 2.

Cheese Tasters Win Trophy

A student team from Mizzou has won the first-place trophy in cottage cheese judging and a plaque for placing second overall in the national Dairy Products Evaluation Contest, held Oct. 1-4 in Atlantic City.

Coached by Robert T. Marshall, professor of food science and nutrition, the team also won third-place plaques in both cheddar cheese and ice cream judging in competition with 21 other collegiate teams.

The Dairy Products Evaluation Contest, won this year by a team from the University of Illinois, was held in conjunction with the Dairy and Food Industry Supply Exposition in Convention Hall in Atlantic City.

Researchers Detect Lean Meat With New 'Jack Sprat' Devices

(From the Columbia Missourian)

Imagine getting into a metal box that tells the world how much of your body is lean and bone and how much is fat.

It happens all the time at the School of Agriculture, where three devices are being tested that determine what is under wrinkly pigskin as well as tough cowhide.

The Whole Body Counter in the Low-Level Radiation Laboratory is the largest of the three.

Using a radioactive potassium isotope found naturally in the fat free portion of the body, the counter helps researchers predict the lean meat.

Jack L. Clark, University professor of animal husbandry, is in charge of the operation.

"It's hard to tell the lean-to-fat ratio in live cattle just by looking," he says, "even for experienced livestock producers. To date, this is the best objective measurement we have available to determine the percentage of red meat in a live animal."

Experience has shown, however, that it is not always possible for a breeder to bring his stock to the laboratory to be evaluated. In that case, he may use a more traditional method called "ultrasonics." It finds fat in much the same way that the Navy detects submarines.

High frequency sound waves, inaudible to the human ear, are sent through the flesh and bone tissue of a steer or hog. Instruments record the echoes of the waves as they pass from one density layer to another. By noting the time elapsed between the echoes, one may determine what percent of the animal is fat and what part lean. University specialists in animal science claim such measurements are 90 per cent accurate.

"Missouri pioneered in the field of

ultrasonics, being the first state to offer the evaluation service to its livestock breeders," John C. Rea, associate professor of animal husbandry, says. "Other states, breed associations and private firms have spread it nationally."

The advantage of "Sonoray," as it is often called, is its portability. As of October this year, nearly 6,000 swine and 1,000 cattle have been tested by University technicians, who carry the device around the state in a pick-up truck. Breeders pay a small fee to find out which bulls will most likely be the best sires.

The fastest, simplest and most accurate device tested thus far is EMME (Electronic Meat Measuring Equipment). Developers claim results are more than 99 per cent reliable. Available only since July, Rea says EMME is still in the "experimental stage. We're not ready to take it out into the state quite yet."

Animals walk through an 8-foot-long box where a harmless, low-power electric current is passed through their bodies. As in ultrasonics, impulses are modified by the type of tissue encountered.

"Meatier hogs give a higher reading on the instrument than fat hogs," Maurice Alexander, instructor of animal husbandry, says. "The EMME works because lean tissue conducts electrical energy 20 times better than fat," he explained.

Unlike the other two methods, EMME can measure animals as fast as they move through the chamber. In the Whole Body Counter, on the other hand, animals must be carefully positioned in order for readings to be taken. This requires so much time that only four animals may be evaluated per hour.

Before the Whole Body Counter, Sonoray and EMME were invented, the breeder could only estimate what was under the hide. Animals appearing to be lean often turned out to have a higher percentage of fat than bulkier ones. There was clearly a need for accurate measuring devices.

Cooperative Leaders to Meet

The second annual Graduate Institute of Cooperative Leadership is scheduled for July 15 in Columbia, Dean Elmer R. Kiehl says. Kiehl is chairman of the Institute.

Primary purpose of the Graduate Institute is to re-establish the philosophy of cooperative leadership through a unique program of leadership development, Kiehl said.

The decision to conduct a second Graduate Institute was reached following a highly positive evaluation on the part of the first class of 43, Kiehl said. Also, the Institute's Board of Trustees that provides guidance for the educational effort, is anxious to continue the Institute.



Ken Smith, the instructor, helps Christina Shay find the lost chord.

Do Re
Mi
... SHHH!

When everyone starts to practice in the beginning piano class, it's so quiet you can almost hear a pin drop. You are aware of a dim medley, as if a dozen people are practicing far away upstairs behind closed doors. You can pick out the scales, chord progressions, and the muted tunes, "For He's a Jolly Good Fellow" and "London Bridge." But it's all very quiet.

These students are using electric pianos with earphones. They can hear themselves play; the teacher can listen to students individually, talk with them without leaving his piano, and even play for them; the students can play duets or listen to each other.

Before 1968, when the music department bought the electric pianos for a total of \$4,978.50, piano classes were noisy.

In those days, two students shared the keyboard of one piano. There were six pianos in the classroom.

"The din was terrific," Richard L. Morris, professor, says. "The teacher couldn't hear himself think, much less hear the students play. They had to take turns," he says.

"Silent" pianos make the teachers' and students' class time more pleasant. They accomplish more because while the teacher works with one student, the rest can practice. And the class can be taught in almost any building without disturbing neighboring classes.

Piano students have been taught in groups since about 1960. Teaching them individually would be too expensive. Ken Smith, who teaches one of the beginning piano sections, says, "Some people think a group is the only way to teach piano. It is very effective, gives the students a solid music background and teaches them to read music."

Students like the piano class. They have to or they quit. The class meets twice a week, and requires an hour a day of practice — for just one credit hour.

Students are assigned a regular piano in a practice room in the Fine Arts Building. And some actually do practice seven hours a week; most practice less, but try to get in some time every day.

An electric piano sounds pretty much like a regular piano as you listen to yourself through the earphones. The key action, though, feels more like an organ.

The class is a requirement for music majors who have not reached a basic level of proficiency in piano. Some are expert on other instruments, drum or flute, for example. They already know a lot about music. The instructors say they "pick up piano" rather quickly. Some elementary education majors who must be able to play simple songs also are required to take the course.

About three-fourths of the beginners, though, just want to learn to play. Kathy Nail, a freshman in nursing, told a friend that playing the piano was her secret ambition. The friend suggested she take the class.

"You have to pay about \$2.50 for a half hour lesson privately. This is an economical way to learn. I don't feel that I'm getting gypped by the group approach at all. I work all week to be damn good those 10 or 15 minutes that Mr. Smith is listening to me," she says.

Other students think they work harder to keep up with the rest of the class, though everyone can go at his own speed. They like the competition of the group situation.

And one girl takes off her earphones for a minute, smiles and says, "Isn't this what a liberal arts education is all about?" She smiles again, puts on the earphones, and swings into a rousing rendition of "America the Beautiful" — very quietly. □



"You've got to concentrate," Becky Christian says.



No din or discord, yet everybody's playing his own tune. Practice does make perfect, Kathy Nall says.

arts and science

Students Publish 'Review'

A group of graduate students in the social sciences have, with the cooperation of the Board of Curators, gone into the publishing business.

Volume One, Number One of "The Review of Social Theory" is now available. Carrying a cover photograph of famed social theorist Thorstein Veblen, a UMC faculty member from 1911-1918, the new professional journal is student edited. Furthermore, the editorial policy of the semi-annual publication gives preference first to student papers and then to those of junior faculty members.

Social science departments cooperating in the venture are anthropology, economics, philosophy, political science, sociology and rural sociology.

Financial support from three sources--the Graduate Student Assn., Arts and Science Student Council and the department of sociology--has enabled the appearance of Volume One. The editors hope to make the publication self-supporting through subscriptions as soon as possible.

Laboratory Theater Opens in Gentry Hall Basement

The Student Theater is the realization of a long-held dream for theater faculty and students. The acquisition of the Gentry Hall area (which is shared jointly and administered by MSA) provides much-needed space and production opportunities for the department.

Dr. Stephen Archer, director of theater, is particularly enthusiastic about this project.

"The theater department's main stage in the Fine Arts building is primarily a showcase for public viewing. Thus, there is a real need for a laboratory theater--a training ground for the approximately 200 students in the department. We will now be able to provide more extensive experience in acting, directing and even scriptwriting for many more people."

The responsibility for all drama activities held in Gentry Hall lies with the Student Theater Committee, which consists of both students and faculty. Ben Carney, a doctoral candidate in the department, is its supervisor, and students come to him first when a project is in the works.

"The type of productions to be given in the Student Theater will often be of a type that would not ordinarily be on the main stage," said Carney.

Typical of this concept was the first presentation, "Dr. Faustus Lights the Light" by Gertrude Stein. Peter Weiss' "The Tower" and Peter Handke's "Self-Accusation," German plays of the post-war era, also are experimental. The Octopus" and "Steambath" are other student plays that have been presented.

Student Theater advisor and committee member is Professor Sam Smiley, who is concerned primarily with assisting students in finding material to use in the Theater. "The Student Theater gives the University a place where students can experiment and develop craftsmanship. It is crucial as a workshop, which is badly needed in a place of this size. It lends excitement and fun to the whole theater scene on campus," he says.

Project Entertains Veterans

Discussion 371 is one speech course that wasn't all talk this semester.

John Kline, instructor, said the course was designed to show how groups can work together in communication, the different roles group members play and the group process.

The class was broken down into five-member groups and assigned a communications project," Kline said.

One five-member team performed a variety show at the Veterans Administration Hospital.

Three members of the group and three additional talent recruits performed a tap dance, humorous monologues, guitar numbers and a 15-minute series of comedy sketches.

"The project represented 30 per cent of our grade. To complete the assignment we will present a group paper describing the variety show and the group process involved," Becky Sokol said.

Sociologists Write Book

Two Campus sociologists have had a book published recently on racially mixed minorities.

The co-authors and editors of "The Blending of Races" are Dr. Noel P. Gist, professor emeritus of sociology and Dr. Anthony Gary Dworkin, assistant professor of sociology.

The book deals with the impact of racial mixing upon the group's identity, intergroup harmony and social structure. It covers ten racially mixed minorities in the U.S., Canada, Indonesia, India, Ceylon, Brazil, Guyana, Australia,

South Africa and the island of Tristan da Cunha.

Gist, who has been a member of the faculty since 1937, received a senior specialist award from the East-West Center, Honolulu. He has been a visiting lecturer in India twice as part of Fulbright Awards.

Dworkin is chairman of the departmental honors program in sociology. He has been a consultant with the U.S. Office of Education, the Civil Rights Commission and the Bureau of Labor Statistics.

Chicano Group to Be Formed

A faculty member of the sociology department and a graduate student are attempting to organize a Chicano (Mexican-American) group of students and workers in the Columbia area.

Dr. A. Gary Dworkin, assistant professor of sociology who teaches race relations, says the ultimate goal is the establishment of an agency that could explore the economic and social condition of area Chicanos, register complaints of discrimination, and promote interaction between university students and faculty and Chicanos.

Dworkin said there is a labor force of 25,000 Chicanos, 16 to 64 years of age in Missouri and a total Chicano population of about 42,000, mostly concentrated around Kansas City and St. Louis.

Alfonso Prieto, a graduate student in special education from Albuquerque, N. M., says that a local Chicano organization could help develop course work within the University on Chicano history and culture and establish a recruitment program to bring more minority students, especially Chicanos, to the Columbia Campus.

General Studies Program Begins

An experimental program in General Studies in the College of Arts and Science is being established.

Designed to allow the innovative student the chance to mold his own program of studies, the General Studies plan will be devoid of curriculum requirements. The sole formal requirement for graduation with a Bachelor of General Studies degree will be 120 semester hours of credit including a course to meet the Missouri state requirement in history and political science.

The idea for the program developed as a result of meetings of faculty and students in the College of Arts and Science.

Students accepted in the experimental program will benefit from the counsel of an advisory committee of three faculty members who will assure that the student's program contains adequate variety and emphasis.

Approximately 25 students will be admitted to the College of General Studies as its first class in January,

Chemistry Building Dedicated



Dr. Armon F. Yanders, dean, College of Arts and Science, welcomes distinguished guests to the eighth Midwest Regional Meeting of the American Chemical Society, November 8. They witnessed dedication ceremonies for the Chemistry Building. Seated on the platform (left to right) are Dr. C. Brice Ratchford, president; Mrs. Susan Burpo, graduate student in chemistry; Dr. David E. Troutner, chairman, department of chemistry; Dr. Jack L. Cross, executive secretary for the Missouri Commission on Higher Education; and Dr. Herbert W. Schooling, chancellor. Nobel Prize winner Dr. Linus Pauling spoke later in the day on the subject "Chemistry in Medicine."

1973. The same number will be admitted in subsequent years so that the maximum number of students enrolled at any time will be 100.

The program will be administered by a director to be appointed by the Dean of Arts and Science. Faculty primarily involved in the program will be regular members of the faculty of various Campus divisions. A council composed of the director, faculty members and students will govern the operation of the General Studies College.

Geologists Collect Clays

A clay repository, a storehouse, designed to unify the research on clays and their minerals and thus aid industry, has been established at the department of geology.

With the establishment of the repository, interested researchers around the world will be able to study a single uniform clay. Previously, it was not possible to collaborate on data because of different analytical methods and clays used at different laboratories.

Dr. William D. Johns, professor of geology, who will be director of the clay repository, pointed out several ways this repository could benefit industry.

"Hopefully, by accumulating data, we will gradually be able to understand the physical and chemical properties of clay, and industry will be able to manufacture cheaper and better products," he said.

Clays are used in many ways, for example, as catalysts in large scale chemical processes, as filler in plastic

products and as catalysts in refining petroleum, Johns said. They are also used to coat paper and, of course, in ceramic production.

There will be 10 to 12 tons of clay in the repository for researchers to study. The clay actually doesn't take up much room -- only about one cubic yard a ton, Johns said. It will be stored in the basement of a University-owned house near campus.

The grant for the clay repository came from the Clay Minerals Society. Johns said the department was selected because it is internationally recognized as a center for clay research and because the repository would be centrally located for U.S. researchers.

Students Helped, Author Says

Students had an active role in the development of his new history book, Dr. Richard S. Kirkendall says.

In his preface to "The Global Power: The United States since 1941," Kirkendall, professor of history, says that the book is the product of more than a decade of teaching Recent United States History on Campus. His students "listened to this book as it evolved" and "stimulated its development in many ways."

The book is the sixth volume in the series, "From Colony to Global Power: A History of the United States," edited by J. Joseph Huthmacher of the University of Delaware.

A 260-page interpretive essay, the Kirkendall volume stresses the "very substantial change since 1941 in the nation's relations with the rest of the

world and the great significance of the change for life inside the U.S."

Kirkendall has been on the faculty since 1958. Known as a "Truman scholar," he has published several books, two of them with the University of Missouri Press.

Campus Artists Exhibit Works

Sculpture, jewelry, etchings, paintings and prints by Campus artists are in several exhibits and a publication of the season.

Several members of the art department are represented in the current 42nd Annual Exhibition of the Springfield (Mo.) Art Museum. They are Brooke Cameron - intaglio print, "The Four Seasons - Spring"; Lawrence McKinin - acrylic painting, "Guanajuato"; Lawrence Rugolo - "Selericircles"; and Kenneth Ryden - bronze, plastic and light sculpture, "Dual."

The Quincy (Ill.) 23rd Annual Art Show in November included Don Bartlett's bronze sculpture, "Adolescence."

Jewelry by Robert Pringle has been featured in the Country Gallery of the Parkville Fine Arts Association. Thirty pieces in gold, silver and semi-precious stones are in the exhibit. A gold brooch with sapphires by Pringle is in the Missouri Craftman's Council 1972 Exhibit, recently on display at the DeLuce Gallery at Northwest Missouri State University, Maryville.

Two etchings by Frank Stack, "Service Station" and "Water Tower," were published in the autumn issue of "Sunday Clothes," a magazine devoted to fine arts.

education

Ray Odor—A Symbol of U-High

(From the Columbia Missourian)

On the wall behind a large wooden desk in the coach's office at University High School are pictures of athletes and teams, arrayed in chronological order, reflecting changes in styles. The basketball players in the late 1950s wear their hair close-cropped; the 1971-1972 team wears its hair much longer. The uniforms also have changed.

One constant exists. In the back row of

each picture stands a tall, broad-shouldered, red-faced man. This man has become almost a symbol of University High School.

Although the years have thinned his hair and added a few pounds to his frame, Ray Odor is more than just a constant. He has become a tradition at U-High. During his 15 years at the school, he has coached basketball, tennis, track and cross-country. He has officiated at games, received trophies on behalf of his teams and maintained a personal proficiency in tennis.

For Ray Odor an era is about to end. His 16th year with the school will be his last. The grades seven through 12 will be phased out at the end of this academic year.

The story of Odor's tenure at U-High cannot be told merely in terms of the students he has worked with or the trophy case his teams have filled. The real story is in the pictures behind his desk. The pictures are symbolic not only of success in terms of wins and losses but also of success in terms of individuals blending their talents into a team.

His varsity teams have won 70 percent of their games. In 11 of his 15 seasons, he has produced winning teams.

Those faded photographs on the wall come alive when Odor reminisces.

One of those pleasant situations Odor likes to remember was coaching Tres Mitchell. A picture of Tres and the 1971-1972 team occupies a prominent position on his wall. "Tres was one of the better ones down through the years."

Another picture that stirs pleasant memories for Odor is a yellowed clipping of Dave Creach being congratulated for his selection to the all-state team for the second consecutive season.

Odor is quick to name Creach as one of the greatest players he has coached. Odor had two of his best seasons as a coach when U-High's Cubs were led by Creach in the 1969 and 1970 seasons.

In the spring U-High's last group of seniors will be graduated. They will become a part of the history of sports at U-High. But more than that they will be part of the history of a man, Ray Odor.

Orienteering? What's That?

Orienteering, sometimes called "running with a purpose," was defined by Ken Ackerman as "cross-country navigation with the aid of compass and map." Ackerman, an assistant professor of physical education at Southern Illinois University-Carbondale, was in Columbia for the University's first orienteering workshop held in October.

Coordinated by Marge Meredith, assistant professor of physical education, the workshop was attended by faculty members, their families and students.

Ackerman said that orienteering as a sport is about 60 years old, but in the U.S. it is only about two and a half years old. The sport is popular throughout Scandinavia and Canada and can be fiercely competitive or purely recreation.

Ackerman began the workshop with a basic course in map reading.

With slides, maps and handout sheets, he explained that a good orienteering map was one with at least five colors--black for the cultural or man-made features, white for the woods clearings, chartreuse for the bramble and thicket areas, blue for water and brown for contour lines which mark in feet the elevation of the hills.

Undaunted by rain, the workshop participants set out to follow a map marked with the positions of 16 pre-set markers and a clue sheet which listed the topographical feature they were looking for.

The winners were the ones who found all the markers in the proper sequence and reached the finish line in the least amount of time.

Miss Meredith teaches an eight week course in orienteering for one-half credit. During the fall semester she had nine students. She would like to see the program expanded to two courses.

Instructional Media People Help Teachers Use Aids

People who have studied how to use technology to facilitate learning are called instructional media technologists.

A new certificate of specialization, issued after 18 hours of preparation, is now being given in this much-needed field.

Librarians and non-certified personnel have been manning the learning resources centers in many schools. Specially trained people are needed, "because if you're going to have successful instructional resources centers, they are going to require that you handle print and non-print sources together," Dr. Arni Dunathan, associate professor, says.

He envisions the day when a cooperative program will be developed for a master's degree that combines a knowledge of print and non-print, sources (librarians and media people).

The demand for media technologists is increasing. And by 1975, triple-A schools must employ an instructional media technologist for every 50 teachers.

"These people will apply both hardware and software to teaching tasks to accelerate learning or improve its quality," Dunathan says.

They will deal with projection equipment, sound systems, apparatus of teaching, specimens, objects, and teaching aids of all kinds. They will be competent to work with teachers to develop new teaching strategies.

If a teacher wants her students to see

photographs of the earth, the technologists should be able to determine their availability, their cost and to suggest ways the maps could be used in the classroom.

The technologist will be a valuable filter between industry and the teacher, and will be able to help teachers decide what teaching aids to buy.

Technologists might be able to help a speech teacher, for example, make films of her drama students so they can see how they look on stage.

Workshops are being given on and off campus periodically in this new specialization, Dunathan says.

Columbia School Is IGE Model

In one room are two teachers, a student teacher and about 30 students aged 9, 10 and 11. One teacher is lying on the floor conducting a lesson in phonics with flash cards with six students seated on the floor about her.

One boy is alone in a corner writing a story about a magazine picture pasted in a book. He works diligently to include six relative pronouns in his work.

The atmosphere is informal. No one seems afraid to move or talk. No furtive glances are swapped and no one seems to be feigning work, avoiding it or daydreaming.

Individually Guided Education (IGE) has become the country's most popular individualized education program. IGE, implemented this fall at Ridgeway Elementary School in Columbia, has been adopted by an additional 500 schools for this academic year, bringing the grand total of U.S. schools using the program to 1,050.

Dr. Frederick John Gies, associate director and intermediate agency facilitator at the Center for Educational Improvement on Campus, announced the increase.

Don Gresso, formerly of the Institute for Development of Educational Activities, (I/D/E/A), which originated IGE, and now working at the Center, lists two primary reasons for IGE's popularity.

"First, IGE is a comprehensive design that provides a realistic alternative to the age-graded, self-contained classroom," Gresso explained. "Unlike the traditional form of organization that makes children adapt to the system, IGE adapts the system to meet the needs of each individual child.

"Secondly, IGE encourages the adaptation of some of the most talked about innovations of the past two decades: team teaching, differentiated staffing, inquiry-directed learning, multi-age grouping, peer instruction, open classrooms, continuous progress learning, programmed instruction and computer-assisted instruction, all under one program."

Ridgeway is currently the only IGE school in Missouri, but Gies noted that Center staff personnel are working with a number of other Missouri school

districts to help them move toward IGE implementation. Present national plans call for the adoption of the IGE program in 1,000 elementary schools annually.

Dr. Charles Leonard of CEI says the Center is planning to introduce IGE in other Missouri school districts next fall: "We're shooting to have about 10 IGE programs in operation next fall. We're going to put together some filmstrips on Ridgeway to make it a model. I think it is a good program because I've talked to kids who have been in an IGE situation in five different states and I've yet to have one say he didn't like it."

engineering

UMKC Enrollment Increases In Engineering Studies

Increased engineering enrollments in Kansas City at a time when colleges of engineering throughout the nation are reporting fewer students is encouraging to staff members at the University of Missouri-Columbia.

Enrollment in engineering studies, taught by UMC engineering faculty members in evening courses four nights a week on the Kansas City Campus, increased to 215 this year from 168 a year ago.

In general the increase is attributed to the personal touch maintained with industries in Kansas City, the dedication of faculty and staff in promoting a quality program and the need for the continuing education training of engineers in the area.

It also may be the first indication of increased demand for engineers, which authorities believe may peak by 1975 or 1976 and which again will turn college enrollments upwards.

There will be a yearly shortage of graduating engineers at least until 1980, causing greater demand and higher salaries for persons entering the field, a report by the Engineering Manpower Commission indicates.

"According to the Manpower Report of the President delivered to the Congress in March 1972, there will be an average demand for 48,000 engineering graduates each year to meet the nation's manpower

needs between now and 1980," a report from the Engineers Joint Council, New York, says.

Dr. Carmelo Calabrese, UMC professor of electrical engineering and coordinator of the engineering academic program in the Kansas City area, said that enrollment increases in general are noted when Kansas City industries are hiring and bringing new engineers into the area.

"Some industries use our program as a recruiting factor," he said.

Dr. Calabrese said that over 500 engineers are in various stages of their academic program. All are not currently enrolled, perhaps because they have job requirements that prohibit night studies during the current semester. Those who are enrolled represent approximately 55 different Kansas City industries in manufacturing, consulting, research and development, and government.

The studies in civil, electrical,

industrial, mechanical and chemical engineering are taught during the year by 30 members of the regular Campus engineering faculty. The majority of students enroll for one course per semester, but many take two and earn six hours credit. Since the program was started in 1964 over 100 master of science degrees have been earned by the students.

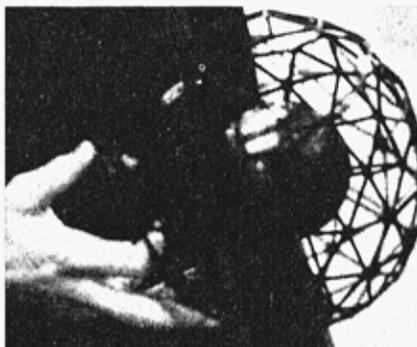
Credits are given through UMC in the cooperative program that involves UMKC, the College of Engineering and the Extension Division.

'We Must Lead Mankind,' Dean Kimel Tells Students

Engineers and scientists must lead a "public education campaign" if the problems of the technology-environment dilemma are to be solved, the College of Engineering dean says.

Speaking at the College of Engineering's annual honor societies banquet in December, Dean W.R. Kimel said that in the past technologists have paid no

Easy Over Does It in Engineers' Egg Toss



A geodesic dome made of alternating hexagons of balsa wood won Steve Drenker, a senior in mechanical engineering, the special design award. Only half the eggs survived.

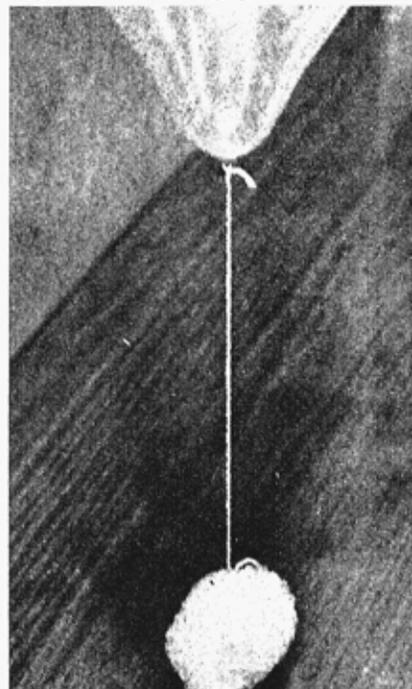
Egged on by prize money, engineers entered the annual Egg Toss sponsored by the American Society of Mechanical Engineers.

The objective was to package a single fresh egg in the lightest possible container so that it would survive being hurled 15 feet against a large wooden target. Prizes of \$15, \$10 and \$5 went to the top three winners. There was also a \$5 prize for the most original design.

The first and second place winners used balloons. The first-prize winner's parachute-like container weighed only 3.5 grams and cost 11 cents to make. The second place winner was Vincent Bardina Liu, a sophomore. He wrapped his egg in between three elongated balloons with two round ones anchoring the bottom. His container weighed 5.3 grams.

Only 10 of 20 entries survived the toss.

Seven entries used styrofoam containers. One survived to bring a third place win to its designer, Tom



That's an egg wrapped in plastic packing and suspended from a helium-filled balloon. The contraption won first prize for its inventor, graduate student Ron Moore, in the Egg Toss.

Krick, a senior in civil engineering. His container weighed 5.5 grams.

Among the unusual entries was a pyramid made from coat hangers with the egg suspended in the wire frame by rubber bands. Another container was football-shaped with the egg packed in alternating layers of hard and soft material. Both of these were too heavy.

"Wait until next year," say the designers.

A fire engine red arrow points around the corner brightening the white walls of a boy's room. Stacked clay flowerpots make a night stand next to a girl's bed. A redwood picnic table is used for family activities and eating in the kitchen. All of these low cost ideas for decorating are examples of the creativity of students in the Residential Interiors classes in the School of Home Economics.

But designing interiors involves a lot more than just clever decorating ideas. Student designers help create real homes for real people.

Clients, usually from the University faculty and staff, are interviewed by Dr. C. Bud Kaufmann, professor of housing and interior design. If the client's project seems broad enough in scope to deserve class credit and if the project will be educational, he assigns students to work on it.

Students interview clients to find out what they want. Kaufmann calls "psyching out" the client one of the most valuable skills prospective designers can learn. They look at the home or area, measure every inch and note construction details. Back in the classroom, they plan the design, "everything down to the last crystal ashtray," Kaufmann says.

The highpoints of the class are the days students make their formal presentations to the clients. They wear businesslike suits or dresses and call each other "Miss" and "Mr." But it isn't just their attire and demeanor that is professional. They have created plans for the client that include detailed drawings and a precise cost estimate ("including the rubber tree plant").

"This is my first professional course," one student designer says. "I was so tired of designing for imaginary Mr. and Mrs. Smiths, but now I'm dealing with real people."

The client takes the plans, studies them and often photographs them. He keeps only the cost estimate. The plans go into the students' portfolios to demonstrate to prospective employers their ability to think through and carry through an entire project and deal with clients.

The variety of projects helps students develop many kinds of skills. Those inexpensive decorating ideas came from a low cost housing project students worked on for the Extension Division. Extension specialists had drawn up plans with an architect for the low cost houses. Students designed the interiors to show prospective owners how the houses could be decorated on a minimal budget.



The sunporch of the Meekers' home will become a dining room. On the wall between the built-in cabinets, will hang an Indian temple carving.



HOMES FOR REAL PEOPLE



They also suggested some architectural changes to make the houses fit clients' needs. For a family with six children, the students suggested a compartmented bath; for handicapped people, they suggested wider doors and lowered towel racks and appliances that could be used from a wheel chair.

Last year, Altrusa, a women's service organization, in cooperation with the juvenile office and the juvenile court, asked the class to tackle the Monroe Home, a community juvenile center in Columbia.

"It was originally a paint-chipped stucco house that had been chopped up into what looked like hippie pads. The students made comprehensive plans to transform it into a children's home," Kaufmann says.

The detailed cost estimate provided a list for the Altrusa members, who donated specified furniture and kitchen equipment. There was no duplication in the donations. "It gave us direction and was a great service in organizing the home," Mrs. Orrine Gregory, Altrusa member, says.

As well as renovating old houses, students sometimes get to work on a house from the foundation up. As they work with the builders, the designers can make many de-

isions, such as fruitwood kitchen cabinets or yellow ceramic tiles for the bathroom. They may even be able to correct some "mistakes" in the floor plans and traffic flow or design a fireplace that wasn't in the original plans.

But always students are working for real people. When Dr. and Mrs. Cliff Meeker returned to Columbia after ten years in India, they found that their home, which had been rented, needed some remodeling and several major changes. The Meekers (he's professor emeritus of agricultural economics) had brought back many antique wood carvings, reproductions in stone from Indian temples and other artifacts. They wanted to display their treasures in their home.

"I wanted our home to feel like an American home," Mrs. Meeker says, "but I also wanted it to remind us of happy times in India."

"The students' presentations and finished products were so professional. We won't do all the house at once, but it is nice to have something to look forward to," Mrs. Meeker says.

To show her appreciation, Mrs. Meeker invited the class to a curry supper. □



A typically enthusiastic client, Mrs. Meeker entertains the class with an authentic Indian curry. One student's presentation took place before dinner. (Left to right) Janet Wiss, Claudia Peebles, Debbie Short, Dr. Kaufmann, Mrs. Meeker and Dr. Meeker watch as Linda Sams shows samples and plans. In the classroom, a student gets advice from the professor.

attention to the origins of public attitudes.

Kimel said environmental problems can be solved only with the cooperation of all members of society.

"Engineers and scientists must provide the stimulus with their special skills and social consciences," he noted. "We must lead mankind out of the pollution quicksand to clean and efficient energy for all."

forestry

How You Play the Game



Forestry students practiced the lost arts of woodsmanship, such as one-man bucking (above), but lost their former title as overall champs in the Annual Midwest Foresters Conclave in October. The team placed fourth out of nine teams this year. The conclave features such sports as log rolling and tobacco spitting.

Forestry Enrollment Leaps

Enrollment of 162 new students in the School of Forestry this fall pushed the total to a startling 398—an increase of 54 percent in two years. Graduate enrollment has also increased. Thirteen of the students now enrolled are female.

Probable causes of this unprecedented undergraduate increase are:

1. Past and current emphasis on "ecology" and environmental problems.
2. Development of a sincere interest by young people in the overall natural resource field and associated problems.
3. Tendency for young people to explore various fields of possible interest.
4. Costs of attending University of Missouri (Forestry) as compared to many institutions.
5. Reciprocal agreements with Kansas and Nebraska resulting in an increase from those states.

The obvious suggestion for a solution to the problem of swelling enrollment is limitation on numbers of students—there are many pros and cons which might be argued. Among the considerations of such action are (1) quality of instruction and the final product, (2) budgetary limitations for faculty and facilities, (3) demand for graduates and placement opportunities, (4) faculty workload and other responsibilities such as research, (5) forestry as a general education and its suitability as preparation for careers in related fields and (6) development of a workable and fair method of accepting a limited number of students.

home economics

Students Eat For Science In Human Nutrition Study

At first glance, Room 4 in Gwynn Hall looks almost homey, with a table, comfortable chairs, playing cards and magazines. A spacious kitchen is in the next room, not much different from most kitchens, except for the three refrigerators. And in the "dining room" is a neatly set table, with place mats and a centerpiece. Seven University students ate in this room for 55 days. But they didn't get Ma's old home cooking.

The seven men were subjects in a human nutrition experiment directed by Dr. Helen Anderson, associate professor of nutrition.

The experiment required the men to eat only what they were served in Gwynn Hall room. Every meal contained two

bland (but filling) wafers with optional jelly, two 12 ounce cans of a carbonated beverage, a pint of amino acids (at best tasting like a big glass of salty seawater), and two "butter balls" (sugar with butterfat). The men could have additional butter oil with two amino acids. All these goodies were served with a dill pickle "to cut the sweetness of the meal," Dr. Anderson explains. In addition, for breakfast, the men got apple sauce; for lunch, a peach and green beans; and for dinner, stewed tomatoes and a pear. Literally every crumb had to be eaten. If one dropped to the floor the subject was asked to pick it up and eat it. The insides of the glasses were rinsed after the amino acid was drunk so that all the residue would be consumed. Everyone was encouraged to shine his plate.

Subjects were paid (\$3.50 a day) as well as fed. Only one participant dropped out. He was replaced by another subject.

The experiment ended just before Thanksgiving. Its purpose was to study the role of histidine and arginine in human nutrition. They are two of 20 amino acids which combine to make up the protein we eat. Of those twenty, only eight are considered essential in maintaining adults in a well-nourished state. Histidine has already been proved essential for infants. Dr. Anderson suspects that histidine is a ninth essential amino acid, necessary for all humans. She is varying it in the subjects' diet to see how it affects certain metabolic functions, such as the body's utilization of nitrogen. Subjects gave blood samples once a week and collected their urine and fecal excretions during the 55 days.

The study is being done with grants from several sources. The largest is a \$100,000 grant from the National Institutes of Health.

Whatever the significance of the study (the data are being evaluated now), or the impact of its finding to nutrition experts, completion of the experiment meant the reward of long awaited food and drink for the subjects. One of the subjects, Mike Young, had dreams of hamburgers and fried chicken. Ron Sable, a first year medical student, dreamed of green beans and fried potatoes—in color. And another man dreamed of being chased by a huge can of beer.

Falsetti Wins Honors

Joseph Falsetti, University professor of home economics, received honors for art work at two Missouri exhibitions.

He received first prize in media for a wood relief, titled "City," at the Annual Juried Exhibition of Missouri Craftsmen Council held at Northwestern Missouri State University, Maryville.

The Springfield Art Museum has selected his painting, "Pittura Bianca", for inclusion at their 42nd Annual Exhibition. It was one of 117 selected from about 2,000 entries.

Journalism

SDX Ups FoI Contribution

Sigma Delta Chi, the nation's leading journalism honorary society, has increased its financial support from \$200 to \$500 a year for the Freedom of Information Center.

Daniel Epstein, a master's degree candidate at the School of Journalism, attended the SDX convention in November. At the convention, Epstein drafted a resolution to increase the contribution.

The resolution was both a matter of good luck and Epstein's pluck. SDX was considering an increase, but nothing was done until Epstein acted.

The final resolution called the FoI Center "a major clearinghouse for material on freedom of information" which has done "valuable research for the press and public on matters of freedom of information."

Also in the resolution, SDX cited "recent court decisions and executive actions (which) have limited the flow of information to the public" as a reason for the increased support.

High School Text Acclaimed

A textbook-workbook by Dean Emeritus Earl F. English of the School of Journalism, which is used by thousands of high school students throughout the United States, is in its fifth printing.

The text, "Scholastic Journalism," was written in 1937 as English's masters thesis from the University of Iowa.

"Your thesis should either sell you or you should sell it," said English. The previous four editions have sold 260,000 copies and 50,000 copies have been printed for the fifth edition.

In a study of incoming freshman of the University, conducted by Franklin Karmatz, former instructor here and now at San Jose State College, it was found that "more freshman hear about the University's School of Journalism from this book than from any other source."

It has been acclaimed by the "Journalism Quarterly," "The School

Press Review" and thousands of high school teachers throughout the nation.

Edom Made Them Good and Mad

(From the Columbia Missourian)

Cliff Edom has made some of his photojournalism students so mad and frustrated they stormed out of his office. Then they started taking better pictures than they ever had before.

"He's much harder to work for than any editor," said Bill Eppridge, Life magazine staff photographer and a former student of Edom's. "There was always something wrong with your pictures. That was one of the things that kept you trying harder and harder. Cliff knows how to get people to work for him."

"He has produced more photojournalists for the working press than any other man," Roy Fisher, dean of the School of Journalism, said. "His graduates have become leading photojournalists on both magazines and newspapers, from National Geographic and Life to the New York Times, the Chicago Daily News and others."

In November, the Board of Curators named Cliff Edom professor emeritus, recognizing his 30 years at the University, his work with his students and his pioneering efforts in photojournalism. Even today, the University School of Journalism has the only accredited photojournalism sequence in the country.

So now Edom is semi-retired, but he is in his office and around the school every day. Edom still drops in on classes, talks to individual photographers about their work and advises a few graduate students.

He still directs three contests in photojournalism. This fall, he again directed the annual Missouri Photojournalism workshop. In 1955, Edom was honored by the National Press Photographers Association with its highest award, the Joseph A. Sprague Award. He is a lifetime member of the Association. He is a corresponding member of the exclusive German Society for Photography.

Edom's brand of photography is a content-oriented, human, concerned photography that he first saw in the photographs of the depression. The involvement of the photographers of the Farm Security Administration under Roy Stryker impressed him and he decided to teach that kind of photography to his Missouri students.

His students are not after artistic effects, pretty patterns of leaves, jagged rock formation or pretty girls sitting on fence posts. Edom wanted pictures of significance, pictures of people relating to and living with one another.

Photojournalism, a word Edom invented, is the kind of photography you see every day in good newspapers and magazines. For years, Edom said, a newspaper photographer was considered

just "a reporter with his brains knocked out."

"Cliff Edom put photography on a university level and took it off the trade school level," said Bill Garrett, associate editor of National Geographic magazine and a former student of Edom. "He has probably influenced photojournalism as much as any editor in New York, or anywhere else, and he is respected by the people in the profession. He made things happen because he brought people and things together. He was the catalyst."

Edom also began and still directs the annual "Pictures of the Year" competition under the sponsorship of NPPA and Ehrenreich Photo-Optical Co. Like the workshop, the contest exposes his students to some of the greatest pictures and finest photojournalists in the country. Edom also directs the NPPA's College Competition and the "Military Photographer of the Year" contest.

Kappa Alpha Mu, a national honor society of photojournalists, began in 1946 at the University. Edom founded the first chapter and has been KAM's national adviser ever since.

One of the more respected books on picture editing was written by Edom and Stanley Kalish. Although "Picture Editing" was published in 1951, it still appears on editors' desks. In 1963, Edom published a life-long collection of pictures and notes about Missouri during the Civil War, "Missouri Sketch Book."

K-State Honors Dean Fisher

Dean Roy M. Fisher received a Distinguished Service Award on Editor's Day at Kansas State University in November in Manhattan.

Fisher, a 1940 graduate of KSU, delivered the annual Lashbrook Lecture, named for Ralph Lashbrook, retired head of the university's department of journalism and mass communication. Fisher was Lashbrook's student assistant before his graduation.

KSU President James McCain and Dean William Stamey, college of arts and science, presented the award.

FoI Center Receives Citation

The Journalism Education Association (JEA) recently presented the Freedom of Information Center with a scroll and citation for "genuine and significant contributions to journalism scholarship and the cause of press freedoms throughout the world."

The JEA, a national professional organization for secondary journalism teachers, broke with their tradition of giving "media citations" this year to give this special citation to the FoI center in conjunction with the convention theme of "Communications: Freedom and Responsibility in the 1970s."

Former winners of the JEA "media citations" are the Wall Street Journal, the Chicago Tribune and the New York Times.



The Greene County Singing Doctors from Springfield (Missouri) sang old favorites from their four albums and introduced their newest recording, "Keep You in Stitches." The "medical minstrels" received a plaque in recognition of their scholarship and loan funds which have helped more than 150 medical students since 1958. Three of the Singing Doctors are alumni: Don Gose, '43; Hal Lurie, '44; and Jim Cook, '63, who was one of the first recipients of a Singing Doctors grant. The others in the group are Fred Collier, a pathologist; F. T. H'Doubler Jr., Charles Lockhart and James Brown, surgeons. Brown, who wrote jokes and songs for Nashville country music shows while in college, leads the singers.

M.D. Day Features Speakers, Singers, and Students, Old and New



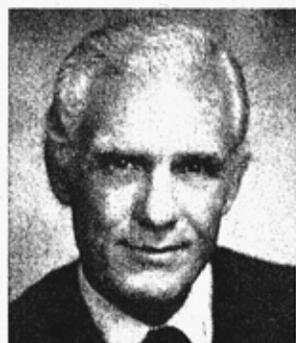
Brody



Gay



Robbins



Lewis



Heyssel



Wilson



Class of 1962 alumni Dr. Mark Thoman and Dr. Lawrence Stuerman say, "It's a great reunion. We're just remembering the good old days."



Medical Student Lynn W. Leigh and his wife attended the banquet.

The 1972 M.D. Day program, coinciding with the School's 100th birthday, featured six prominent alumni.

Dr. Frederick C. Robbins, '38, Nobel Prize winner in medicine and physiology and now dean of the School of Medicine at Case Western Reserve University, Cleveland, gave a history of medical education in the U.S.

Dr. James E. Lewis Jr., '40, director of the Birth Defect Center and chief of surgery at Cardinal Glennon Hospital for Children, St. Louis, spoke on conjoined twins.

Dr. Eugene B. Brody, '43, chairman of psychiatry and director of the Institute of Psychiatry and Human Behavior at the University of Maryland, talked about the trial of Arthur Bremer who shot Gov. George Wallace. Brody testified at the trial.

Dr. Robert M. Heyssel, '51 executive vice president, Johns Hopkins School of Medicine, called for a reorganization of medical education.

Dr. William J. Wilson, chairman of radiology at the University of Nebraska, spoke on "The Radiographic Evaluation of Disease."

Dr. George Gay, '61, director of the San Francisco Haight-Ashbury Free Medical Clinic, showed a film produced at the clinic on treating acute drug overdoses.



Reunions were held by the classes of 1922, 1927, 1942, 1947, 1952, 1957, 1962, and 1967. Dr. and Mrs. Jesse W. White, Pueblo, Colorado, represented the class of '22.

law

Female Enrollment Doubles

Why do women choose law?

Quips one woman student, "Now there's discrimination. Do you ask men why they are going into law? I am not going into law because it is a man's field, but because, as an individual, I want to."

This year, 16 women are enrolled in the first-year class of 150 at the School of Law, according to Dean Willard L. Eckhardt. Last year only eight women were enrolled in the beginning class.

Another woman student says, "I know there is discrimination in attitudes, but not in substance, and that is all I care about right now."

"I find I am fascinated by every aspect of law and I hope more women come into the field," another student says.

One woman is taking law to complement her undergraduate degree. "I have a knowledge of textiles. With a knowledge of law, I would like to go into patents."

Another expresses an interest in women's rights. She says women in subservient positions and welfare mothers do not have adequate recourse to good legal counsel. She hopes to help.

Students Aid Inmates

Prisoners face a variety of legal problems, criminal and civil. Third-year law students are participating in a pilot program to determine the needs of Missouri prisoners and to provide legal assistance in what appear to be meritorious cases.

The program has been in operation for one full year. It was set up last January by the Missouri Department of Corrections. The School is providing manpower and instruction for the students.

Students are expected to interview inmates, investigate claims of prisoners, prepare memoranda, briefs, motions and pleadings.

"The students' help provides an excellent boost in morale," William A. Knox, academic advisor for the program, says. "The prisoners hadn't felt they had any place to go for legal aid before

this program began."

Students have been involved in post-conviction relief, as prisoners have raised questions concerning the validity of their convictions or sentences.

Students also are involved in civil matters, such as divorce, repossessions of property, and child support, for example.

"The students really enjoy the clinical experience. It gives them a chance to find out what prison and the inmates are really like," Knox says.

Students may provide the aid under Missouri Supreme Court Rule 13 which says that third-year students, certified by their school may practice under certain restrictions and supervision.

library and information science

One Library—Four Campuses

A microfilm card catalog system has created one University library serving all four campuses.

Ever since the reorganization of the University to include four campuses in 1963, attempts have been made to extend the library resources of each campus to the other campuses. Through the Office of Intercampus Loan, students and faculty have been able to request their home campus library to borrow materials from the other libraries for their personal use. The daily courier service trucks, which carry all types of communications and equipment between campuses each weekday night, have made it possible to send and receive books within 24 hours. In 1970, in order to speed up communications between the campuses, teletype machines were purchased and installed in all four main libraries.

"In spite of these efforts, however," Dr. Edward Carroll, former director of libraries on the Columbia campus, said, "there has been a need for one catalog of the holdings of all four libraries."

In 1971, Dr. Carroll presented a proposal to microfilm the main card catalogs for the four campus libraries. The proposal was accepted, nearly four million cards were filmed, and the system is now in operation.

Exhibit Honors India



Mrs. Sarla Nagar, associate curator of the University's collection of South Asian Art, arranges a display in a library showcase to honor 25 years of Indian independence.

Mrs. Sarla Nagar, associate curator of South Asian Art, collected and arranged a library display recently on Indian independence.

Among the items collected by Mrs. Nagar was Pandit Nehru's coat. He was India's first prime minister. The coat, made from pashmina cloth which is a handloomed cashmere fabric, was being used by Miss Fredda Brilliant, Carbondale, Ill. Miss Brilliant, a sculptress, was using the coat as she made sculptures of Nehru.

Also in the showcase, were displays on Indira Gandhi, and on India's agriculture, industry and handicrafts. The independence display included an Indian flag, a model of the Tajmahal, two silver rupee coins which were the first silver coins minted after India declared independence, and the national emblem.

Snap Crackle, Pop Heard In Overcrowded Library

Whispering, coughing, pages turning, and gum popping are common sounds in the Elmer Ellis Library. Library officials admit they can do little to solve the space problem which the disturbing noises reveal.

"There is no more space. What can you do?" asks Dr. Harry Butler, library director of public services. "Some people come to the library to study and some come just to talk. I think more people make use of the library at night, which seems to be the noisy period."

"With the long hours that the library has, it's more difficult to keep librarians here to help people. We just can't keep the reading areas staffed more than four nights a week. The information desk is staffed by graduate students because there isn't enough money."

The library has a full-time staff of 150. Most work in circulation, security and at the reserve desk.

Each year the library adds 60,000 to 80,000 volumes to its collection. The library has to find space for these books

and seating space could be taken over by shelves. "Reading space may become more cramped as we put in more shelves," Butler says. "Seating space is the last place we want to take over."

"We maintain a relative quiet, but keeping the library silent is partially a staffing problem. We probably need a staff twice our size.

"We're pretty crowded right now, you can get only so many people in a room despite the number of chairs. I'm sure there are more seats in the undergraduate library than should be. There have been some plans for a separate undergraduate library, but nothing has been approved.

"A study done on available library space showed the library would be filled by 1971. The seating space for the library is 2,600, about half the recommended amount for a university of our size. It has been ten years since we've had any kind of major addition. There is nowhere to go without new buildings," Butler says.

medicine

Women Added to Heart Study

Some 150 women members of the University faculty will find out whether they are likely to develop coronary heart disease and how to prevent it.

A similar program for men faculty members has been under way since 1969. The study is the work of Dr. Margaret Flynn, Dr. Sherwood Baker and Dr. William Yamanaka. Also associated with the study are Dr. John Roberts and Dr. Ben Londeree, both of the University physical education department.

At the beginning of the study the doctors sent out approximately 1,600 letters to male faculty members informing them of the project. In return they received about 850 replies, many more than expected. Still enrolled in the study are the 200 men considered positive "risks."

Factors contributing to the high risk category include obesity, hypertension and smoking.

Faculty members were chosen for the

study primarily because of their occupations. A fact under consideration in the program is whether occupational stress has an effect upon coronary disease.

Originally women were not included in the study because female hormones are believed to protect them against coronary trouble until menopause. However, the current program for faculty women has received enthusiastic response.

What happens to those "risks" who are under observation? At the Low Level Radiology Lab the subjects put on hospital gowns, and their height and weight are measured. A 10cc blood sample then is taken by Dr. Yamanaka. Subjects fast overnight. Then Dr. Flynn puts them into the "body counter." (See related article in Agriculture section.) The body counter causes no discomfort to the patient. It is, in fact, a huge geiger counter that measures a person's natural radioactivity in the form of potassium or their "lean mass," Dr. Flynn explains.

Dr. Baker then takes an EKG or electrocardiogram, gets a medical history, listens for heart sounds, and tests for risk factors.

Once diagnosed, the risk patients continue therapeutic work until they are no longer considered in the risk category.

Therapy consists of special diet specifications given by Drs. Flynn and Yamanaka. Drs. Londeree and Roberts, who also teach and do research, do rehabilitation work with the patients at Rothwell Gymnasium. The combined efforts of physical and nutritional therapy work to remove or lessen the disposition towards coronary heart disease from the patient.

Researchers Find Antiserum To Fight Brown Recluse Bites

Once confined to a few southern states, the brown recluse spider has now spread as far as New Jersey and Hawaii, "Medical World News" reports.

The shy spider with a dark brown violin-shaped mark on its thorax carries a venom so potent that the half-microliter bite produces a slowly-growing lesion that can require a six-inch skin graft to repair.

Just why the toxin is so potent has been a mystery until researchers at the University of Missouri-Columbia School of Medicine recently identified in it three enzymes found in snake venom.

Dr. James T. Barrett, professor of microbiology and a member of the research team, made a progress report at the first Central States Immunology Conference in October at the University of Louisville.

"It is possible that the enzyme slowly breaks down the intercellular 'glue' around the bite, paving the way for the venom's other components," team biochemist Dr. Benedict Campbell says.

But the enzyme and the necrosis (sloughing off of skin) can be stopped by an antiserum—at least in guinea pigs, the researchers report.

"The bite of the recluse causes fever and possibly other systemic effects. It might take us another year to tell whether the antiserum counteracts them," the researchers say.

The research is supported by a three-year grant from the Public Health Service of HEW.

The brown recluse spider is a more severe medical problem than the black widow spider, but physicians at the Medical Center report they saw fewer affected patients last year than they did a few years back.

Increased public information concerning precautions people should take in cleaning out closets and other storage areas has probably accounted for more awareness of the spider's hiding places. And the physicians said that more family physicians now recognize the spider bite; early treatment (within 12 hours) can help prevent serious problems.

nursing

Nurse-sociologist Speaks Here

Current health care legislation is not adequate, Dr. Nancy Milio, nurse-sociologist from Boston, says. She was speaking on Campus in October. She also conducted a seminar for faculty and graduate students in medical sociology and an all-day seminar for School of Nursing graduate students, faculty and undergraduate student representatives.

She said that the health insurance system is not enough, adding that current legislation does not provide much needed everyday health services. She said that the advantage of a small community or neighborhood health center is that it is closer to the people.

Dr. Milio was sponsored by the School of Nursing and the department of sociology. Her meeting on Campus coincided with the state meeting of the Missouri Student Nurses Association and was incorporated with its program.

She is a professor at the School of Nursing at Boston University where she conducts a seminar on issues in international and U. S. health care.

She was project director of the Mom and Tots Neighborhood Center, housed in a store-front building in Detroit's lower east side ghetto, from 1963-1968. It is located in the same neighborhood where she lived as a child and is the subject of her book "9226 Kercheval: The Storefront that Did Not Burn."

social and community services

Howard County Center Opens

After more than two years of work by a group of residents of Howard County, a visible home for mental health services in the county has become a reality.

Dean Arthur Nebel of the School of Social and Community Services, was among the speakers at the dedication ceremonies.

Missouri students from the school of social work were involved in setting up the Howard County program. Joanne Mermelstein, assistant professor, was field instructor of the trainees in the program.

Graduate students, working with professor Mermelstein, met, interviewed and encouraged citizens to form the steering committee for the Howard County Association for Mental Health. In it are representatives of four towns, and many groups and interested individuals.

Mrs. Mermelstein heads the current staff in the new center of eight social workers in training.

River Recreation Study Begins

A study of recreational aspects of the Missouri River is being undertaken by the department of recreation and park administration as an aid in the planning of engineering projects.

The department has entered into a contract with the US Army Corps of Engineers to make the study, covering the Missouri River from Rulo, Nebr., to its mouth near St. Louis.

The study is part of a large research effort entitled, Missouri River

Environmental Inventory, in collaboration with the University of Missouri-Kansas City; University of Missouri-Rolla; Northwest Missouri State University, Maryville; and Kansas State University, Manhattan.

Dr. Glenn Gillespie, chairman, will have primary responsibilities for the recreation part of the study, assisted by William Lind, research associate. Dr. Paul Munger of UMR is project leader for the total research effort.

The study will consist of an inventory of recreation facilities available on the Missouri River, boat access points and a survey of recreation participants.

Research results will provide basic environmental information for use in the design of projects related to the river.

veterinary medicine

Deer, Bears, Camel, Rhino Are Patients at Vet Clinic

Some patients at the School of Veterinary Medicine's Large Animal Clinic weigh as much as 2,600 pounds.

Dr. Louis Tritschler, veterinarian and staff surgeon, says most surgery is performed on horses and cattle, although any type of large animal can be operated on. Deer, bears and a camel have been on the operating table.

Actually, there isn't an operating table; it is an operating floor. The surgeons and assistants are all scrubbed, capped, masked and gowned. Electrocardiographs, blood pulse-rate monitors, electronic pressure tourniquets, mobile X-ray units, respirators, and the usual tables full of surgical instruments are brought into the room for possible use. The operations range from simple surface skin cancer to complex internal surgery.

In a recent operation, doctors removed a bone chip from the ankle of a thoroughbred race horse. The horse will return to the race tracks by spring.

Perhaps the largest animal ever treated was a 2,600-pound rhinoceros. He was being sent from the Philadelphia Zoo to the Sedgwick County Zoo at Wichita, Kansas. He became ill near Columbia. Dr. George Doering,

associate professor of veterinary medicine and surgery, treated the animal.

"There was some fear, getting in the crate with him," Doering said, "but we were pretty sure he couldn't get up. X-rays don't work, and you can't listen to the chest, because their hide is so thick. We just did what we could."

The truck went on with its cargo. Just outside Wichita, the rhino died. An autopsy showed he died of tuberculosis and aspergillosis, a fungal lung disease.

A graduate student, Miss Susan Black, was also involved in the rhino incident. The animal's name was "Kifaru." No one knew what it meant. Miss Black told the Columbia Daily Tribune that "kifaru" means rhinoceros in Swahili. She learned the language in the Peace Corps.

Veterinarians Attend Meeting

Rotating seminars covering many different subjects gave veterinarians a chance to select those topics which were of interest to them at the 48th Annual Conference for Veterinarians in October.

More than 200 veterinarians from Missouri and other states attended the conference sponsored by the Extension Division in cooperation with Veterinary Medical Alumni Association.

The conference was designed to provide veterinarians with up-to-date information relating to various aspects and fields of veterinary medical practice. The topics ranged from a discussion of food chain quality and residues by Dr. J. E. Spaulding of the U. S. Department of Agriculture in Washington, D. C. to techniques in small animal practice by Dr. W. G. Crago of Youngstown, Ohio.

A color slide narrative program on ecology was a special feature at the banquet presented by Ronald Taven of the College of Agriculture.

Mr. Norman Stewart, UMC basketball coach, was the speaker at the Missouri Veterinary Medical Alumni Association luncheon.

Meetings of the Missouri Academy of Veterinary Medicine and the Missouri Veterinary Medical Association were also held.

Radiology Services Offered

More than 30 per cent of the hospitalized patients at the Hospital-Clinic last year required diagnostic radiology as part of their treatment.

Along with radiographs or X-rays for injuries such as fractures, the radiology section also provides radiation therapy and nuclear medicine as services to patients. While diagnostic radiology is frequently part of the treatment at the Hospital-Clinic, fewer animals each year receive radiotherapy. Dr. Allen Corley, professor and chairman of veterinary medicine and surgery and chief of radiology, says that radiation therapy is used in the treatment of cancer and some chronic conditions

This Little Piggy's Going to Market



Could anything ever be as popular as the All-American hamburger? Pork producers hope so. Pork producers' organizations at the state and national levels are supporting research at the School of Agriculture into the marketing possibilities for ground pork.

They're fighting tradition. Studies in retail grocery stores have discovered that about half the beef sold is ground beef. It's so versatile. Whole cookbooks give the housewife hundreds of recipes for hamburger. And it's cheap. The cook can stretch it with rice or macaroni or bread. And it's available and quick. Americans are eating out more than ever. Quick food drive-ins featuring hamburgers and other ground beef foods such as tacos are getting a lot of the business.

Pork producers want to develop a market for ground pork. They want people to be aware that ground pork, like hamburger, is versatile, cheap, available and quick. Americans are eating 44.6 percent more beef than they were in 1951, but they're eating only 4.5 percent more pork.

The research being done on Campus may help the pork producers get a bigger slice of the ground meat pie.

But they've got to change Americans' feelings about pork. Other research has shown that when the American consumer thinks of ground pork, he thinks of sausage. He considers sausage a breakfast meat. On the other hand, the favorite quick lunch, snack, or light supper is likely to be a hamburger or other ground beef food.

Sausage is ground pork with seasonings. Ground pork without seasonings is the product that could compete with hamburger.

"Ground pork is really good," Dr. W. C. Stringer, associate professor of food science and nutrition, says. He's the man in charge of the ground pork research, so he's had lots of opportunity to sample and experiment with the product. "I've even made meatloaf and chili at home. Ground pork, like hamburger, tends to take on the flavor of the seasonings and sauces you use. Chili made with ground pork tastes as good as hamburger chili," he says.

"We're going to work on marketing ground pork. It's kind of like the chicken and the egg: if the consumer demanded it, ground pork would be on the meat counter; but as long as there isn't a demand, the packers won't produce it."

Impetus for developing and marketing ground pork products that are not cured may come from still another area. The Food and Drug Administration is presently investigating the use of nitrites in curing pork products. Dr. V. James Rhodes, professor of agricultural economics, has predicted that banning nitrites in cured pork and sausage could result in an \$800 million loss to pork producers. The FDA says that about 80 percent of the pork meat in the U.S. is cured. This cured meat is about 25 percent of the nation's meat supply.

Nitrite, which has been used in the curing process since 1900, is under fire by consumer advocates because, as Dr. M. E. Bailey, Cam-

pus food biochemist, points out nitrites reacting with secondary amine (amino acid) produce nitrosamine, a toxic substance. Presently, however, the FDA and the USDA consider the use of nitrite essential in preserving various meat items such as ham, bacon, and processed meats. Nitrite probably will be used until an adequate substitute can be found.

"I don't think the FDA will ban nitrites," Stringer says. "But perhaps this kind of thing makes our work on the porkburger more significant."

A graduate student, Burley Smith, Jr., did a master's thesis on the porkburger last year. He discovered some of the problems and the potential for this new product.

Weight-conscious Americans think of pork as a "fat" food. That's a misconception, Stringer and Smith say.

A typical beef roast has 243.68 calories per 100 grams; a typical pork roast only 251.60 calories.

Sausage is 40 to 50 percent fat. But ground pork is much leaner. The new porkburger is only 25 percent fat.

Smith used a panel of students to taste test the porkburger. They gave the highest ratings to the patties with 25 percent fat and no seasonings added. In fact, they said that a porkburger on a bun with catsup was juicier than hamburger, had better flavor than hamburger, and had less cooking loss than hamburger.

About 60,000 people were served porkburger samples at the Missouri State Fair in Sedalia this year. They liked porkburgers too.

Right now, though, if you want a change from hamburger, you'll have to ask the butcher to grind a pork shoulder or Boston butt or grind your own. □

which are non-malignant.

Dr. Louis A. Corwin, assistant professor of veterinary medicine and surgery and a specialist in radiology, says that nuclear medicine is the application of radioisotopes for diagnostic purposes. Radioisotopes are given to a patient and an isotope scanner traces over the animal and prints the isotope's location. The isotope, tagged to a suitable chemical agent, will only settle in a functioning part of an organ, so an abnormality such as a tumor will be outlined.

Professional students, residents and the Hospital-Clinic and practicing veterinarians benefit from the teaching component of the radiology section through research, radiology courses and continuing education or extension programs. Current radiology research at the School is in progress in organ scanning and endocrine-function studies. The School offers courses in nuclear medicine, radiation biology, advanced techniques and problems in radiology to division and University-wide students. Assisting in these activities is Dr. Norman Ackerman, resident in radiology.

Jensen Wins National Office

Dr. Harlan E. Jensen, associate professor of veterinary medicine and surgery and associate professor of ophthalmology, was recently elected president of the American College of Veterinary Ophthalmology at a meeting of the group in Dallas.

Jensen received his DVM from Iowa State University and a PhD from the University in 1971. He was in private practice for more than 20 years before coming to UMC in 1967.

extension

CHIP to Inform People About Health Care Services

How many Missouri citizens are aware of available health care services?

Are there Missourians and organizations, such as city and county governments, who know what health services they need but don't know how to get them?

Are there ways to prevent minor illnesses from becoming serious?

These are some of the questions three University health information specialists are asking in a new educational program called CHIP (Consumer Health Information Program) funded earlier this year by a \$196,000 grant from the U. S. Department of Health, Education and Welfare.

The University was one of four institutions selected to develop the program from among 40 applicants across the nation. In Missouri, a pilot program has been set up in three of the 20 University extension areas--KC Metro, Show-Me and Meramec.

The University has trained and assigned the specialists to program units in Kansas City (Model Cities Program), Warrensburg and Salem.

"We chose these three locations because one is urban, one is semi-rural," explained Dr. Arthur Rikki, program director who also is coordinator of the Missouri Regional Medical Program and professor of community health and medical practice.

"We hope to demonstrate that the University Extension Division, with its proven capability to develop and transmit innovative information to the people, can be used to transmit reliable and accurate health information," Dr. Rikki said.

"Ultimately," he said, "CHIP may result in the development of a continuous statewide program that provides consumer health information aides for urban neighborhoods and rural communities."

Extension Expands Youth Work

The Extension Division has received \$221,684 in additional funds from the U. S. Department of Agriculture to expand its youth leadership programs in both urban and rural areas of the state.

The funds--\$147,789 for urban programs and \$73,895 for rural--are Missouri's share of a \$7.5 million increase in Smith-Level funds appropriated by Congress for fiscal year 1973.

Dr. Paul Burgess, director of family and youth programs for the University's statewide Extension Division, said the urban funds are being allocated in Kansas City, St. Louis, Springfield, St. Joseph, Columbia and Jefferson City.

He noted that the Senate Appropriations Committee, in approving the additional funds, stated: "The 4-H program, originally a rural oriented one, is now expanding into the urban areas and is reaching many young people who have not had access to the program in the past. The committee commends and encourages this expansion, and recognizes that 4-H has much to offer to the youth of our urban areas as well as the rural areas which it has traditionally served."

Program expansion in rural areas will be aimed at six areas--Boonslick, South

Central Ozarks, Ozark Foothills, Green Hills, Meramec, and Mark Twain.

Burgess said the rural funds are aimed at experimental programs to bring rural youth into rural development planning.

Mitchell Appointed Dean

The appointment of Dr. Roger L. Mitchell as dean of Extension was announced in November. Mitchell, formerly chairman of the department of agronomy, assumed his new post on Nov. 20.

Mitchell replaces Dr. John McGowan, who recently was named provost for administration on the Columbia Campus.

In requesting the appointment Chancellor Schooling said that Dr. Mitchell "has demonstrated unusual leadership qualities."

"He has the respect of faculty members as both a scholar and an administrator, and is committed to the extension program," Dr. Schooling added.

Dr. Mitchell has been a member of the faculty since 1969.

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