# MISSOURI ALUMNUS

MARCH 1968

# IS IT BAD TO BE BIG?

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Cover: Larry Rugolo's design of type and color sets the stage for this month's special issue, which examines the size and complexity of the Columbia campus as they apply to the University's teaching and research effectiveness. Opposite: Dorothy Lamour visited Columbia last month to play the title role of the musical hit, "Hello Dolly!" One of the biggest Broadway shows of all time and now touring with a top-rated cast, "Hello Dolly!" is the kind of entertainment which a large university can attract.

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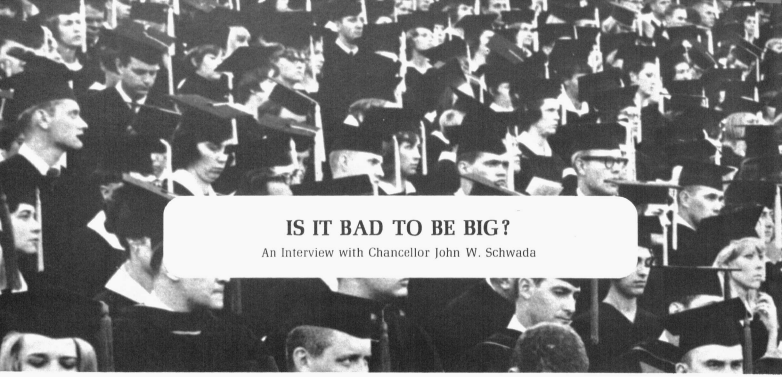


# IS IT BAD TO BE BIG?

An Interview with Chancellor John W. Schwada

*BY ANY STANDARD, the Columbia campus is big: in numbers of students, academic offerings, research projects, in facilities. In being so big, Dr. Schwada, can we also be effective?*

I certainly think so. Yes, we are big — twenty thousand students would place us among the 15 or 20 largest campuses in the country. But this does not carry with it the implication that we cannot be effective. In fact, it seems to me that the size and varied character of this campus are among its great assets.

*In what way?*

We have in Columbia about every kind of teaching and research program, with a few exceptions, which one might find anywhere in any university. So as a result, we have opportunities for interdisciplinary efforts in both teaching and research. All the disciplines are present and in close contact with one another.

For example, let's take the area of nutrition. It calls for knowledge in the fields of botany, agriculture, zoology, medicine, veterinary medicine, and other areas as well. If we did not have a School of Medicine here, a College of Agriculture, a School of Veterinary Medicine, and all the basic arts and science disciplines, we simply couldn't carry forward a strong program in nutrition. Here's another case: South Asian studies is a special area of concentration calling for languages, political science, history, geography, sociology, economics, art, literature, and philosophy. You see, on a complex campus we can carry forward that kind of study effectively.

*Has this helped us to recruit and retain top faculty?*

Certainly. I was talking with one of our outstanding scholars a few days ago. He told me, quite frankly, he wouldn't have come to our campus except for its diversity. Here, he could meet colleagues in all kinds of disciplines to talk about his interests and enlist their support in his research and teaching programs. He is fascinated with this broad opportunity to associate with scholars in many different fields.

*Don't the students also benefit from these varied contacts?*

There isn't any question about it. The finest educational opportunities available to students today are in the big public university campuses. Take cultural opportunities, for example. Not many small colleges or universities can attract the kinds of cultural programs that we find here regularly, even daily, on this campus. The student can come here and change his major from one field to another; he doesn't have to transfer to another college or university. He may choose pretty freely in this broad range of opportunities we have at Columbia. And the broadening experiences of encountering students of all types from all parts of the nation, from all parts of the world, cannot be overestimated. This, to me, is a vital aspect

of a student's educational process. I was interested in talking to a mother and father at Parent's Day last fall. The mother clearly had some concern about this big university, about her daughter being lost in it. It was just as clear — and the young lady was with them — that the student wasn't lost. She was enjoying it. The father made a comment which, I think, expressed my feelings very well. He said, "After all, you know, this is a very big world, and it seems to me that our daughter might begin to get acquainted with it during this period of her college career." In other words, here's the maturing process. And if she is going out into a very large world, why not come to a large university and begin to get adapted to working with all kinds of people in this kind of a setting? There are tremendously exciting personal opportunities in a large university which simply cannot exist in the typical smaller institution.

*But isn't it possible for some students to "get lost"?*

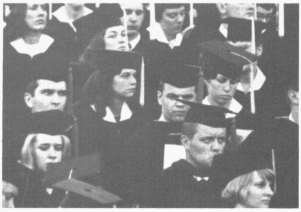
Yes, of course, it is. But it's possible for them to be quite as lost in a small school. I talk to students when I can — and when they will — and I had the chance to talk to several students not long ago about this very thing. They felt that they had more opportunity for personal contacts here than they would have in a smaller school. Now, pretty obviously, this varies from experience to experience, from school to school. But, certainly, there is no reason to believe that the student has a greater chance of being lost here than he would somewhere else.

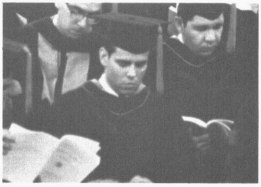
*How do students go about getting personal attention?*

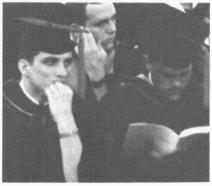
Well, I think it's pretty much a question of whether a student wants to establish personal contacts with his fellow students, with his faculty, and with the administrators. There are several hundred student organizations here, all of which are eagerly hoping that students will join. If a student has a particular interest, he can find an organization here which will have a group of students with like interests. He lives with other students in a house, in a dorm, or in some kind of a grouping. He sits in classes with students, and if he has selected a particular program, then he'll run into these students many times and form personal relationships.

*What about contacts with the faculty?*

I suppose one of the questions which is most frequently raised on the part of students, and it's a legitimate question, is that they don't have enough personal contact, or receive enough personal attention from faculty. I have some doubt that this is the case. The most frequent complaint I hear from the faculty is that students do not come to them, do not discuss with them their programs, their problems, or do not simply come in to get acquainted. Every







*It seems to me that the size and varied character of this campus are among its great assets.*

student on this campus has an advisor who is a faculty member. Everyone of these advisors, I know from my own experience, would enjoy spending some time with that student.

*Are classes often too big for effective teaching?*

Oh, yes. I would say some of our classes are too large for the finest possible kind of teaching. However, there are fewer of these than one would sometimes believe from hearing discussions on the matter. The large classes are singled out as examples of less-than-the-best teacher-student learning relationships. And I would agree with this. We are making some changes. In some of the larger classes we are adding additional senior staff to teach and provide closer supervision of our many fine graduate students who assist in these classes. Our teaching situation is less than perfect in some of our introductory work in the very large classes, but we're making measurable progress. Our student-teacher ratio here is not yet what it must be, but it will continue to improve if resources are made available.

*Do we have research programs studying more effective learning techniques?*

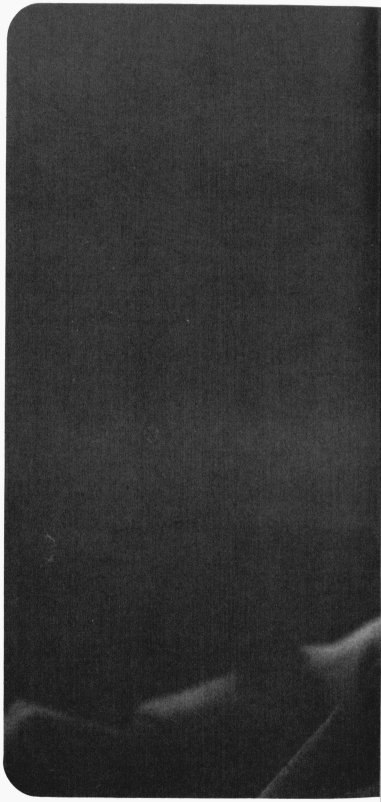
Indeed we do. This coming year we hope to be able to expand these programs so that we can make a pretty careful study of the situations that produce the best learning experiences for our students. Some of these projects are no more complex than finding out how well a student does in a television course as compared with a course in which television is not used. The more sophisticated studies will relate not so much to the level of knowledge, but to the level of understanding. Can we develop the same understanding, the same attitudes working with some of the new techniques and media that we have always assumed could best be developed by the one teacher in the classroom of 20 students? I'm convinced that, properly used, televised instruction, programmed learning, and self-directed study offer considerable promise. After all, the students are increasingly mature. We may find that many of our students are quite capable of acquiring the basic information themselves. The teacher could reserve his time for discussion and analysis, for the transmission of concepts, for the opening of broader educational horizons for the students, rather than the simple transmission of information. If this is possible, then we can do a much better job of preparing our students for the world.

*One way to measure the effectiveness of a university, it would seem, would be to take a look at its alumni in the world. Where are they now? What are they doing?*

Of course, this is the ultimate test. We're not talking about credit hours or degrees. We're concerned with what a young person is when he leaves his formal education and goes into a new kind of a learning process which will extend throughout his lifetime. How well equipped is he for this? There are some crude measures. Certainly, the world of business, of industry, and of government believe we turn out a very fine product because they show up here each year to compete very briskly for the services of these young men and women. The quality of our student shows up in another area. I don't believe there is a good graduate school in the United States today which will not happily accept one of our graduates. In fact, many seek out and actively recruit them.

We have thousands of alumni — many of them members of our alumni association — who are making significant contributions to this state, the nation, even the world. In talking with alumni groups I sense their pride in their Alma Mater, their recognition after five, 10 or 15 years that this University equipped them pretty well, not only for their profession, but for their roles as citizens. The pride they feel is most impressive. It also is pleasing to see alumni increasingly give support to the University. After all, our strength and future is dependent to a great extent on the alumni. It's a dynamic relationship: a large, effective institution produces many successful graduates, who, in turn, can help the University become even more effective for future student generations. □

# The Clinic That Cares About Students



Sometimes the campus seems overbearing, unfriendly, and tremendous to the young student, especially when he is not feeling well or when problems arise that he can't put into perspective and overcome.

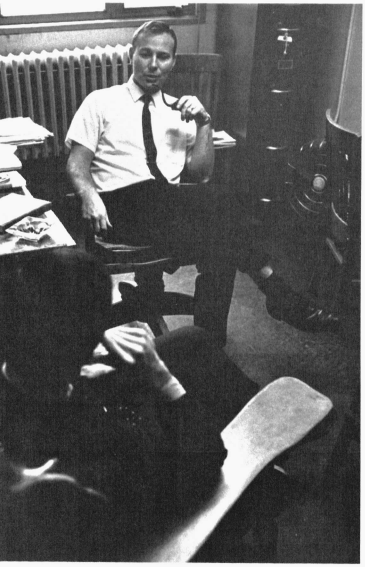
Asian flu touched every university this year. Who will take care of the student? He can't go home to the family doctor. There's no mother to get his medicine or fix his meals and bring them to him in bed.

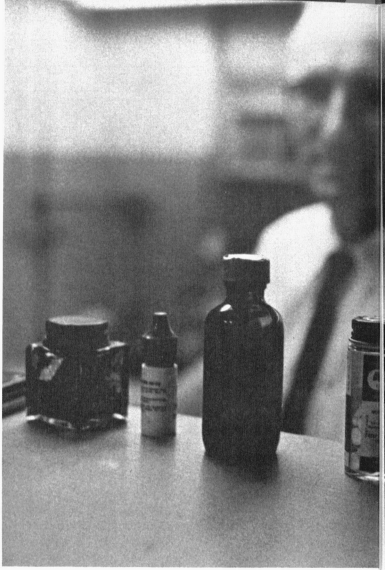
Or maybe a student just has a bad cold. He has a test in zoology in two days but his hacking cough keeps him from grasping what he's studying. It's depressing and lonely for anyone who is sick, but a sick student feels a particular emptiness. Does anyone care?

Take John, who was always at the top of his class in grades, sports, and activities in high school. The first theme he gets back in college is marked C-, and he doesn't get into the fraternity he wanted. Now he can't seem to concentrate on anything. He wonders if maybe he doesn't belong in college.

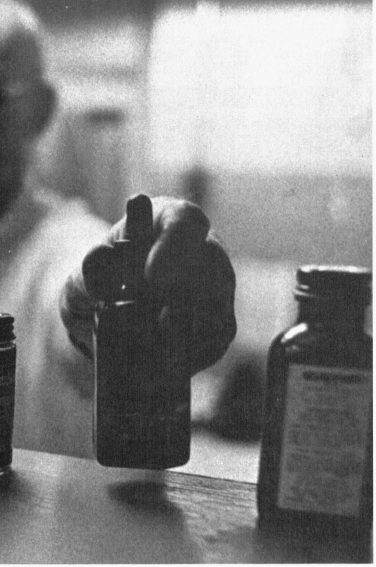
Or consider Mary, a sophomore. She is well known on campus, dates often, has above average grades, but recently she finds herself uneasy, on edge, and critical of everyone, including her parents and closest friends.

Obstacles like these arise for all students. Illnesses are natural, so are problems. But for





Handling 39,149 prescriptions last year, the pharmacy operates at no cost to students. At left, Dr. Duane Varble talks with an under-classman who came to the Mental Hygiene Clinic to "talk out" a pressure problem. Below, Mrs. Roger Gee, head physical therapist, supervises muscle-building exercises.



some they multiply and become a dominant part of their existence. The student can't see any solutions. His education suffers.

Where can a student go? Who will take care of him — mend his illnesses and lend an understanding ear? At home, there were always parents to talk things over with, a family doctor for the flu and colds, one's minister and close friends. If there was an academic problem, there was probably a high school advisor or close teacher. People were guiding the student then, in some cases directing most of what he did. But away from home, colleges and universities expect a student to think on his own. He looks at his friends in the dorm or fraternity, but they often seem too busy with their own problems. He looks to his teachers, but wonders if they have time to talk to individuals. Where does he turn?

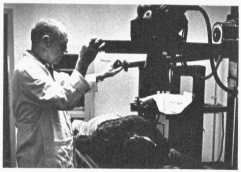
The answer at Columbia is the Student Health Service. Most colleges and universities have health clinics with professional doctors who diagnose the student's sicknesses, prescribe medicine, and sometimes bed rest in an infirmary.

But in each school, the size varies and the services differ. "I feel ours is one of the best student clinics in the country," Dr. William R. Galeota, director, says. The clinic, which began in 1913, has been recognized for its facilities, staff, and available total service for many years by the Joint Commission on Hospital Accreditation. "It is rather unusual for a university clinic to receive such an honor," Galeota says.

Besides the nine professional medical doctors, all who have from 15 to 22 years of private practice, there are consultants who are permanent members of the staff, including an ear, nose and throat man, an athletic specialist, an orthopedic surgeon, a roentgenologist, and a consulting psychiatrist. In addition, consultants from the University Medical Center and private Columbia doctors are on call to cover any need in every specialty.

Last year 5588 X rays were taken, 23,721 laboratory tests made, 8232 physical therapy treatments given, and 39,049 outpatient prescriptions from the pharmacy filled. The clinic is one of three stations in the state that administers yellow fever prevention shots and

A game of Scrabble—and pretty Joyce Thea—help student clinic patient Stanley Arky to forget his broken ankle.



was one of the first health clinics in the country to give pre-exposure active rabies immunization. In addition the clinic has a highly effective mental hygiene clinic, provides ambulance service, has bed space for 75, and has 101 paid employees.

But figures really aren't important to the sick student, the lonely freshman, or the student in trouble. What many people do not know, including students, is that the Student Health Service is more than a place to cure them of physical illnesses.

"What may appear as an innocuous difficulty to doctors elsewhere is recognized as possibly a more difficult problem by our people," Galeota says. "We specialize in young people's psychology." The doctors truly understand the pressures of college life. They deal only with students, in contrast to a family doctor. And the student, who may ask for any doctor and often continues to see him throughout his years here, establishes a very definite doctor-patient relationship.

But the truly personalized care that is given is rarely known. Anything a student tells a doctor is kept strictly confidential. And in the 71,811 visits to the clinic last year, there were other things reported besides routine colds, sprained ankles, measles, broken arms, and mononucleosis.

"A day never goes by without some problem being referred to us." Galeota says. He told of a girl who, planning to be married in June, found she was pregnant. "She wants me to talk to her boyfriend. I told her I'd meet with them any time, even Saturday or Sunday." This is the personalized care, the concern and the understanding that is never known because the information never goes beyond the doctor.

*"... we do understand and care."*

"We are both ethically and legally bound to keep material confidential. The only time we give out information is with the student's signed permission." Galeota says. This also applies to the University: "If I call a dean and say Suzie isn't well and I'm sending her home, there are never any questions asked."

General cases of sickness are treated with a couple days rest in the clinic. Last year there were 3574 hospital patients, an average of 20 a day. "Our admission policy is quite conservative," Galeota says. "If a student wants to go to bed, we put him in bed." It's no fun to be sick, but the clinic tries to make the student's stay as comfortable as possible. They supply cards, games, phones in the hall, and soft drink dispensers on each floor with visiting hours in the afternoon and evening. Nurses are on 24-hour duty and the student's particular doctor, who admitted him to the clinic, checks on him at least once a day.

But all cases are not solved by putting a student in bed, giving him medicine, and doctor attention. The problems of inner conflicts and those of socialization need the direction of trained psychologists. Therefore the Mental Hygiene Clinic was established more than 25 years ago with the prime purpose of stimulating new learning and personal growth in the student.

"We try to bring more alternatives into their lives," Dr. Alvin Landfield, director of the Mental Hygiene Clinic, says. "This is what the good stimulating professor does. He offers more routes to solutions and new ways of thinking." The 600 students that go to the hygiene clinic a year, approximating 4000 visits, are not severely disturbed, but their personal and social problems are keeping them from properly studying. It is the job of four clinical psychologists and nine Ph.D. candidates in clinical psychology to help these students who come in to talk, unload their problems, and seek advice and understanding. "Generally speaking, I would say that 75 per cent of the students we see have received some important assistance," Landfield says.

But there are always some students who may find the hygiene clinic disagreeable or feel they were sufficiently helped on the first visit. No pressure is put on them to return. By the same token, if they feel there is a personality conflict between themselves and the interviewer they may at any time change interviewers. Usually the clinic tries to fit the student to the psychotherapist.

The student and psychologist make the decision as to the number of meetings that are necessary, the average being five or six visits. The first one, the "intake interview," is a 15-to-30 minute session to get a general notion of the problem. A pamphlet to explain the workings of the mental hygiene clinic to students says: "In a relaxed atmosphere the student is encouraged to talk about himself, his relationships with other people, and important events in his life. The psychologist and student develop a working relationship in which the student may come up with new ideas concerning his problems and ways of handling them." A strict schedule is not observed but 50 minutes are usually allowed for the remaining interviews.

Sure, student problems sometimes stem from the fact that the campus seems so overwhelming, but it is comforting to know, as Dr. Galeota says, that "in spite of our largeness, we do understand and care." □

# DR. KELLER'S BIG

In a class of 320, can the student be anything more than a data processing card? Is it possible not to "fold, spindle or mutilate" the individual's personality?

Dr. Walter D. Keller, long-time professor of geology on the Columbia campus, believes his "Big Eight" concept has helped solve the depersonalization problem in introductory geology, a lecture course with an enrollment of 320 students.

Each day eight of the students are chosen at random for front row seats and a close-up exchange of questions and answers.

"I like students; I like to haggle with them," says Keller. "By putting his questions directly to individuals, a teacher can do a better job of challenging, exploring, and developing the subject matter for the entire class."

When Keller says the eight students are selected at random, that's exactly what he means: The seats are numbered in each row, and the rows lettered. When the graduate assistant pulls C-8 out of the fish bowl, Bingo, that student is on the front row for that class period.

"The best recommendation for this teaching gimmick," says Keller, "is that it yields results. Students, after completion of the course, volunteer that they like it and that it is a good scheme. They say it is good psychologically because it shows that the teacher has the individual student's interest in mind, and because it places them all on a mutually friendly footing. And the students usually add, with a wry grin, that since they never know who is to be called, it stimulates them to prepare assignments."

But the sword is two-edged.

"The teacher must keep alert for student questions. To use the 'Socratic method,' he must use good judgment on questions asked, control the course of the questions, answer discussion, and, of course, repeat the answers over the microphone. At some lectures I ask very few questions; at others perhaps up to half of the time is used for the 'Big Eight' to help me with drawings, development of ideas or explanations, and recalling localities and facts."

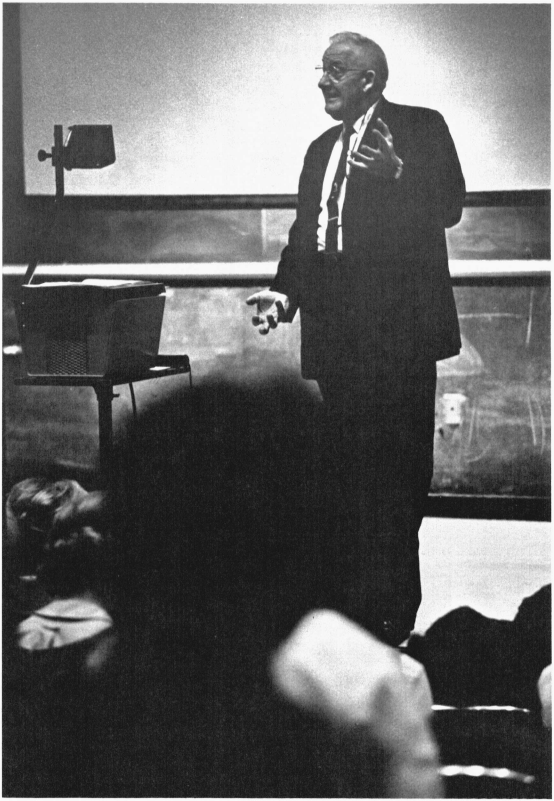
With this type of attitude, it isn't surprising that the National Association of Geology Teachers awarded Keller the Neil A. Miner award at their meeting last November in New Orleans. This honor is given annually to "an inspiring teacher who has made exceptional contributions to the stimulation of interest in earth science education."

Keller, who has been a member of the faculty since 1926, believes that "high enthusiasm and belief in the subject he is presenting" is important for the teacher, "but first he must like his students. Bore in, give each student all the rope he wants and let him hang himself if it leads to that," he said, "or let him hang you if you lead him in error. But never leave the session or topic until you untangle the rope — by giving or receiving the best answer you know to the problem.

"Motivation is an all-important ingredient, but it must be as subtle and undisplayed as enthusiasm must be apparent. Present the material in such a way that the student will feel that it is done for his benefit. To take the viewpoint of the student is so important it can hardly be overemphasized."

According to the NAGT president, Dr. John Allen of Portland State College, colleagues who recommended Dr. Keller for the Miner Award were impressed by "his enthusiastic approach to his material, his complete mastery of the subject, and his pleasant humor in presenting material to either students or faculty."

One colleague wrote that he looked upon Dr. Keller's "writings and ideas as being among the most original, the most fascinating, and the freshest approach to geological education that we have in all America." □



# A Bushel, A Peck, and A Picogram

Remember in chemistry lab how we'd mix a gallon of this and a shovelful of that into a tubful of the other? Perhaps not, but the refinements that have been made in today's scientific research make our bygone student efforts seem to have been that crude. You see, an amazing new scientist has developed in the past generation — the trace substance scientists. They can be found all across the campus, although their concentration probably is heaviest in the College of Agriculture.

What is a trace substance? Explains Dr. Delbert D. Hemphill, professor of horticulture and program project leader for the University of Missouri Environmental Health Center, "A trace substance is anything which you have to work with in nanogram quantities." And a nanogram is a billionth of a gram.

It's hard to believe that anyone can measure anything that small. But the nanogram isn't the tiniest measurement for these researchers. Below that is the picogram. It's a thousandth of a nanogram. Thus, a picogram is a trillionth of a gram, a 30-trillionth part of an ounce, or roughly two quadrillionths of a pound.

Scientists often refer to the concentration of a trace substance in terms of parts per million (ppm). MU scientists can detect some substances even when the concentration is as low as one part in 500 million.

Imagine one truck in a bumper-to-bumper string of cars filling a four-lane highway from Chicago to Denver by way of Columbia. That represents one part per million. One part in 500 million? There are not 500 million people in all the western hemisphere.

A trace substance doesn't stick out like a truck in a group of cars, however. Instead, it is thoroughly dispersed, just as the flavor is mixed throughout a cake. At the same time, its presence is often no more obvious than the traces of iron, copper, or zinc in your body.

Some trace substances are essential to life. Others are subtle poisons. And even beneficial elements can become poisonous as the quantities increase.

Consider our water supply. It can contain both beneficial traces (chlorine and others) and potentially dangerous ones. Dr. Walter D. Keller of Geology and Dr. George E. Smith, director of the Water Resources Research Center, studied samples from Missouri wells. More than a third of them contained above five ppm of nitrogen in nitrate form. Five ppm is considered to be the maximum safe level. Higher levels bring the hazard of "blue babies."

This is one part of the University's study of our health in relation to trace substances in our environment. Another is a state-wide look into birth defects in human infants, domestic animals, pets, and wildlife. This involves a large cross-section of University personnel — from the School of Medicine to the local extension center. Dr. Carl J. Marienfeld and others suspect that trace-amount substances may be responsible for some, if not all of the environmentally-caused birth defects.

Some of the most important work relating trace quantities of zinc and copper to nutrition and health has been done on the Columbia campus by Dr. Boyd O'Dell of Agricultural Chemistry in cooperation with Dr. J. E. Savage, of Poultry. O'Dell's work and that of his colleagues have shown the need for trace minerals in livestock and saved producers untold millions of dollars.

And, although world scientists had long thought that man would never fall short of necessary zinc as long as he maintained a normal diet, O'Dell again led the way. He showed that under certain conditions the zinc in food may be unavailable, causing a person to suffer from zinc deficiency.

Trace amounts of zinc also figure prominently in the work of Dr. John H. Henzel of the School of Medicine. With researchers from other states, he has shown how metal ions in trace quantities can bring dramatic improvement in the healing of wounds. In some instances long-open wounds responded to zinc and quickly began to heal.

A baby who chews lead-base paint from his crib often needs prompt attention to save his life. Diagnosis of lead poisoning once depended on analysis that took days. Now it can be done in the College of Agriculture spectrographic laboratory in a matter of minutes.

**A recognized authority on trace substance analysis, Dr. Edward E. Pickett uses four different methods to detect minute substances. Among them is flame emission spectoscopy.**

**Dr. George W. Leddicotte developed many analysis techniques now used world-wide. At left is radio-chemist Odel Abu-Samra.**

The need for trace elements in the production of healthy and abundant crops has been brought to the attention of farmers through the work of Dr. William A. Albrecht and other agronomists. Albrecht was a pioneer in soil trace substance work 30 years ago.

Even diabetes catches the trace analyst's curious eye. Drs. James N. Burkeholder and Richard A. Guthrie in Pediatrics are demonstrating the importance of chromium traces in the treatment of diabetes.

Hemphill and others are checking on the pesticides that may enter our bodies in trace amounts. And there may be special problems when corn rootworms take up trace amounts of insecticide and convert them into other compounds, some more toxic, and some less toxic than the original. Dr. Charles Knowles of entomology is studying that action.

Other entomologists, working at the USDA lab on the campus, are mixing small amounts of tracers with the feed for certain insects. These amounts get divided in the female's body when eggs are formed and some goes into each egg. Trace substance detection methods help the entomologists find the freshly-deposited eggs and learn the insects' ways of distributing and hiding eggs.

Trace substance work has applications in space exploration, too. Dr. Charles W. Gehrke, supervisor of the agricultural chemistry laboratories, is so widely respected for his analytical work that he has been selected to analyze the first samples to be returned from the moon. He'll be looking for biologically important molecules — that is, for signs of life.

Because of our University-wide strength in trace substance work, we can do far more than a similar number of individual researchers could do on their own, says Marienfeld. With this strength in mind, the Environmental Health Center sponsored the "University of Missouri's First Annual Conference on Trace Substances in Environmental Health" in Columbia last July.

One after another, world leaders in this field remarked on the interdepartmental cooperation and communication in Missouri. "Workers from out of state were amazed at the excellent communication between M.D., D.V.M., chemist, biologist, and others at MU," explains Dr. Hemphill.

In his concluding remarks to the conference, Dr. William H. Strain of the University of Rochester School of Medicine and Dentistry declared, "The cooperation at Missouri of distinguished investigators working in the varied areas ranging from air, water, and soil to (even) the autopsy table is enviable."

With an eye to the future the Environmental Health Center under the leadership of Marienfeld is developing a proposal for a trace analysis center. It would be a substantial facility, using all of the latest detection methods, each with its own advantages. The most recent and important tool for trace substance analysis is Research Park's 10 megawatt nuclear reactor, one of the largest on any college campus. Its activation analysis laboratory can rapidly perform large numbers of trace substance analyses at one time.

Says Hemphill, "We have a strong base for a staff for the trace analysis center. It could put us ahead of all others in some aspects of this work and provide accuracy and refinement as good as anywhere in the world."

There are four groups of people involved with trace substances at Missouri: (1) scientists doing original research on detection techniques and providing analytical services to other researchers; (2) scientists doing original research on the trace substances and the ways they affect other materials and organisms; (3) scientists doing original research on non-trace-subtance projects but using trace substances

**A visiting professor from New Mexico University, Manuel Navarrete is an expert on trace substances in water, plant material.**

in some way; and (4 ) A wide range of individuals who are not in research but are doing work that involves trace substances.

In group one we find Dr. Edward E. Pickett, a recognized authority on trace substance analysis and supervisor of the spectrographic lab. He and his colleague, Dr. S. R. Koirtyohann, use four methods of trace substance detection and have modified almost all of their instruments for never-before-achieved levels of sensitivity. The methods are flame emission and flame absorption spectroscopy, conventional arc spectroscopy, and infra-red or ultra-violet absorption spectroscopy.

Dr. Walter A. Aue and Gehrke, also of Ag Chemistry, do their detection with gas chromatographs and automated analytical systems. They, too, have made modifications to achieve previously unreached sensitivity, and have developed selective and hypersensitive methods for detecting and measuring nitrogen and phosphorus.

In the Research Reactor facility, Professor George W. Leddicotte of Nuclear Engineering and Radiological Sciences uses neutron activation analysis to detect trace substances. He has developed many of the activation analysis techniques that are being used all over the world today.

In chemistry, Dr. John C. Guyon measures trace substances with a fluorescence technique which he is refining. He measures the amount of energy released by a trace substance subjected to radiation. He also works with flame spectroscopy.

The second group, those who study trace substances and their effects, includes more than 50 researchers in varied fields. Trace substance research has quietly become campus-wide in scope.

In the third group we find the researchers who use trace substances as a tool in their work. Typical of this group are Dr. Harold B. Hedrick of Food Science/Nutrition and Drs. Granville B. Thompson and Rodney L. Preston of Animal Husbandry. They use the Low Level Radiation Lab to measure amounts of potassium-40 in meat. This naturally-occurring isotope is found in trace amounts in all living systems. These researchers hope to develop a simple carcass rating system based on the potassium-40 reading.

In the fourth group are doctors at the Medical Center and in Veterinary Medicine who regularly face situations involving trace substances. Also plant pathologists, engineers, livestock men, nutritionists, are among a large portion of the faculty who must be able to recognize, plan for, or contend with the effects of trace substances in their daily work.

Does this volume of trace substance activity represent an overnight change in science, a vastly different approach to research, or a science-fiction writer's dream of Lilliputian miniaturization gone out of control? None of these, say our trace substance workers.

"There have been significant advances in instruments used in this type of work," points out Dr. R. A. Bloomfield, chairman of Ag Chemistry. "This explains a part of the increase, but it has been gradual, not sudden." Another part of the explanation is in scientists' natural reticence toward publicity. Our trace substance workers are not inclined to blow horns or thump tubs. The work has been going on, but they just don't brag about it. They leave that up to us — *By Bob Jones* □

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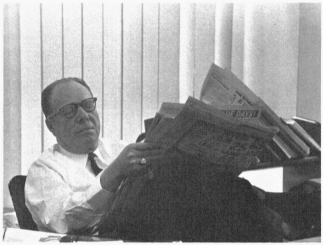
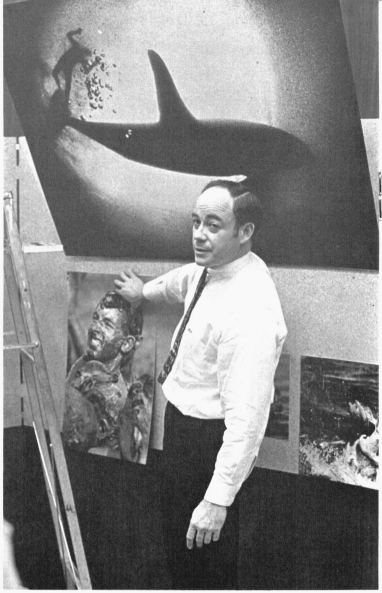
*Bob Jones, author of the above article, is science writer in the Agricultural Editor's Office. A native of Kansas, he came to Columbia in 1967 by way of Wisconsin where he worked for several years on trade and company magazines.*


A long way from Columbia, Bob Madden is a contract photographer for Geographic on assignment at the South Pole. Last year he took pictures for Missouri Alumnus. Riding burrow in photo opposite, George Mobley has been with Society over five years.



Win Booth



Bill Garrett

PHOTOGRAPHS By JIM HOLLAND

Gathering for combination Special Publications-alumni meeting are, left to right, Jerry Synder, T. Loftin Snell, Don Crump, Betty Strauss, Phil Silcott, and Bob Breeden.

**Ed Kim**

*National Geographic Magazine,* is, of course, the monthly journal of the National Geographic Society, "a nonprofit scientific and educational organization for increasing and diffusing geographic knowledge and promoting research and exploration." Since 1890 the society has supported more than 407 explorations and research projects. Besides 12 magazines a year for 5½ million members, it produces 30 issues of the *School Bulletin,* half a dozen books, 30 million maps, atlases and globes, a series of TV specials, and operates film strip and news services.

Windsor P. Booth (BJ '33) was one of the first Missouri graduates to join the *Geographic* staff. Chief of the society's extensive news program since 1951, Booth still prepares and edits occasional articles for the magazine. His background includes six years as a White House correspondent for *Time.*

Two 1949 graduates of J-School serve as assistant editors. Carolyn Bennett Patterson joined the staff in 1949 as a news service writer. William E. Garrett, a frequent visitor at the Journalism School's workshops and photo judging contests, has written and photographed a variety of stories in his 13 years with the magazine, his two favorites being features on Alaska and Vietnam.

Senior members of the editorial staff include Bart McDowell, who recently completed writing the *Geographic Revolutionary War Book,* and Rowe Findley, one of three editors responsible for the monthly publication of the magazine.

Co-author of *The World Beneath the Sea,* Richard Crum primarily is involved in writing and editing for the *School Bulletin,* a 16-page color publication published weekly for 500,000 school children.

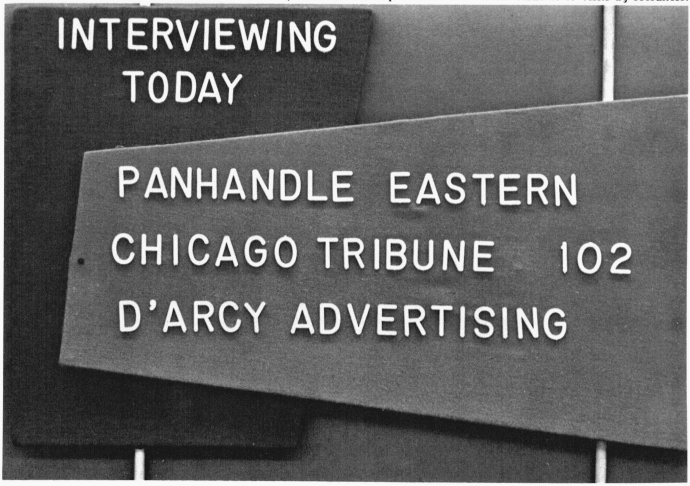
Special Publications, one of the magazine's two book divisions, is headed by Robert L. Breeden. His assistant is Donald J. Crump. Other alumni in the group are Philip B. Silcott, Jerry Synder, T. Loftin Snell, and Betty Strauss. Their most recent Geographic publications include *The Living White House, The South Pacific,* and *The Nile.*

But to most members, the magazine is the heart of the society, and the illustrations, if not the heart, are at least a vital part of the magazine. Thomas R. Smith ( a son-in-law, incidentally, of Professor Clif Edom of the Journalism School) is the associate illustrations editor; Robert S. Patton is a senior picture editor; Arthur Terry works on layout and production; and Jon T. Schneeberger and H. Edward Kim are picture editors. Besides staff photographer George Mobley, the *Geographic* uses several other MU alumni as contract photographers who spend a considerable part of their time on assignments for the society. Included in this group are Ted Funk, Bob Madden, and James Holland.

If the names, Kim, Funk, and Madden, seem familiar, it wouldn't be surprising. All three served as student photographers for the *Missouri Alumnus* while they were in Columbia. The *Alumnus* wasn't planned to be a training ground for *Geographic* photographers. It just happened that way. □

# HELP FOR JOB HUNTERS

Journalism School placement office alerts students to visits by recruiters.



Thirty years ago, it was only a select few who were graduated from colleges and universities with a job waiting for them, and these were mainly handed to them through family and political connections. University of Missouri seniors, of which only about 10 per cent went directly into jobs, often were urged to work for a company without pay to first get experience.

But the economy changed. Today, with business in pursuit of the graduate, the student can be selective about his first job. Problems of a different kind exist. With a surplus of job opportunities being the norm, many difficult decisions await the senior.

Most campuses have placement offices. At Columbia, five divisions offer extensive services for informing the student, arranging for interviews, and coordinating activities in such a way that both student and business profit.

More than 1000 organizations interview on the Columbia campus each year. Companies often plan their schedule 18 months ahead of time in order to be sure of including this campus, which has a reputation of producing thousands of qualified graduates, on their recruiting tours.

Typical of the directors' philosophies is Dr. Raymond Lansford's comment: "We discourage our students from making an early decision about a job. We tell them to get to know the companies more, take as many interviews as possible, and take the job where there is the best opportunity for them to be successful." Lansford is chairman for the placement council, which was formed last year on the Columbia campus, and director for the Business and Public Administration office. The other bureaus are in Agriculture, Education, Engineering and Journalism. But any student on campus, regardless of his division, may register and interview with these offices. For instance, the College of Arts and Science has no placement bureau, but utilizes all offices. Physics and math majors use mainly engineering placement, while liberal arts majors use business and journalism.

The effectiveness of the five offices is enhanced by a close relationship with one another. Besides the interplay between students—like an agriculture major interested in some aspect of business or a journalist wanting to teach — the five placement directors work to keep each other informed.

In October the "hot line," a direct telephone hookup between placement offices, was set up. "Several of us can get on it at one time for consultation," Robert Haverfield, journalism director, says. It's also a quick method to check on a student's file or confirm an interviewing date without going through departmental switchboards.

Basically the design and workings of all bureaus are similar. In most cases the student registers in the office of his choice by filling out personal data sheets including grade point, campus activities, past work experience, and sometimes a job-type preference.

Most contact between students and businesses is through personal interviews conducted throughout the school year in each office. "But, if a student is on a field trip, doing student teaching, or has conflicting classes with a particular interviewing schedule, we inform a company of this and suggest they contact the individual student," Earl VanEaton, agriculture placement director points out.

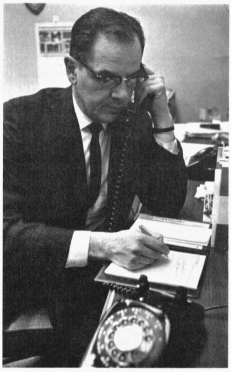
Or in cases where certain institutions do not interview in the Midwest, Dr. Robert H. Reifschneider, education placement director, personally calls the school district or a placement office at a university in that area. Trying to promote the graduates and the University, each director will go out of his way to help any student.

Interviews on campus last 20 to 30 minutes. Some job offers are given right on the spot, but for most part, this is too short a time to evaluate a student. Recruiters go back to their company and often recommend bringing the student to the company headquarters at its expense. This also gives the student a better chance to evaluate a company and its day-to-day operation.

In order for the interviewer to learn as much about the students as possible, luncheon dates are often set up with faculty members. It proves rewarding to the students' interest, to the company, and the school in acquainting them with opportunities in the field.

Just as much time and trouble is taken

Business student, Hallmark recruiter discuss job opportunities.



Dr. Morgan uses the council's "hot line."

Two education majors talk with Ed Tynes, assistant principal of schools in Ladue, a St. Louis suburb.

In College of Agriculture's placement reading room, Earl VanEaton, job-seeking seniors check Standard and Poor's industrial directory.

to help the student. Haverfield has a favorite story about a journalism senior who couldn't get on the interviewing schedule of one company. "We set it up so he could take the interviewer out to the airport." He got the job.

The College of Education last year began what they call, the "St. Louis Night." A success, the idea has been expanded to include a "Kansas City Night" this year. Every school district in those cities are invited for a general information evening. "We set up tables for them in the Memorial Union. Some schools bring slides, all bring brochures." Three hundred to 400 students pass through to get a better idea of what is offered in that city. No personal interviews take place, but each school has representatives there to answer questions. Reifschneider says this has been particularly helpful for juniors, to better acquaint them, before they start interviewing their senior year. It also answers many basic questions that used to take up half of an interview.

By far the best and largest facilities for interviewing are found in the College of Engineering. Six rooms have been set aside in one area of the first floor for interviewing only. "The advantage here is that no faculty member or secretary ever has to be asked to give up his office for an afternoon," Dr. Jack Morgan, assistant dean of the College of Engineering and its placement director, says. If there is an overflow, there are an additional four rooms.

Outside the interviewing area are huge shelves and eight tables to display company recruiting brochures. Left out all the time, students always have access to them. "A lot of them disappear quickly, but this is what the companies want, and our sophomores even take an interest in it," Morgan says.

Besides the 344 companies that interviewed in the business school last year, there are considerable requests coming in that ask for graduates with two to 10 years of experience. "But the number of alumni that contact us is limited. If we could just learn about those who want a new challenge, a better job, we could help them," Lansford says. The journalism and education placement offices send out monthly news letters listing job opportunities to alumni who request them. Agriculture puts out a publication once a year with additional supplements that lists jobs. Engineering and agriculture are recommending the services of The Grad System to their alumni. This is a commercial venture in which companies, who pay to belong, list their available jobs. In all cases, any graduate may interview along with the students on campus, although this is only convenient for those living in the area.

Journalism director Haverfield, conducts a required course, called senior assembly. Here students learn the proper ways to make resumes, write letters of application, and receives tips on interviewing. The class only meets five times, but it helps the student put his best self forward.

The *Columbia Missourian,* produced by journalism students, lists each week the coming interviews for all five placement offices. In addition each placement office puts out monthly schedules.

Even students who know they have a service obligation ahead or are planning graduate school are urged to interview. "A graduate student needs to know the opportunities in the field and whether a master's degree or a Ph.D is necessary." VanEaton says. Service-bound students are often hired for a short period to build up seniority with a company. "But mostly there is more time for them to interview now and all the facilities are here. Then right before they get out of the service they can contact some of the companies which interviewed them before."

Overcrowding continues to be a problem for most of the offices. Last year there were 110 interview schedules in Journalism. In Education, 200 institutions from 20 to 25 states interviewed. The heaviest periods are October and November, February and March, with as many as eight or nine companies represented a day, many with several recruiters.

But despite the heavy schedules, the directors always find time to consult with students. "The first job is so important to the student that you have to always find time to talk with them." Reifschneider says. "They get contracts full of words they don't understand, or a letter they are not sure how to write. Our students come first." □

# Reminiscences of the University That Was

by Jack Taylor

Forty years ago, when the University admitted me as a freshman, the campus had 3500 students, many of whom knew each other, and Columbia had about 15,000 residents, most of whom were quite neighborly.

After four decades, the student population has increased five-fold, and the head count of the city has tripled. A lot of people, on the campus and in the town, don't know each other any more.

Yes, the campus was relatively chummy in the late '20s. But there were the frightened and the timid among the students even then; the writer knows, for he was one of them. I lived in fear of professors, partly because my assignments were poorly prepared. Instructors were only slightly less fearsome. In most classes, there were about 30 classmates. Some of these, I imagined in my insecure state, were insufferably assured of themselves. Here and there I sensed that others were, like me, somewhat lost and bewildered.

If many students begin their college career on the Columbia campus these days with similar feelings, it is certainly understandable in view of the much larger population. But I contend that a student could be just as ill at ease in the cozy surroundings of 1930 as in the stepped up tempo of today.

Another contention, perhaps more important, is that the student could have the individual attention of his teachers if he wanted it then, and the same holds true today. As time wore on, I learned that professors are surprisingly human. They, too, are plagued by monthly bills, badgering artisans, taxes, the imminent disintegration of society, and other perennial annoyances.

Current students may be surprised to learn that large classes existed even in the Dark Ages. The big ones included general economics, with Harry Gunnison Brown lecturing in a full Waters Auditorium; preventive medicine, taught at the same location by blustery Dr. M. P. Ravenal (curses on that student who assured me this two-hour course was a snap); and citizenship, taught by Albert K. Heckel, dean of men, which drew large groups to the old Jesse Auditorium where 500 could be seated.

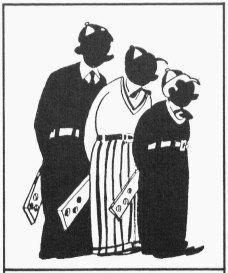
Sociology was another large class. History and principles of journalism, then as now, crammed Jay H. Neff Auditorium. It should be remembered that the lecturers in those days spoke without benefit of a sound system.

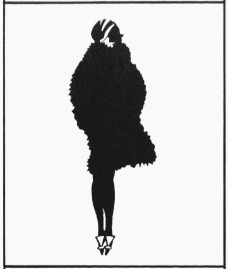
Personally, I liked the classes with three or four hundred students because one could be swallowed up unnoticed without fear of being called on. This danger was greater in the more intimate classroom sessions such as Spanish with Dr. Jacob Warshaw. On one occasion instruction was held up several minutes when the little professor ventured to ask this writer to conjugate a verb, a delaying action he never repeated.

No question about it, many things were far different in the '20s and '30s — although, later on, I want to mention a few constants. If the encroachment of senility has not blurred my memory, we had only one married couple among the students back in 1928 or thereabouts. They were terribly ancient — 25, at least. Naturally, they were old fashioned and virtual social misfits. Since student marriage was such a rarity, there were no cases of Putting Hubby Through, although it is likely that engaged couples worked and planned savings for nuptials.

Pleasures came at bargain prices, but not everyone could afford 10 cents for taxi fare. At Mom and Pop Givan's, an amazing lunch was available for 15 cents, and the bill of fare stoutly proclaimed "We neither recognize or serve the five-cent hamburger." A coke date was the going social custom. Fountain concoctions got pretty fancy; one popular offering was called a "Jean Paul." For a dime coke, a fellow could dance all afternoon to the syncopation of big bands that played at such popular gathering places as Harris', Sampson's Grill, Gaebler's Black and Gold Inn, and Jimmie's College Inn. Ten and 12-piece bands, loaded with saxes and brass, flourished under the direction of talented musicians such as Herb Fick, Opie Cates, Roy Keith, Eddie Gibbons, Count Solomon, Herbie Kayler, and Johnnie Harrison.

In contrast to the unhurried pace of the past, stronger academic pressures and more hectic activities generally face today's students, who seem to hold up admirably. And the time





will come when they look back on their experience here as a rather glorious period of youth. No other atmosphere is more ideal than the campus for the making of memories. People and places become venerated. This is the unchanging character of the campus, while around it educational techniques and programs are forever being upgraded.

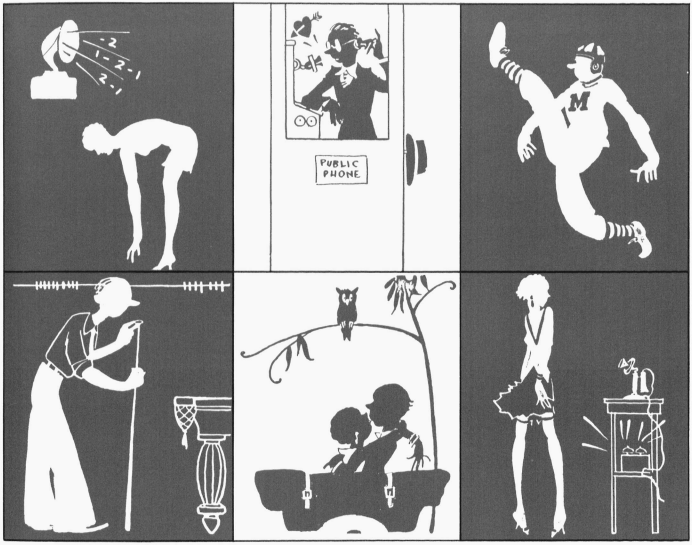
So, in nostalgic moments old haunts will live again. Will it be the Ivanhoe? The Heidelberg? The indestructible Shack? Max's? The lamented Agora House? Or maybe the departed Huddle, which was once Gaebler's and then the Italian Village? Maybe the blatant sounds from a juke box and the cacaphony of a "live" rock 'n' roll group will remain ever dear.

And in another non-changing pattern of the campus, somewhere a "Mr. Chips" is evolving, perhaps several such professors now virtually unnoticed. They will be remembered as scholars, as colorful individuals, as warm friends of the students. These types emerge in every era. Some names that come to mind are "Daddy" Defoe, H. M. Belden, W. A. Tarr, Walter Williams, Jay William Hudson, R. L. Ramsey, Dr. Fairchild and, in more recent years, Jesse Wrench and M. G. Mehl. The list is much longer.

A final word on things that don't change over the generations. Today's harried professor, for instance, is not beyond approach. Without having tested him personally, I still say he is as accessible to students as was his predecessor of a few decades ago — even though he may be involved with grants, computers or international conferences, and his responsibilities may have grown heavier in an accelerated atmosphere.

However busy a professor may be, or however indifferent he may appear, I believe he will always warm up when contacted by a genuinely interested student who has been intellectually stimulated by his course — when the professor sees that spark of light which tells him that he is "getting through."

As a long-time non-student, I believe that the kind of education one gets is pretty much up to his own initiative. I think the student would find this true whether he attended a one-room school or a large university, whether he lived in the relatively tranquil days of 1930 or in the frenetic times of the 60s. □




*Editor of the Missouri Alumnus from 1954 until 1966, Jack Taylor is a keen observer of life on the Columbia campus. In fact, Taylor is a keen observer of life, period, as those who have watched his humorous act as Timothy Hays, mayor of Whoopup, will attest. He currently is assistant director in the University's Office of Public Information. The photo at left was taken in the early '30s, shortly after he left the campus as a student.*


# MIZZOU'S 4000 'ATHLETES'

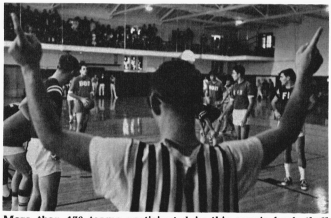
Director Ralph Stewart supervises the basketball finals. Fifty per cent of undergraduate men play in intramurals.

The crowd was chanting the staccato charge of "GO! GO! GO!" Awaiting the tipoff, both teams could sense electricity in the air and were obviously up for the contest.

The Missouri-Kansas basketball game? No, only an intramural clash between two fraternities on a Saturday morning in Rothwell Gym.

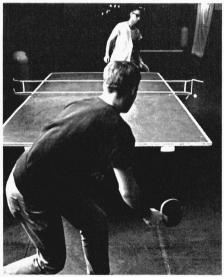
"For such a large campus, the percentage of participation in men's intramurals is extremely high," reports Dr. Ralph Stewart, the program's director, "as high or higher than any comparable school. And it's all voluntary."

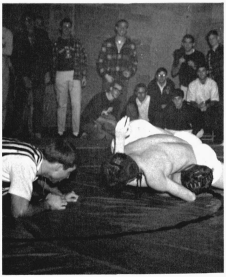
During this school year, participation in 17 sports will involve 9500 players, including more than 4000 different young men. And although



More than 130 teams participated in this year's basketball tournament. Student referees are paid regular hourly rates.

Intramural director for 39 years, A. J. Stankowski deserves much credit for program's success.





the program is not limited to undergraduates, most of the participants are — a fact which means more than 50 per cent of all male undergraduates on the Columbia campus take part in some form of intramural athletics.

Women also have an active intramural program, although their participation, understandably, is not at as high a level. Last year 184 teams, 985 players and 600 different girls participated in 13 sports, ranging from volleyball to archery.

Organized men's intramurals began in 1924 with the stated purpose of "some form of athletics for everyone at the University of Missouri." Before 1900 a field had been set aside for what would amount to intramurals with the admonition that "the fence was not to be damaged and the gate closed at the end of each day's activities." Later a Red Campus football league was formed by the students in Engineering, Law, Journalism and Commerce. And there were some class and interfraternity contests. But for the most part these were conducted on a haphazard basis with no real administrative support.

In fact the organized program didn't really get rolling until 1926 when Anton J. Stankowski became the director, a post he held for 39 years. Stankowski provided a dedication and administrative ability that quickly made intramurals an important part of campus life.

"We operated on the theory that there's no better textbook for a student than his contact with another student. And we tried to give him as many contacts as possible." Now professor emeritus of physical education, Stankowski looks back with pride on the former students who took part in his intramural program. He has maintained careful records of every participant, and can tick off the names of now-famous men, who were active in intramurals. Governor Warren Hearnes, Stankowski can tell you, played tennis and handball and ran in cross country in 1942-43.

Through the years 24 different activities have been included in the program, including horseshoes, horseback riding, and pistol marksmanship. Boxing was a part of the program until 1942, and Stankowski can remember nights with as many as 40 bouts. Boxing was dropped for lack of interest ("Not enough boys wanted to get in shape for it"). Wrestling, also abandoned, has staged a comeback, returning last year. A total of 167 men participated.

Purpose of intramurals never has been to attain excellence in athletics or to serve as a training ground for varsity teams (although basketball star Ned Monsees was found on the intramural courts a few years ago and quarterback Jim (Gabby) Hook came to the football team off the touch football fields in the mid-Fifties). Varsity athletes, in fact, are not eligible to compete in their varsity sport in intramurals.

Stewart, who succeeded Stankowski as director in 1965, lists the objectives as contributions to the recreation, social contact, sports interest, group spirit, and physical fitness of the participants. And leagues and activities are designed to do just that.

Three champions are crowned in every team sport, one for the fraternity league, one for the dormitories and one for the league made up of men who live off campus. The individual sports are not divided by residence. Participants can choose from touch football, tennis singles, tennis doubles, golf, team bowling, individual bowling, handball singles, handball doubles, basketball, basketball free throw, table tennis singles, table tennis doubles, wrestling, volleyball, swimming, softball, and track & field.

"Three factors are necessary for a good intramural program," says Stewart, who is assisted by former assistant football coach Harry Smith, "competent officiating, good team managers and adequate facilities. Interested students give us plenty of the first two, but new buildings are continually putting pressure on available land space."

Ultimately, new play grounds are envisioned southeast of Brewer Field House. And inside space will no longer be a problem when the new multipurpose auditorium is completed and the physical education and intramural programs can have the use of Brewer Field House.

"If the facilities were available," says Stewart, "I'm sure that participation would double almost over night."

And then the 40-year-old dream of "something for everyone all the time" can become a reality. □

# HIGH Ratings for ITV

If instant replay, split screen and stop action make you think only of television football, you may be at the wrong game in the wrong ball park. The Office of Instruction Television utilizes the same techniques on the Columbia campus as a tool to aid practice teachers in the College of Education.

A TV mobile unit tapes the student teacher in an actual classroom situation. Later, often that same day, the video tape is played back. The old Scottish poet, Bobby Burns, would have been delighted. The student can see himself exactly the way others see and hear him, and, perhaps more importantly, how the pupils reacted to him as well. Just as the split screen shows both the passer and receiver in football, so does it show the student teacher "tossing out" information and the manner in which the pupils receive it. The tape can be stopped at any critical point and then played again and again.

Sound sophisticated?

"It's still the teacher on one end of the log and the student on the other," says Dr. Barton Griffith, director of the Office of Instructional Television. "The log is the new instructional technology, in this case, television. The

professor in the College of Education and the student teacher can understand each other better through the use of the video tape. Now, there's nothing inherently good or bad about ITV. Used correctly, it can facilitate learning. In this case, we think it shows promise."

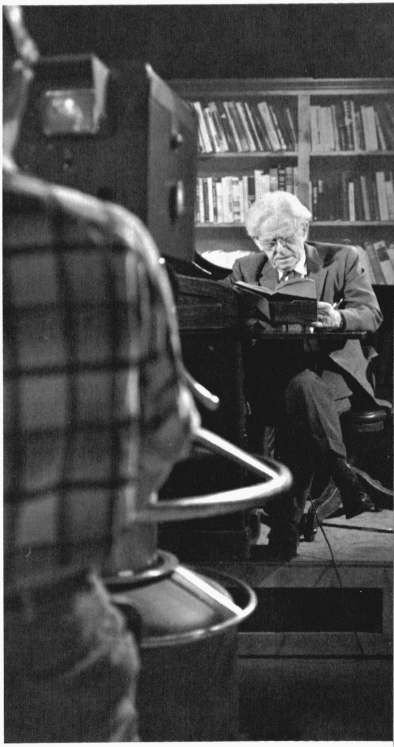
A pioneer in the use of instructional television, the Columbia campus began its program in 1958. Considerable impetus arrived in 1960 in the form of a $90,000 grant from the Ford Foundation. Today the Office of Instructional Television has equipment valued at $1.5 million, and its 522 video tapes have an estimated worth of more than $500,000.

The completely-equipped television studio on the fourth floor of Jesse Hall is connected to Hill Hall (Education), and the Business and Public Administration and the Arts and Science supplemented by a 2500 megacycle ITV service to Crowder and Waters hall and Rothwell and the Women's gyms.

Twenty thousand students each semester (some of them, obviously, more than once) are exposed to instructional television. All divisions on the campus and 30 departments are represented. Of 300 ITV projects, 15 courses are more than 50 per cent on tape; more than 150 courses use ITV segments, and there are many diversified research and service projects. (Service tapes range from those explaining the complexities of the 1.3 million-volume General Library to those used at registration time to report instantaneously which courses are closed out.)

Originally, instructional television was looked upon as a method of offsetting large classes in a lecture-hall environment. It was believed that such courses could make better utilization of top teaching talent as the number of students grew out of proportion to the number of teachers. The students could attend TV courses in a small-class atmosphere, see and hear the professor's presentation, and have time available for question-and-answer sessions.

And this has been pretty much the way it has worked out — with some corollary benefits. For one thing, it encourages even good teachers to plan, organize and present their material more effectively. There's no room for the lightweight professor on ITV. Then, too, there are



**Without ITV, it's doubtful that students could have the opportunity to take John Neihardt's course, "Twilight of the Sioux." Still, the 87-year-old professor rarely fails to visit class, one of the most popular in the English department.**

While this student teacher conducts an elementary class in lab school, ITV records the action.

Future lawyers learn more about courtroom techniques when mock trials are video-taped for later viewing and critique.

many demonstrations and once-in-a-lifetime interviews that can be presented better visually than in any other manner.

Dr. Fred McKinney, whose course in general psychology was the first to be video-taped, recalls taping an interview with 14 students from all parts of the world. The panel discussed a variety of relationships from their respective viewpoints. It was a panel that would be difficult to bring together again, yet it remains effective because it was put on tape. "And from the student viewpoint," says McKinney, "this is the most popular videotape I've ever made."

McKinney has updated his lectures several times, as have all the teachers who have courses on ITV. The McKinney series, in fact, was the first college-level course accepted for national and world-wide distribution by the Great Plains ITV Library.

"Typically," says Griffith, "a professor will scrap about half his lectures after the first year it's been recorded. Thereafter the updating process involves about 25 per cent of the tapes each year."

**Later the same day, student and instructor watch play-back, noting strengths and weaknesses.**

Besides general psychology, other taped courses include agricultural economics, two courses in English life and literature, poet John Neihardt's "Epic America," psychology of personality, great speakers, public speaking, international relations, secondary school curriculum, introduction to education, physical education for both men and women, copy editing, and basic military science. And for every course on ITV, there are 10 to 12 others utilizing taped segments.

If the Columbia campus is a leader in instructional TV, it may be *the* leader in the medium as it applies to the College of Education. Besides the courses mentioned above, and the individual replay tapes discussed earlier, the college also utilizes tape segments involving experienced teachers in various types of classroom situations. The student teachers can see effective ways to present material, how to handle discipline, and other classroom problems.

But probably no place is ITV used more effectively than when it allows student teachers to look at themselves.

"They are able to learn more about their performance in class in a few minutes of viewing the tape than we can possibly tell them." says Dr. Dixie A. Kohn, assistant professor of education and assistant director of the lab school.

"It's like seeing a snapshot and noticing that you've gained a few pounds," responds a student. "But the real question is, what are you going to do about it?"

Such experiences indicate a bright future for instructional television. "I have a very positive attitude toward educational TV," says McKinney. "We can do more with TV — through demonstrations, interviews, film clips, and candid photos — than we could ever do in the classroom."

Bart Griffith is quick to point out, however, that ITV probably is not a final answer. "What we're really talking about is the academic services concept. We're interested in any educational innovation which will bring about better education for our students as individuals."

In other words, they're looking for a better log. □

# Commentary 1

## University Ranks High In Executive Graduates

The University of Missouri-Columbia ranks high among the nation's institutions in graduating the nation's top executives, according to a study made by the National Association of State Universities and Land Grant Colleges.

Based on Fortune Magazine's 1967 "Directory of the 500 Largest U. S. Industrial Corporations," the survey named Missouri in the top 20 per cent of the 99 members which had educated top executives in more than half of the 500 companies. Seven presidents and/or chairmen of the board attended school on the Columbia campus.

A 1964 study by Scientific American magazine listed the University as 14th among 45 college institutions which had graduated executives. This study looked at 1000 officers in 600 non-financial corporations. Among the 1000, fourteen were alumni of the University.

Ranking ahead of Missouri were Harvard, Yale, MIT, Princeton, Cornell, Illinois, Stanford, Columbia, Michigan, Pennsylvania, Wisconsin, California, and Dartmouth.

## Columbia Campus Colors Remain Gold and Black

Is our face red and blue? Not really, but some research revealed that those are the official University colors.

In attempting to assure proper identification of the University while still maintaining each of the four campus's personality, the Board of Curators has adopted one seal for the University, the one officially approved by the Curators in 1903. Graduates of all campuses also will receive identical diplomas, except that the campus location will be included. When the seal appears in color, red and blue will be included, because those were the official colors adopted in 1903.

Each campus remains on the gold standard, however. Columbia, gold and black; Rolla, gold and silver; Kansas City, gold and blue; and St. Louis, gold and red.

And athletic die-hards who associate red and blue with Kansas, can find solace in this:

The colors officially adopted by the University of Kansas in its charter were sky blue and maize yellow.

## Walker Has New Comic

When the alumni begin reading a new comic strip, "Boner's Ark," this month, the name of the cartoonist, Addison, shouldn't confuse them, because that's the way Mort Walker signed some of his cartoons for Showme in the late forties. Walker is a 1948 graduate of Missouri.

To be released March 11, "Boner's Ark," is the third comic strip created by Walker. "Beetle Bailey," started in 1950 and "Hi and Lois," in 1954.

Ray Erwin, writing in Editor & Publisher, describes "Boner's Ark" as a "wild and way-out comic strip in which humor verges on the edge of fantasy . . .

"The title character is a plump and warmly funny little ship captain whose passenger list includes the kookiest group of oddly-shaped ani-

mals that ever came down a gangplank or across an artist's drawing board. Boner made his first mistake when he took only one of each species of animal on board his ark. After that, the other blunders just seemed to come naturally. A procession of wacky, wonderful, way-out quadrupeds marched into the strip displaying all kinds of quirks and temperaments."

## Academic Reputation Important to Freshmen

Who are this year's freshmen on the Columbia campus? More than four-fifths had A and B grade averages in high school. And more than half chose the University because of its academic reputation.

The findings are results of questionnaires filled out after enrollment but before classes began this fall. Conducted by the American Council on Education, the survey was made on 252 college and university campuses.

The national norm showed 69.4 per cent with A and B grade averages as compared with 83.1 on this campus, and 46.4 per cent nationally chose their college for academic reputation while 51 per cent came to Columbia for that reason.

## Aerospace Included In Mechanical Engineering

Engineering's Department of Mechanical Engineering is now the Department of Mechanical and Aerospace Engineering.

"This change is formal recognition of the aerospace studies we've offered for many years on the Columbia campus," explained Dr. Paul W. Braisted, department chairman. "And it also reflects our commitment to expand further our course work in this area."

## Letters to the Editor

The January 1968, Missouri Alumnus is most attractive and interesting. I am sure many alumni share my feeling of pride in the publication.

Of special interest to me was the article, "A 100 for the Teacher." I think it may, however, give the wrong impression of the present status of the College of Education. While I would agree that much is going on there in training teachers, administrators, and in some research as well, the truth is that it is suffering a severe case of malnutrition from lack of resources. The staff is underpaid, the building and equipment for laboratory school training is inadequate, and the amount of research done is minimal. All this is at a time when we need the finest kind of education for teachers as well as a major effort in the field of research and development.

Dr. Schooling and Dr. Woods will both tell you that I have spoken to them about this problem. I do not write in the spirit of carping criticism, but taking to heart the last paragraph of the article which says "the people of the state . . . will have their voice in planning the next 100 years." My voice says that the people of the state should rise up and demand that the College of Education receive a massive transfusion of funds and leadership.

Kathleen Kendall Marx BA '48
Rocheport, Mo.

In the January issue, I was especially interested in the article on the University Theatre. In 1945 and '46 I studied under Professor Rhynsburger and am always happy to read about his latest productions. I thought he (as well as possibly some alumni) might be interested in knowing that at least one of his former students (and I'm sure there are many, many others) is doing what he said he hoped they would do — in some way bring theatre into their communities.

Four years ago our local Kiwanis Club decided to try to do "Oklahoma" to raise some money for youth work. We had a rather historic old opera house, but seldom used now, which was avilable to us. I served as dramatic director. The show was a huge success, so "Brigadoon" followed the next year, and then "Annie Get Your Gun" and "The Music Man." We're beginning preparations for "South Pacific" now. Even though we're close to Kansas City's Music Hall and Starlight Theatre, the people here enjoy our productions with local talent.

I will always remember Mr. Rhynsburger with much affection.

Mary Louise Carter Thurman
BS Ed. '46
Richmond, Mo.

I read, with interest, the fine column on the "Showme" Staff Reunion. It sounded like a great gag.

However, I have probably attended as many bar mitzvah and other kosher ceremonies as any alumnus, and I have seen and drunk a lot of Mogen David Wine, but never any **Morgan** David. I just wanted to know why I can't find any of Rees's brand at my neighborhood delicatessen.

My best to all my old friends at Mizzou and I hope that you can catch my new act in the Village.

Lawrence I. Goldberg BJ '57
New York, N. Y.

(To nightclub comic Goldberg the editor would like to say that Morgan David is a typographical error, or that he has had so little contact with alcoholic beverages that he couldn't be expected to know, or that it is a new gentile wine, not yet available in the East. The editor could like to say that, but the truth is, he goofed.)

# Commentary 2

## Bus Entsminger's Column

When an alumnus returns to any campus of the University of Missouri, he immediately is impressed by the tremendous physical expansion which has taken place since he attended school.

Even the casual visitor can't help but notice the construction activity. And if his contact is limited to only what he sees, he is likely to believe that the University is making gigantic strides in alleviating the overcrowding which has been especially prevalent in the past five or six years.

The hard fact, however, is this: Since 1963, the University actually has fallen behind each year in the amount of space it has had available per full-time student. And we were overcrowded in 1963.

It's true that the University has strong construction programs under way on all four campuses. New buildings are easily and qdickly noted by everyone. What isn't recognized so easily is the tremendous increases in student enrollment. And this says nothing about the additional services to the state, rapidly expanding graduate and professional programs, and the new technologies and research, all of which also require new space.

On the basis of square feet per full-time student, here's the record since 1963: In 1964, the available space declined 11.4 per cent; 1965, 25.8 per cent; 1966, 28.4 per cent; and last year, 31.7 per cent. Even by 1970, when new buildings now authorized may be ready, the decline from 1963 "standard" still will amount to 21 per cent.

Clearly, in spite of the construction we can see, the University has been losing ground in its race to keep a proper balance between facilities and the number of students it serves.

## Veteran of Vietnam War Wins Olive-Eating Title

There's a new olive-eating champion at the Old State U. Vietnam War veteran Henry W. Orf dethroned Steve (Pits) Pellegrino by downing 125 olives to Pellegrino's 85 in a 30-minute eat-in just before the semester break. The official score is determined by pit count with two umpires ruling whether or not the pit is clean enough to be counted.

A freshman from Lee's Summit, Orf said he had once eaten a case and a half of C rations while celebrating a buddy's birthday in Vietnam. Also a freshman from the Kansas City area, Pellegrino lives in Raytown.

## Engineering Students Tell How to Win A's

"How do you do it?" was the question asked two engineering students with grade-point averages of 3.79 and 3.95 in the engineering monthly magazine, Shamrock. "Win the war instead of each little battle," one of them advises. "There are things that you can let slide. But the big things like exams or quizzes you just can't let go. A student that tries to win all the battles, doing everything no matter how important, usually ends up putting a lot of emphasis on one course or getting frustrated."

How much do they study? "I don't think you have to be a bookworm to get a good grade point. If a weekend rolls up and the pressure is on, I might devote 10 to 14 hours a day. But the next weekend I might just work an hour."

Sleep's part of the necessary formula. "I don't get over eight hours of sleep a night, but I also often take a nap in the afternoon. I can get an awful lot out of the evening if I'm rested and fresh. If you're tired and trying to pound something out at your desk, five hours is not worth one hour of alert and refreshed study."

And lastly, "Try short study spurts paced by breaks. Vary your studies and maintain the highest interest possible."

## Curators Offer Awards

Assistant professors are being encouraged in their research projects by a University-wide Curators Publications Award. Manuscripts representing research in any field of scholarship recognized on any of the four campuses are eligible for consideration by the judges.

The award will consist of a $1000 prize to the author as well as funds guaranteeing publication of his manuscript by the University of Missouri Press. In addition the Press will pay royalties to the author on all copies of the book sold.

Publication of the first book will be made in 1969, when the Press observes the 10th anniversary of its founding.

## New Master's Program For School of Nursing

A graduate program leading to a degree of Master of Science in Nursing is being inaugurated by the School of Nursing. The program will offer a clinical concentration in medical-surgical nursing, and will prepare graduates for teaching in this field.

## Fol's Washington Office Helps Gain News Access

A special program to help newspapers, broadcasters and the public obtain fuller access to federal government information has been developed by the Freedom of Information Center at the School of Journalism.

This how-to-do-it kit was developed by Samuel J. Archibald, former staff director of the House Government Information Subcommittee. As the Fol's representative, Archibald heads the center's new office in Washington, D. C. In addition Archibald will serve as part-time assistant professor for University journalism students in Washington and Columbia, particularly graduate students working on Fol projects in the capital.

The new freedom of information law, in effect since last July, provides for the inspection of federal records, some categories of which are exempted. Upon complaint, the federal district courts have the power to enjoin any agency from withholding records and to fine responsible officers for contempt if they fail to comply.

## Evans Foundation Buys Campus Chapter House

Golfers just can't be all bad.

The Western Golf Association is opening a chapter house for Evans scholars on the Columbia campus. Already owning chapter houses at 10 other universities (mostly Big 10), the Evans Foundation has purchased the former Delta Tau Delta house and will obtain occupancy in September. By then the Columbia chapter will have more than 40 members, all former caddies. Currently, there are 29 Evans scholars here.

Funds for the scholarships come from the 75,000 members of clubs that belong to the Western Golf Association. Since 1930 more than 1200 boys have become college graduates through this program.

## Better Tornado Forecasts

With the tornado season beginning, it is comforting to know that improved tornado forecasting procedures are being developed. Dr. Grant L. Darkow, an associate professor of atmospheric science, has established an index of total atmospheric energy.

Severe storm activity approaching in six to 12 hours can now be better delineated by making upper air soundings. The index is now being tested for practical application in cooperation with national severe local storm forecasting centers in Kansas City and Norman, Okla.

## An Alumnus in Spirit

It's finally been cleared up: Comedian Dan Rowan never attended the University of Missouri-Columbia. He only wished that he had.

The publicity releases on the co-star of the Rowan and Martin Laugh-In television show reported that he attended school here, majoring in journalism. But alumni records failed to find him. Thinking he might have changed his name for the show-biz world, activities director Jean Madden wrote Martin. Here's part of the reply:

"The reason you cannot find something about my connection with the University is that I never attended your school. In an interview during an engagement in Kansas City, I told a newspaper man of my high regard for your Journalism School and my wish that I could have attended. I am, in reality, an alum in 'wish' only."


MISSOURI ALUMNUS

The Voice of the Alumni Association of the University of Missouri-Columbia