

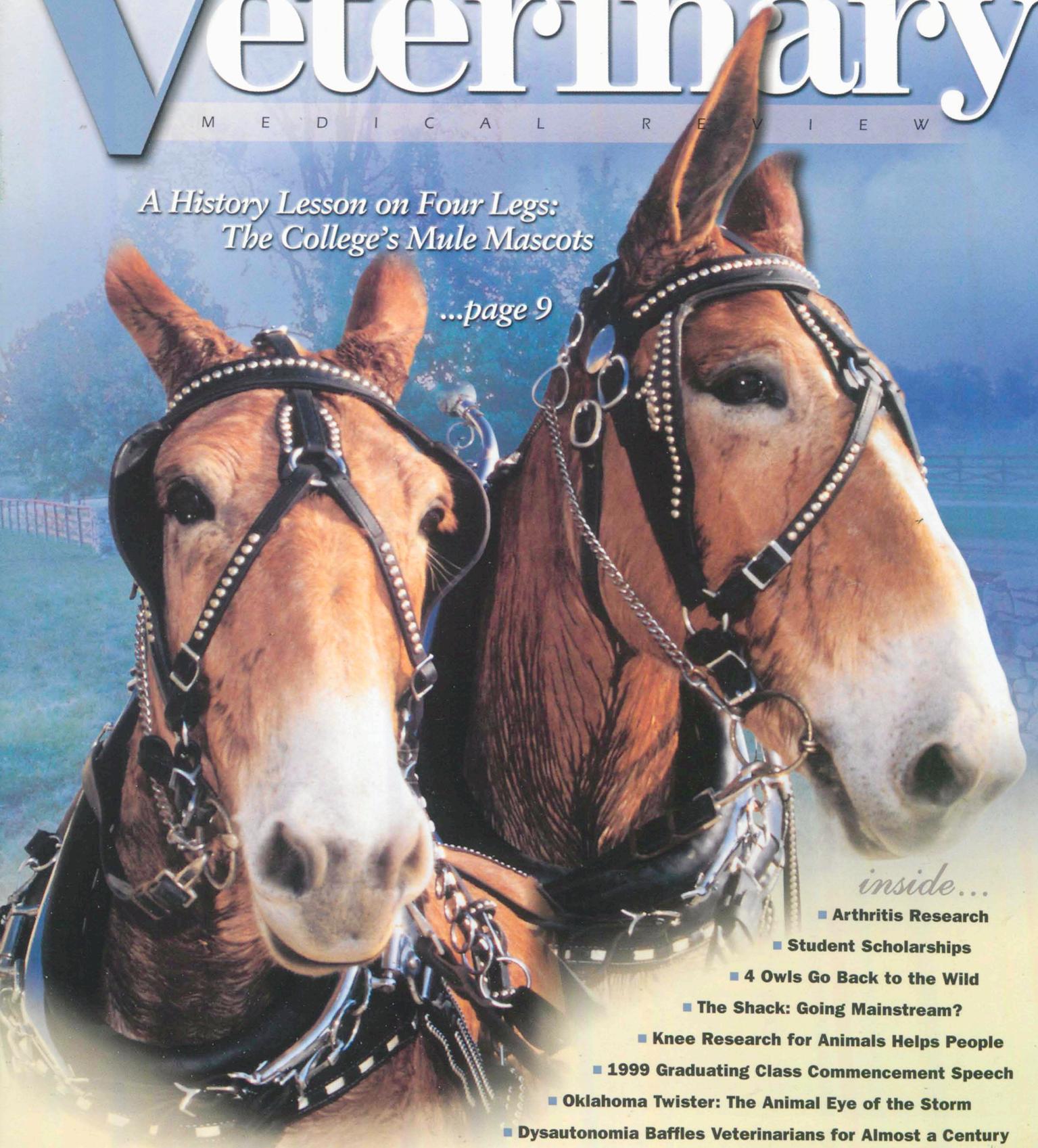
Fall/Winter 1999  
College of Veterinary Medicine • University of Missouri-Columbia

# Veterinary

M E D I C A L R E V I E W

*A History Lesson on Four Legs:  
The College's Mule Mascots*

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# Veterinary

M E D I C A L R E V I E W

Fall/Winter 1999

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*Editorial Office*

W-203 Veterinary Medicine Building  
University of Missouri-Columbia  
Columbia, MO 65211

*College of Veterinary Medicine Dean*

Dr. Joe Kornegay

*Associate Dean for Academic Affairs*

Dr. C.B. Chastain

*Editor*

Randy Mertens

*Photography*

Don Connor  
Jim Curley  
Rob Hill  
Randy Mertens  
Howard Wilson

*Graphic Design*

Sandy Whitter  
MU Printing Services

*Illustration*

Dennis Murphy

*Telephone*

(573) 884-2215

*Web Page Address*

www.cvm.missouri.edu  
www.vmh.missouri.edu

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**ON THE COVER**



**HISTORY ON FOUR LEGS**  
At more than 50 events per year, the College's mule mascots give Missourians a look back at the early history of the state.



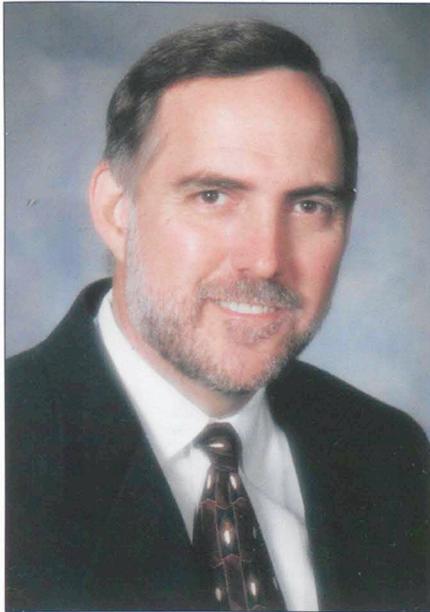
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## *Slaying the Two-headed Monster*

No issue threatens the veterinary profession more than the two-headed monster of student debt and low-starting salaries for new graduates.

When I graduated from veterinary school in 1973, annual, in-state tuition at MU was \$730 yearly. Today, 25 years later, that figure stands at approximately \$10,000. Starting salaries for new graduates in 1973 averaged about \$13,000. The national average is now a modest \$35,000. Take a close look at these figures. Quick math tells you that while tuition has increased almost fourteen fold over this 25 year period, starting salaries have increased by a factor of less than three. Is it any wonder that students nationwide now have an average debt of about \$60,000 at graduation? And, unfortunately, given the low-starting salaries, they're ill-equipped to repay this debt.

Let's face it. Despite the fact that our students seem, if anything, to be getting better—truly the best and the brightest—their starting salaries as veterinarians compare poorly with some four-year undergraduate degree programs. At a recent alumni reception at a national meeting, one of our alumni expressed concern that he'd been unable to fill an open position for an associate veterinarian for over a year. When I inquired about the starting salary, he responded that he was paying the national average. Perhaps naively, based on the dynamic of supply of demand, I asked further if he'd considered increasing the starting salary beyond the national average. Well no, he replied, because his own salary was not much more than the national average of \$55,000 for practitioners (and, if he didn't, others have certainly emphasized that our graduates need more marketable skills—see further below). To some extent, we've become victims of national statistics, reluctant to venture beyond the norm. I sometimes think that

society values our profession more than we do ourselves.

It's difficult to underestimate the effect that the two-headed monster of student debt and low-starting salaries is having on the veterinary profession. The debt-load, and consequent drain on the new graduate's already-modest pay check, impedes his/her ability to some day make a down payment on a practice. The long-held tradition of transferring ownership from the established practitioner to the new associate is compromised.

So, what to do? Several years ago, an AVMA-sponsored symposium on student debt identified three major contributing (or compounding) factors: a roll-back in public support for higher-education, with a resultant increase in tuition costs; increased numbers of graduates in the aftermath of the opening of nine new veterinary schools between 1969 and 1979; and practice economics. This listing highlights the inseparable nature of the two-headed monster. The first factor clearly relates to student debt, while the latter two have a greater effect on starting salaries. Unfortunately, in the short term, not much can be done about the first two factors. The costs borne by states in educating veterinarians are perhaps higher than for any other professional degree program. Universities are, therefore, unlikely to reduce tuition. At the very least, we should all do more to make a strong case for the value of higher education. As the bumper sticker says, "Think education is expensive, try ignorance." Emphasis should also be placed on obtaining greater scholarship support and providing financial counseling to students.

What about the number of graduates, or more to the point, the overall number of veterinarians? Think about it, there are only roughly 70,000 veterinarians in this country today. They'd all fit into

*continued on page 19*

## Endowment Campaign Kicks Off More Than Halfway Toward Goal

IN CONJUNCTION WITH its 50th anniversary, the College began the public phase of a \$10 million endowment campaign earlier this spring. With more than \$6 million already committed, the campaign was launched at the annual Gentle Doctor Benefit.

"The endowment campaign has provided me with an opportunity to meet with a number of alumni, friends and key corporate allies, and personally experience the commitment that each has to the College of Veterinary Medicine," Dean Joe Kornegay said. "I look forward to continuing to interact with these special friends and others as the campaign moves forward into the public phase. Because of their efforts and those of our students, staff and faculty, the College has a bright future."

Four major new gifts and pledges included in the current \$6 million campaign total were announced also: a \$750,000 gift to establish the Joseph E. Wagner Fellowship in Laboratory Animal Medicine, a \$300,000 gift to endow the Thelma P. Zalk Scholarship, a \$255,000 trust to endow the Theodore G. Short Scholarship, and a \$100,000 pledge to establish the Gentle Doctor Benefit Parents' Committee Scholarship.

"The College of Veterinary Medicine's 50th Anniversary Endowment Campaign is a celebration of the past and a blueprint for the future ensuring MU's position as a leader among the best veterinary colleges in the nation," MU Chancellor Richard Wallace said.

Founded in 1946, the College graduated its first class of doctors of veterinary medicine in 1950. The campaign timeline parallels the four-year journey of this first class. All gifts and pledges received since July 1, 1996 are included in this campaign. Since that time, three new profes-



photo by Rob Hill

# Four for Four

Four baby owls, orphaned by forest cutting near Rhineland, Mo., were released back into the wild after help from MU veterinary medical students. The students acted as surrogate mothers who raised and fed the chicks orphaned only a day after hatching. The students camouflaged themselves with old surgical gowns and fed the chicks with bird-like hand puppets to keep the chicks from imprinting on humans. Dawn Gau, class of 2001, was in charge of the effort. Jennifer Legg and Michael Hochman, both class of 2002, joined Gau in feeding and caring for the chicks. The students gave up much of their free time this spring to raise the birds and help them learn to fly and hunt.

sorships have been endowed, the Ralston Purina Missouri Professor of Small Animal Nutrition, and the Tom and Betty Scott Missouri Professor of Veterinary Oncology in 1996; and the E. Paige Laurie Missouri Professor of Equine Lameness in 1997.

"Underlying the campaign's financial objectives are two long-term advantages: the development of an enthusiastic new volunteer leadership base and greater visibility for the College with friends and supporters all over the country," said David Horner Jr., director of develop-

ment for the College.

This campaign is the second major fund-raising effort for the College. A five-year capital campaign in 1988-1992 raised \$4 million in private support from alumni, corporations, and friends. This fund seeded the design and construction of Clydesdale Hall, the College's state-of-the-art, \$21-million, 144,000-square-foot teaching hospital. Since opening its doors in 1993, Clydesdale Hall has become recognized as one of the nation's finest, and best equipped, veterinary medical teaching hospitals.

## A Visit to the Equine Sick Ward Revives Memories of Warpaint

ONE OF KANSAS CITY'S most storied Chiefs football celebrities made an emergency visit to the MU Veterinary Medical Teaching Hospital's equine clinic this spring.

Warpaint, the longtime team mascot, showed signs of colic at its retirement home at the Benjamin Ranch in Kansas City. At 30, Warpaint is the equivalent to a senior citizen. The popular mascot was retired from the team nine years ago.

After initial treatment in Kansas City, ranch operator Bob Faulkner transported Warpaint to the teaching hospital in a driving rainstorm. "It's really a world-renown facility. We're lucky to have it here," he told *The Kansas City Star* newspaper.

When word about the hospital visit

got out in a newspaper column and Associated Press wire service story, the football team and the ranch got phone calls and letters from all over the world asking about Warpaint's health, Faulkner said.

Warpaint was the team's first mascot. Ridden by a person dressed as an Indian Chief in full battle dress, Warpaint would gallop around the field after each touchdown. Warpaint was replaced by a motorcycle-riding actor in fake wolf fur. Many fans never accepted Warpaint's retirement.

"I got phone calls like you could not believe," Faulkner said. "They did not want Warpaint to retire. Then, it got out on the AP wire and we got phone calls from all over the world—I'm not kidding you—wanting to know what we were going to do with him. I joked the Cleveland Indians had called and were inquir-

ing about him, and somebody picked that up on the wires and we got more phone calls. He's just a different kind of horse with a unique personality. A people kind of horse."

Colic is a potentially fatal problem for horses. Warpaint's one-week stay for routine therapy and observation in the teaching hospital was largely uneventful. He was released with the expectation of a full recovery back at Benjamin Ranch—a happy prospect for the ranch's Faulkner.

"We had him out at Arrowhead (the stadium where the Chiefs play in Kansas City) three years ago at the old-timers game," Faulkner said. "We hid him in the tunnel, and when they announced him, he got a standing ovation. I mean, everybody stood." VMR

## PEOPLE

### VMTH Technician Earns New Animal Critical Care Certification

Mary Flanders, a veterinary technician specialist at the MU Veterinary Medical Teaching Hospital and a 30-year veteran in the field, is one of the first-ever veterinary technicians to be certified as a specialist in emergency and critical care. She is the first board-certified technician at the teaching hospital.

Only about 40 of the thousands of veterinary technicians in the U.S. have this designation. Qualifications for the certification include: A veterinary technician's license and training, 4,000 hour of work in emergency and critical care, and completion of a practical and written test.

After spending several years at a private practice in the Caribbean, Flanders returned to the United States and quickly realized she felt out-of-touch with the advances in veterinary medical treatment and technology in America. Through her work at MU and training for the certification exam, Flanders has been exposed to new treatment options that help ease the pain for her patients and their owners alike.

To achieve certification, Flanders sat for an exam administered by the Academy of Veterinary Emergency and Critical Care

Technicians (AVECCT). Content of the exam spans a variety of emergency and critical care techniques and procedures, including questions about equipment, complications, and troubleshooting.

"Veterinary medicine has seen a rapid growth in knowledge and technology in the last several years," said Dr. Harold Davis, AVECCT president and founding member. "Those technicians who work with a specialist find themselves being channeled into those areas of specialization. It would only seem natural to recognize those technicians who have achieved a broad base of knowledge and skill in their area of specialization." VMR



Mary Flanders

# One HIP cat

In their native mountains of central Asia, snow leopards can leap distances of 50 feet. Not Pasha, a Kansas City Zoo snow leopard.

Both of the eight-year-old cat's hips had degenerated with hip dysplasia. Untreated, the disease would eventually cripple and kill the endangered species.

Hip dysplasia is so rare in cats that hip replacement surgery has been performed only once before on a snow leopard. This spring, Pasha was the second.

Drs. James (Jimi) Cook, assistant professor, and James Tomlinson, associate professor, guided the orthopedic surgery team at the MU Veterinary Medical Teaching Hospital through the almost two-hour operation that replaced one of the two damaged hips. This fall another operation will replace the second.

The ball and socket prosthesis used was a standard item, the same used on a medium-large dog. The operation went well and the cat was up and walking around its zoo enclosure only days after the operation.

There were three significant differences in replacing a snow leopard's hip over a dog's hip. First, as leapers who must contend with hard landings, snow leopards have extra thick cortical bone around their marrow. Removing the diseased bone during surgery was even more of a chore than expected. Second, anesthesia was another special consideration. These high-altitude cats have unique blood oxygenation systems. Also, even under sedation, Pasha was fully capable of mauling anyone—only more slowly.

Lastly, Pasha is an exotic predator that can't be given routine post-operative therapy. "We can't control him like we can a dog," Dr. Cook said. "We can't put him on a leash and walk him." In dogs, normal post-operative therapy includes "towel walking." No one volunteered to towel walk Pasha.

Hip replacement surgery of this type



normally costs approximately \$2,000. The surgery was paid for by the Seaworld and Busch Gardens entertainment divisions of Anheuser-Busch Companies as part of their commitment to preserve wildlife.

Pasha is one of only 200 snow leopards in captivity in the United States. These muscular cats prowl the mountains of Russia and Asia. Scientists estimate only 4,000 to 6,000 are left in the world.

The eight-year-old, 85-lb., Pasha was

bred in captivity and came to the Kansas City Zoo from the Little Rock, Ark. Zoo. His condition was discovered in a routine x-ray during his quarantine.

Dr. Kirk Suedmeyer, senior staff veterinarian for the Kansas City Zoo, MU DVM class of '87 and an adjunct MU assistant professor in veterinary medicine, said the disease was fairly advanced when discovered and had already caused mobility problems. Pain caused by the condition may be why Pasha did not successfully breed with the KC Zoo's other snow leopard, Fisher. A litter of snow leopards would significantly bolster the declining numbers of these animals.

One month after Pasha's operation, Dr. Suedmeyer reported that snow leopard was doing well and was expected to be released back into his exhibit after three weeks' additional recuperation.

## P E O P L E

### After 20 Years' Service to the College, 'Consummate Student Advocate' to Leave



Dr. Aronson

Dr. Everett (Finny) Aronson, a radiology instructor for almost 20 years, and most recently the director of alumni and student affairs announced that he would be leaving the College at the end of the year.

Described as the "consummate student advocate" by Dean Joe Kornegay, Dr. Aronson plans to "find out what his wife Lynn does during the day."

Dr. Aronson received his DVM degree from the University of Illinois in 1975. After positions in Chicago-area animal hospitals, he joined the University of Missouri College of Veterinary Medicine as an assistant professor in 1980. He was named associate professor-radiology in 1986 and director of student and alumni affairs in 1994.

Among his awards and honors are two Carl J. Norden Distinguished Teacher Awards and six Golden Aesculapius Teaching Awards. In 1998, his work was recognized by a Dean's Impact Award for sustained and substantial contributions to the College.

## P E O P L E

**MU Veterinary Hospital Seeks Equine Ambulatory Specialist**

THE TIRE BLOWOUT probably sounded like a gunshot, followed by a loud squealing of tires as the truck, pulling a trailer with eight horses, skidded across the I-70 median in Columbia, Mo. The truck collided head on with a semi, then was smashed broadside by two others.

Within minutes, Columbia Police, the Missouri Highway Patrol, and ambulances were on the scene. A helicopter airlifted one person to the University Hospital and Clinics.

Also on the scene to provide specialized care for the two surviving animals were large-animal veterinarians from the MU Veterinary Medical Teaching Hospital. As with the human health care providers tending the people, the veterinarians worked to stabilize the equine patients. When all that could be done on-scene was completed, the two surviving horses were loaded onto the hospital's trailer for the trip to the veterinary hospital.

Last year, the veterinary medical teaching hospital performed about 370 ambulatory visits. Few were as dramatic as the I-70 crash. Most were routine health care visits dealing with primary health concerns—vaccinations, de-worming, and reproductive care.

As the large animal section of the hospital, which traditionally performed equine as well as food animal ambulatory visits, specializes more with food animals, a need exists for someone to specialize in equine visits, Dr. David Wilson, head of the veterinary medical teaching hospital's equine unit said. That's why the MU veterinary medical hospital is seeking to add a new clinical instructor/assistant professor in the equine ambulatory practice area.

With a new person developing this area, it is expected that the number of equine ambulatory visits will double in the first year, and triple in the second. This was the experience at Purdue University when they added a dedicated equine ambulatory professor.

Most importantly, the new professor will add an important teaching element to the equine section of the hospital, Dr. Wilson said. Veterinary medical students will be a pivotal part of these visits, learning not only important primary practice concepts, but client relation skills and farm management issues.

As the veterinary medical hospital is a referral center, ambulatory visits will provide one of the few opportunities for these students to experience primary care cases. This element will round out the equine students' education in the same way small-animal students experience primary care in community practice and food animal students in their ambulatory work, Dr. Wilson said.

In addition to the new faculty member, the equine ambulatory effort will have a dedicated truck and equipment, freeing the food animal effort to expand in their area.



Dr. Joanne Kramer, resident in equine surgery, examines Surprise, a four-year-old Tennessee Walker who survived the I-70 accident.

VMR

**August '99**

19-20 VM-1 Orientation

22 VM-1 Welcome picnic

23 Classes begin

**September**

6 Closed for Labor Day

18 Dog Jog

25 Alumni Day  
and Fall Conference**October**

19 Veterinary Products Day

**November**22-26 Thanksgiving vacation,  
VM-1 & -2

25-26 Closed/Thanksgiving

**December**20-31 Holiday vacation,  
VM-1 & -2

24 Closed/holidays

31 Closed/holidays

**January 2000**

3 Classes begin

17 Closed/

Martin Luther King's birthday

**March**

4 OPEN HOUSE

7 Accreditation & graduation  
preparation day for VM-4s

13-17 Spring break, VM-1 &amp; -2

**April**1 Parents' Day &  
Gentle Doctor Benefit**May**

3 Honors Banquet

5 Commencement, 1pm,  
Jesse Auditorium

29 Closed/Memorial Day

**June**26 Summer vacation begins,  
VM-2 & -3

# Accolades

**Anita Bonderer**, senior veterinary technician, was presented the 1999 Technician Award by the MU Veterinary Medical Teaching Hospital. **Dr. David Maggs**, resident, received the Resident Teaching Award.

**Jeffrey Brault**, graduate student in veterinary biomedical sciences, won the 1998-1999 Donald K. Anderson Graduate Student Teaching Award.

**Drs. James (Jimi) Cook**, assistant professor of veterinary medicine and surgery, and **Ned Williams**, surgical resident, passed their board examinations and are now Diplomates of the American College of Veterinary Surgeons.



**Dr. Gheorghe Constantinescu**, professor of veterinary biomedical sciences, was awarded the 1999 Golden Aesculapius Teaching Award by the College VM-1 class. **Dr. James Turk**, associate professor of veterinary pathobiology, won the award given by the VM-2 class. **Dr. James (Jimi) Cook**, assistant professor of veterinary medicine and surgery, was presented the award by the VM-3 and VM-4 classes.



**Dr. John Dodam**, assistant professor of veterinary medicine, was awarded the College's 1999 Carl J. Norden Teaching Award.

**Dr. Laura Dvorak** and **Dr. Derek Fox**, both small animal surgery interns, were awarded the College's 1999 L.N. Atkinson, DVM, Memorial Award. **Dr. Fox** also won the Intern Teaching Award.



**Dr. Brian Frappier**, clinical assistant professor, was awarded the Student Chapter of the American Veterinary Medical Association's Teaching Award for Basic Sciences. **Dr.**

**Steve Stockham**, associate professor of veterinary pathobiology, won the award for clinical sciences.

**Dr. Catherine Garon**, resident veterinarian, won the College's Redhage Award for good client relations.

**Dr. Allan Hahn** chaired the Executive Planning Session on Veterinary Databases organized by Purdue University.

**Daniel Hatfield**, senior research specialist, and **Karen Olinger**, executive staff assistant, were recognized for 25 years' of service to the College and University. **Joanne Adams**, medical technologist, and **Bill Johns**, animal caretaker, were recognized for 20 years' service.

**Dr. Mary Kennett**, post doctoral fellow, recently accepted the assistant director position at the Office of Laboratory Animal Medicine.



**Dr. Robert McClure**, professor of veterinary medical biosciences, was elected to the board of directors of the American Veterinary Medical History Society.

**Dr. Cecil Moore**, interim clinical department chair and director of the veterinary medical teaching hospital, chaired the May 9 meeting of the American College of Veterinary Ophthalmology Board of Regents.

**Dr. Elmer Price**, associate professor of veterinary biomedical sciences, was awarded the Pfizer Animal Health Award for Research Excellence.



**Dr. Ronald Terjung**, professor and associate chair, veterinary biomedical sciences, chaired a conference on Oral Creatine Supplementation sponsored by the American College of Sports Medicine.



**Dr. Wade Welshons**, associate professor of biomedical sciences, chaired the IBC Conference on Endocrine Disruption in the Environment held in London.

## Summary Profile of Class of 2003

<b>Applicant Pool</b>					
Total number of applicants	221	Small town	17	California	2
Total number of Missouri applicants	152	Farm	15	Nevada	2
Number of eligible Missouri applicants	124	<b>Accepted Applicant Education</b>		Arkansas	1
Number of non-resident applicants	69	Non-degree	45	Illinois	1
<b>Accepted Applicant Statistics</b>		Bachelor's degree	19	Florida	1
Total number of accepted applicants		Average VCAT percentile	63.52	Nebraska	1
Number of women	45	Average ACT score	28.04	New Jersey	1
Number of men	19	Average GPA	3.57	South Carolina	1
Average age	22	Average biological science GPA	3.47	<b>Universities Last Attended</b>	
<b>Accepted Applicant Background</b>		Average physical science GPA	3.36	University of Missouri-Columbia	26
Large city	24	Average credit hours per semester	15.03	University of Missouri-St. Louis	3
Urban (10-50,000 population)	17	<b>Accepted Applicant State Residency</b>		University of Missouri-Kansas City	0
		Missouri	54	University of Missouri-Rolla	1
				Other universities	34



*A*  
**History Lesson  
on Four Legs:**

*Students and Friends  
Amble Back to an  
Earlier Time*

*The  
College's  
Mascot Mules*



# Mules

*Photos by Howard Wilson  
Text by Randy Mertens*

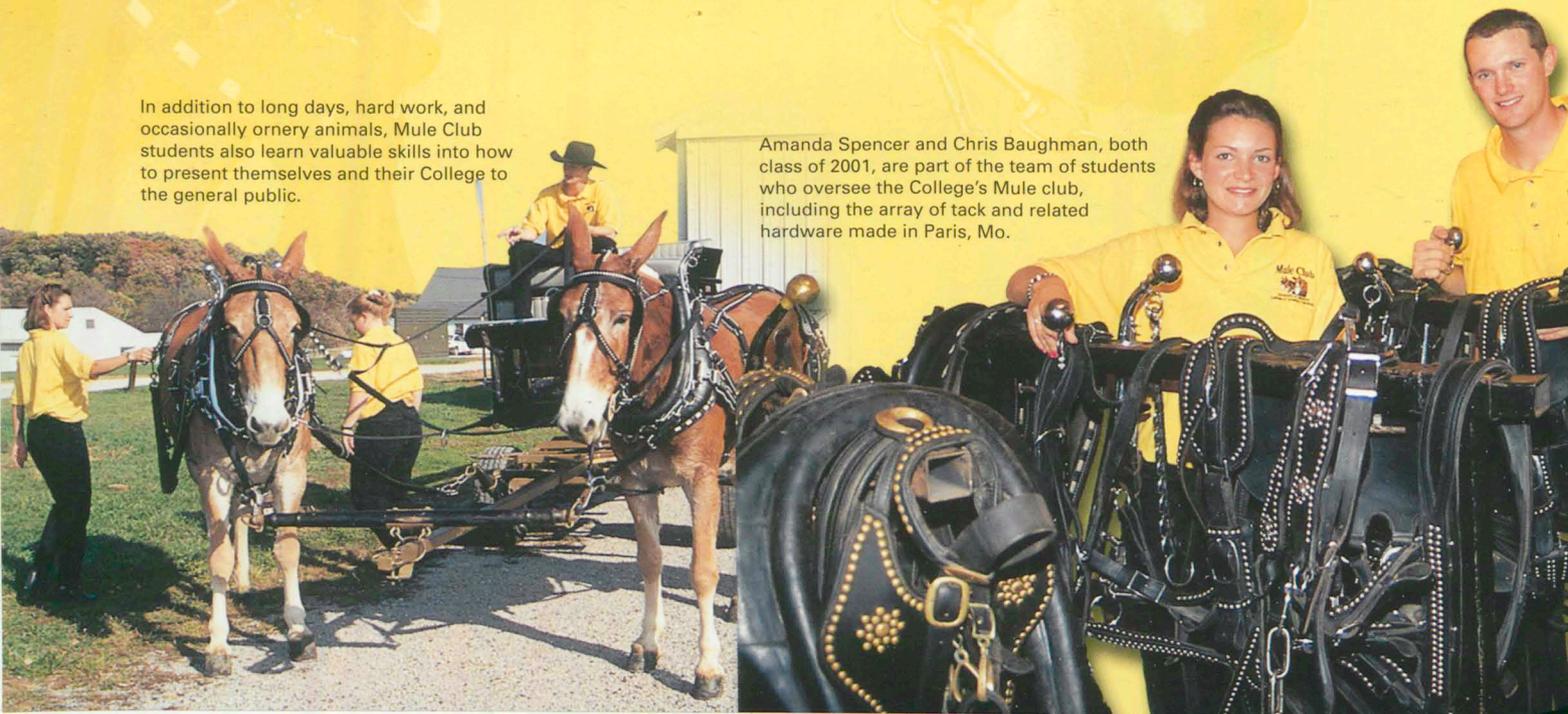
THE PRE-TEEN FROM THE CITY had never seen an animal larger than a dog. Now, he stood face-to-face with two Missouri mules, towering over the young man whose concepts of agriculture come only from TV shows.

■ Ready to pull back and run if the huge animals become threatening, he was coaxed into offering a peppermint treat to one of the beasts. Slowly and deliberately, one of the mules bowed her head and gently licked the treat off the young man's trembling palm. Relieved that he had not been partially eaten, the young man grinned and petted his new friend.

■ Another lesson in Missouri history has been delivered.

In addition to long days, hard work, and occasionally ornery animals, Mule Club students also learn valuable skills into how to present themselves and their College to the general public.

Amanda Spencer and Chris Baughman, both class of 2001, are part of the team of students who oversee the College's Mule club, including the array of tack and related hardware made in Paris, Mo.





Mule pilots have different techniques for holding the reins. Most favor a rein in each hand. Others combine the reins.

Hooking up a mule team is a lesson in physics, as both mules must equally pull the wagon and still be able to turn.

*Mules* are synonymous with Missouri. In Missouri's first century, they were the backbone of the state's agriculture and economy. Once, Missouri exported more mules than any country.

Even after the invention of the motor vehicle, mules were a critical economic part of the state in both war and peacetime. In World War I, Missouri mules donned gasmasks and braved the terrors of trench warfare. In the Great Depression, mules strained at their harnesses to pull out stumps and helped Missouri farmers scratch out a living.

It is because of this heritage that the MU College of Veterinary Medicine adopted the mule as its mascot. Pulling a dozen-passenger wagon, the mules and their veterinary medical student handlers represent the College, University, and state at more than 50 events each year, including parades, picnics, weddings, and MU's Homecoming. The team regularly leads the governor's inaugural parade, and participates in the St. Louis Charity Horse Show and American Royal Parade in Kansas City. The College's mules traditionally lead the Missouri State Fair's opening ceremonies and once were spotlighted by television personality Willard Scott on NBC's Today Show.

Several thousand people, governors to senior citizens but mostly young people, have ridden in the wagon behind the mules for a trip into Missouri's past. Each year, thank you notes and newspaper clippings pour into the College's Mule Club mailbox.

Jill and Shirley are more than just good, they are both state champions. Jill is a three-time state champion, and Shirley has taken the title once.

A heavy rain is no deterrent when you have an opportunity to drive a mule team. Past Mule Club president Chris Baughman (left) and Missouri Lt. Governor Roger Wilson make a turn that placed them center stage at Clydesdale Hall's grand opening.



## Jill and Shirley, a.k.a. Hilda and Louise

The first pair of mascot mules began work at the College in 1982, about a generation after these animals passed from the state's everyday life. After a decade and a half of service, they retired to the green pastures behind the College and a new generation of mules took their places.

The College's current mascots, Jill and Shirley, replaced the original team of Hilda and Louise a few years ago. Hilda and Louise were so famous as "the mules" that the new mules were constantly misidentified by their predecessors' names. Rather than fight the situation, it was easier to use Hilda and Louise as stage names for the newcomers.

The original Hilda and Louise came to the

and at age 20 in 1996, Hilda and Louise were ready for their retirement grazing.

Jill and Shirley were raised in Perry County by John Roy Chipman, a 1968 MU ag grad who wanted to help the College keep the tradition alive. The pair are three-quarters sisters. They have the same father, a Mammoth Jack donkey and different Belgian mare mothers who are half-sisters.

Though closely related, the mules have different personalities, say the veterinary medical students who care for them. Jill demands attention and can be somewhat dominating to her two-year-old sister Shirley. Shirley, who students say has a lazy streak, is less aggressive than Jill. Both animals are gentle and careful around the crowds that they attract.

"I've seen them take a kid's whole hand in their mouth, wipe it clean, and have it come out without a scratch," said Justin Berger, former president of the Mule Club and now a veterinarian practicing in Marshfield, Mo.

Both mules, but especially Jill, tend to stretch their honey-colored necks to invite crowds to stroke and pet them. "They, especially Jill, really know how to milk a crowd," one

student said.

"These are the two most vain mules," said Tanya Balaam, a class of 2001 veterinary medical student. "They know they are beautiful, as mules go."

One person not surprised that the mules play their showbiz role well is Melvin Bradley, a professor emeritus in MU animal science who helped bring the mules to Mizzou. Mules are smart, smarter than horses, he said.

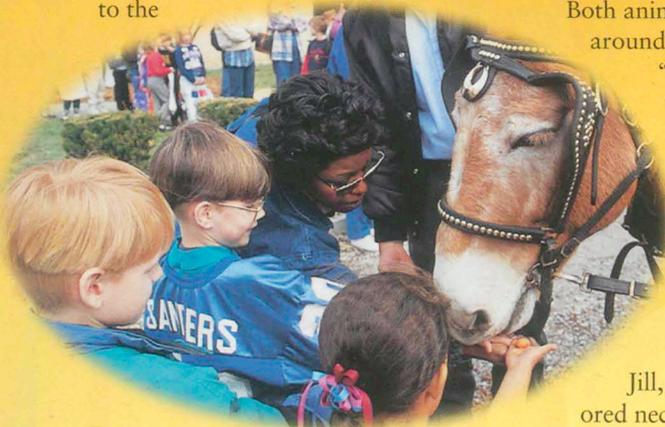
"The mule-illiterate say they're stubborn. They're not. If you get a mule's confidence, they'll do anything for you," Bradley said.

### History on the Hoof

Harnessed as a team of two to a wagon, the mules not only provide entertainment for numerous Missouri communities, but also give a living history lesson about the early days of the state. The 20 or so veterinary medical students in the College's Mule Club get a history lesson, too, by exercising the skills of their grandparents in an increasingly technologic society.

And then, there's the work ethic. Veterinary medical students are no strangers to hard work, but care, maintenance, cleaning, and grooming of mules, wagon, and related tack are hard and sometimes dirty and thankless tasks. Then, there are the before-dawn mornings where students feed and prepare the mules, load them into a truck, drive hours to an event, dress in hats and smiles, and meet the public with enthusiasm and patience. Sometimes, the best-laid plans go awry and a mule will drop a reminder of farm life before a startled spectator, said one student who asked not to be identified with the event.

When Jill and Shirley meet the public, a history lesson inevitably follows. Older people remember growing up with mules and how they helped clear land, log forests, farm fields, and build railroads. The real old-timers



**What do mules eat?** About 20 pounds of hay and three to five pounds of grain per day, plus all the apples, peppermints, and moon pies they can coax from their audience. Each mule weighs about 1,100 pounds.

College when they were six years old. They are a matched pair of sorrel draft mules, purchased as yearlings, trained, and raised as farm mules by Howard Sartain of New Franklin, Mo. Mules live to about 30 years,



Preparing Shirley for showtime. Amanda Spencer, Ellen Boyer, and Kimberly Maness, place part of the harness. The mules' wagon was made in the Missouri Ozarks.



## missouri & the mule

can quote Artillery Battery Captain Harry Truman who praised the animals as adding immensely to winning World War I.

To younger people, particularly urban kids, it's all new. Often, veterinary medical students who talk about the mules see kids become puzzled as they grasp a concept of life before cars, computers, and technology.

To some kids, the mules are a link to the lives of grandparents and great-grandparents. "My grandma told me she grew up on a farm with mules," one ten-year-old shared with a veterinary medical student as both rode behind Jill and Shirley's steady gait. "When she was little, she drove the mules and wagon into town. They didn't have electricity then. Can I drive like my grandma?" he said, looking at the reins.

And then there was Josh, as remembered by Dr. Harvey Gosser, director of the Veterinary Medical Diagnostic Laboratory and advisor to the Mule Club for seven years.

Josh, who lives in Napoleon, Mo., first met the mules at the Missouri State Fair in Sedalia as a second grader, Dr. Gosser said.

Josh's grandfather grew up on a farm with mules and told Josh stories of shared hardships and triumphs. During the mules' stay at the fair, Josh would volunteer to cut up carrots or help groom the mules, just as his grandfather did. Each year, Josh's role with the mules got a little larger, helping with tack and other chores. When Josh was in the fifth grade, the team let him take the reins and drive the mules. Josh grinned, Dr. Gosser reported.

As it happened, the mules were scheduled to lead a parade in Wellington, Mo. where Josh's grandfather lived. The Mule Club members slipped Josh the reins as they drove the team past his grandfather's house, with grandfather on the front porch. Josh grinned from ear to ear and his grandfather watched with tears in his eyes as past and present momentarily merged.

The Missouri mule, the hybrid offspring of a horse and jackass, is an important part of the state's history.

Melvin Bradley, a retired MU professor emeritus in MU animal science, can tell you so. ■ "We have a very rich mule heritage in Missouri," he said. "We were the biggest and best producer in the world. My generation was the last to depend on them." ■ In December 1994, Bradley published a two-volume book, "The Missouri Mule: His Origin and Times." He began interviewing some mule "old timers" in 1982. It was Bradley who helped bring all four mascot mules to the MU College of Veterinary Medicine. ■ It was none other than President George Washington who helped popularize the hybrid breed. Knowing the animal's ability to work hard and eat less than a horse, he arranged for large males, known as jacks, to be imported from Spain and France. ■ Mules helped grow the young nation by producing enough cotton and tobacco to trade overseas. "Mules could stand the heat down south, horses could not," Bradley said. ■ Missouri became an important provider of mules because of the westward expansion, Bradley said. Mules were sold to the pioneers, pulled freight, cleared trees to start farms, and even pulled trains and riverboats. ■ Mule breeding became an important part of Missouri's early economy. In the late 1800s when the average Missouri home had an average income of less than \$700, a mule colt could sell for \$100, a major boost to a rural Missouri family. ■ Mules were better adapted than horses at helping plow Missouri's rocky and compacted soil. "Mules put their heads down and pull and pull and pull," one Ozarks farmer commented. ■ Bradley said at one time there were nearly a half-million mules in Missouri. Mining companies alone used 12,000 of the animals. ■ Missouri mules were first pressed into military service during the American Civil War where the animal's ability to pack heavy loads across rugged terrain for long distances was highly prized. During World War I, there were more Missouri mules in the Army than mechanized vehicles. Missouri families made fortunes selling the beasts to the military—until the end of the war when the market dropped out. One Ozark trader delivered a railcar of mules to the St. Louis Stockyards, just as the armistice was signed. The mules didn't make enough money to pay the freight, Bradley said. ■ Mules were still used in World War II for use in remote areas, and were even parachuted into Burma where the terrain was too difficult for vehicles. As late as the Soviet Union's war with Afghanistan, mules were used to tote surface-to-air missiles. ■ A favorite piece of Bradley mule trivia: Francis the Talking Mule, an early 1950s movie series, featured a Missouri mule bought for \$200. ■ The mule passed slowly from the state's agriculture. Even in the late 1940s, a farmer could still use a mule as a down payment on a John Deere tractor. ■ The mule's day may be diminished, but it is not gone. When a Springfield utility company needed to string 40 miles of fiber-optic cable through stretches of the Ozarks, the company could find no vehicle able to traverse the hilly terrain. Solution: Empire District Electric brought in four Missouri mules to pull the wiring over the steep hills and rough terrain.



## When You Can't Repair or Replace...

*MU College of Veterinary Medicine tests technique to help people and animals with knee injuries*

## Regenerate

It is a sound that ended the careers of many human and animal athletes. A popping sound following a severe twisting injury to the knee. Initially, there is just soreness and swelling. Soon, any knee movement is painful and slow. It's a condition that never goes away.

The severe twisting has damaged the meniscus, a c-shaped, spongy material that provides a cushion between the two bones that make up the knee. As the meniscus has only a small blood supply, it has little ability to repair itself. The condition generally worsens as the damaged meniscus wears away, damaging cartilage, and leaving bone to grind against bone.

Various means of meniscal replacement and repair have been attempted for years with only limited success. Graft rejection, failure of the graft to incorporate with adjacent tissue, osteoarthritis, and growth of non-meniscal tissue have dogged the attempts. Currently, most meniscal injuries in humans and dogs are treated by partial or complete removal of the damage or by suturing damaged material into place. An ideal treatment has yet to be determined.

A project underway by MU College of Veterinary Medicine faculty has completed initial testing on a possible solu-

tion, however. Using dogs as models and biomedically modified pig intestines, initial research indicates there may be a way to grow new meniscal material. If successful, many knee problems caused by sports injuries or disease may be treatable.

The principal investigator on the project, internally funded by the College and DePuy Orthopedics, Inc., is Dr. James (Jimi) Cook, Ph.D., small animal surgeon, and orthopedics specialist. Dr. Cook and his project colleagues, Drs. James L. Tomlinson, John M. Kreeger, and Cristi Reeves Cook, began the project after they noticed in scientific literature that chemicals from certain biochemically-altered tissues spur regenerative growth of human tissue.

### **A New Approach, Regeneration**

The research indicated that when these materials were placed against damaged tissue, the tissue absorbed the chemicals, reacted and regenerated, and grew over and absorbed the introduced material. Could this be a treatment for one of the most common and debilitating cartilage injuries?

As this material is based on animal biomedical byproducts, and that dog knees resemble the human knee in opera-

tion, the MU College of Veterinary Medicine was well placed to begin an initial investigation.

The study, begun last year and completed in March, treated dogs with meniscus injuries with a promising biomedical material selected by the project team.

A follow-up study will track the meniscal growth in the treated dogs to determine if it remains viable. If this study goes as expected, the technique could be on its way to human testing and FDA approval.

The selected primary ingredient to start the regeneration was an unlikely substance, the small intestines of pigs.

These intestines were chosen because research indicates that they have strong ability to generate new tissue when damaged. Researchers at Purdue University were the first to use this material that has many other potential applications in tissue regeneration and healing. This new material was named porcine small intestinal submucosa (SIS).

In other studies, SIS materials have regenerated tissue in cardiovascular, urinary, neurologic, dermatologic, and other reconstructive cases. Porcine SIS appeared to be able to create tissue regeneration in cartilage, also. Porcine

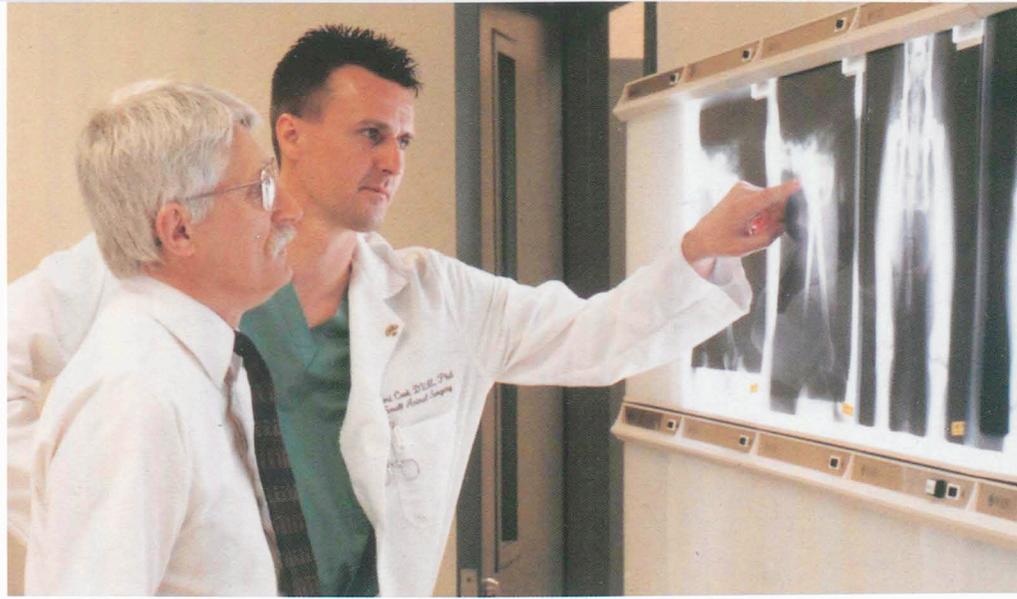
SIS looked good for other orthopedic reasons—it is readily available, biocompatible with bones and muscles, holds sutures well, and can be engineered into a variety of shapes.

Early in 1999, five dogs with near identical meniscus injuries were chosen for the first SIS meniscal application.

The operation was relatively simple, quick, and minimally invasive. Dr. Cook and team trimmed the SIS graft to match the approximate size and shape of the missing meniscus. The dog's femur was moved away from the tibia and the graft was placed into the defect and sutured in place. The joint was then closed in a routine manner. Each dog was given a soft-padded splint and sent to the recovery ward for four-weeks of cage rest.

Before the operation, the dogs had been evaluated for lameness through conventional diagnostic techniques and use of force-plate analysis. Here, the dogs are walked over a metal plate in the floor of the Veterinary Medical Teaching Hospital. The plate measures the weight placed on each step, the direction and force of each step, the dog's overall balance, and any twisting motion of the legs.

After the operation, the dogs were evaluated again at four, eight, and 12



Drs. James Tomlinson (left) and James Cook.

weeks to determine the effectiveness of the treatment. Meniscus growth was also tracked using ultrasonic imaging.

#### Good News

It didn't take long for good news to appear. One week after the dogs' splints were removed, lameness tests showed significantly improved joint movement. At the eight and 12-week evaluations, lameness scores were even better. Ultra-

sonographic examination revealed that in four of five cases, the meniscus had grown to normal size, shape, and function. The other dog had partial meniscus growth. There was no evidence of infection, inflammation, pain, or rejection.

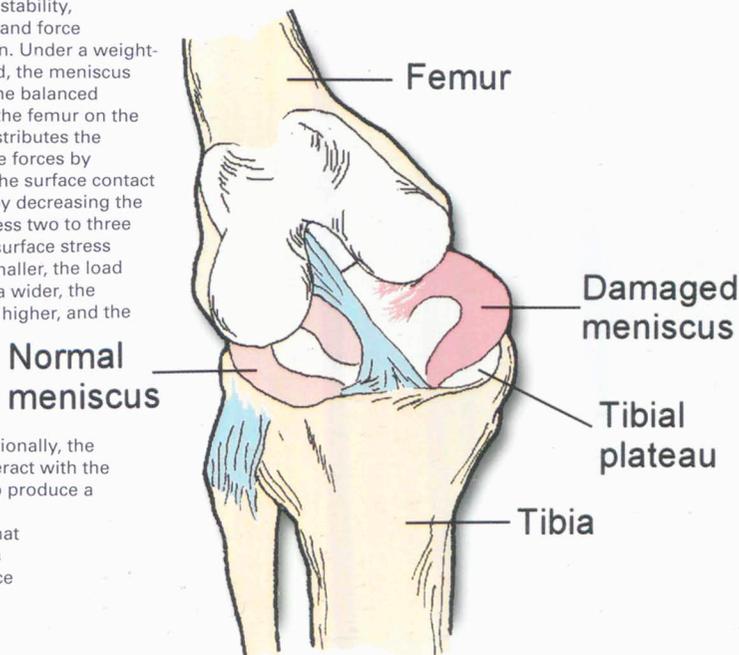
One important scientific indication that normal meniscal material had been regenerated was that the chemical makeup of the new meniscus contained a type of cartilage-specific chemical called Type II Collagen. Although this collagen accounts for a small part of meniscal tissue, it is an important and distinguishing feature. All grafted dogs had normal amounts and arrangement of Type II Collagen.

Additionally, the SIS graft had disappeared, apparently absorbed by the new meniscus.

In his scientific report on the results, Dr. Cook wrote that in four of the five grafted dogs, replacement tissue was indistinguishable from a normal meniscus.

The next step is a larger follow-up study to try a more refined version of SIS. Dr. Cook and team are ready. As a surgeon who has seen the suffering of dogs with meniscus injuries, he wants this additional tool to cure his patients. As an athlete himself, who worked his way through undergraduate school as a professional water skier, he would like his human physician colleagues to have this technique, just in case Dr. Cook ever hears that ominous popping sound.

The meniscus plays a crucial role in joint stability, lubrication, and force transmission. Under a weight-bearing load, the meniscus maintains the balanced position of the femur on the tibia and distributes the compressive forces by increasing the surface contact area, thereby decreasing the average stress two to three times. The surface stress becomes smaller, the load bearing area wider, the compliance higher, and the stiffness of the joint lower with the menisci in place. Additionally, the menisci interact with the joint fluid to produce a coefficient of friction that is five times as slick as ice on ice.





# Gentle Doctor Benefit Begins a New Mission: *Student Scholarships*

Ben Riley and GDB Veterans Achieve Their Own First—  
Winning the Dean's Impact Award

Ben Riley near the Adams Conference Center.

The College's twelfth annual Gentle Doctor Benefit held in April had more than its share of "firsts." It was the first with more than 1,000 people attending and the first to fill the Field House at the Hearnes Center.

In addition to having more than 400 auction items, 100 more than last year, this year's event was also the first for a new mission. It's \$250,000 pledge fulfilled last year to help build the MU College of Veterinary Medicine's Teaching Hospital, the event's new goal is to help veterinary medical students with rising educational debt. This takes the form of a \$100,000 pledge to establish the Gentle Doctor Benefit Parents Committee Scholarship.

To the team who puts the all-volunteer effort together, veterans of all of the previous benefits, came their own first this year. For their work on the benefit, Ben Riley, manager of business and fiscal operations; Donna Dare, executive staff assistant; and James (Jimmie) Lawrence, chair of the Parents Committee, were each awarded the 1999 Dean's Impact Award for a "sustained and substantial body of contributions having long-lasting beneficial impact" to the College.

Awards received, the team is already underway to getting the 13th annual benefit together, to be held April 1, 2000. Catering, entertainment, and other logistics have been decided upon and new auction items are already beginning to arrive.

## **Ben Riley and Team**

Ben Riley's official title with the University is Manager, Business, and Fiscal Operations. His College title is Assistant to the Dean. To everyone else in the College, he is the person to go to when something needs to be done.

"That's my job, to do what needs to be done and to make things happen," he said.

In the course of the day, he handles almost any question that somehow relates to the business management of the College: How do I get back change lost in a vending machine, where do I park, how can I renovate my department, how do we finance this research project, how can I put the College into my will for \$3 million?

"Sometimes, I think the phone should

be surgically implanted into my head," he said.

After leaving high school, Ben (everyone calls me Ben, he said) worked three years for the Santa Fe Railroad before a four-year stint in the Air Force. He then came to MU and graduated from the business school in 1965.

He joined the MU College of Veterinary Medicine as its first fiscal officer in 1968. He's been there since, in fact, still behind the very same desk.

"There was no business person at the College prior to me," he said. "The position has evolved into what I made of it."

There was plenty for the new employee to do. Bookkeeping was spotty, at best and the College was chronically underfunded. Little fiscal control meant it was almost impossible for any effective long-range planning.

"Prior to my position it was a common occurrence for department chairs to overspend their budgets," Ben said. "The Dean had to make up the deficit, sometimes taking money from other worthwhile projects. One of my initial charges was to fix that. It was fixed and it hasn't happened since I've been here. In fact, the legislature once recognized that the MU College of Veterinary Medicine never overspends its budget."

Under Ben's watch, the College expanded. He helped the development of Middlebush Farm, the renovation of the Veterinary Medical Building and Connaway Hall, and the construction of Clydesdale Hall and the Adams Conference Center.

While the Gentle Doctor Benefit qualifies as a work project, it also is Ben's passion. Ben, his staff, and the College's Parents Committee begin planning the next year's GDB benefit the day after the previous one ends. One month after the previous auction, the team has already made critical decisions. In fact, the dates of the GDBs through the year 2003 have been reserved.

Before the first official GDB in 1988, there were two preceding events. The first event occurred in 1986 when Evelyn Kahrs, wife of Dean Robert Kahrs, was looking for a way to generate support and money for the College.

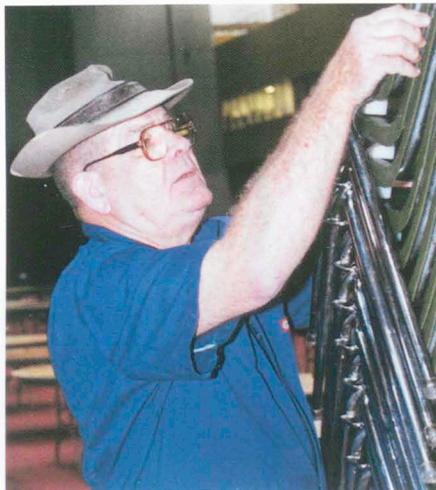
The result was an auction, held in the Trowbridge Livestock Center, of items

donated by faculty, staff, and students. Proceeds were to go to educational equipment for students. "It turned out to be little more than a big garage sale," Ben said. The second event auctioned about a dozen pieces of art.

Joining Ben at the first Gentle Doctor Benefit in 1988 was Jimmie Lawrence of Sikeston, Mo. At the time, Lawrence was second-in-command of the new Parents Committee, a unique organization of parents working outside the normal University structure to assist in the College's goals. Lawrence was no stranger to education as a former classroom teacher, high school principal, and superintendent whose son had just started veterinary medical school.

Lawrence assumed the chair of the committee the next year. That was the year the GDB would get considerably more serious as the College's accreditation was threatened because of lack of facilities. To help save it, the Parents Committee pledged a quarter-million dollars to help finance part of Clydesdale Hall's construction. The GDB would be the vehicle to fulfill that pledge.

The 1989 second auction was moved to the Hearn Field House where it would



Jimmie Lawrence

fill only a fraction of the available space. Still, there was \$21,400 left after expenses to go toward Clydesdale. Each year, GDB evolved until 1998 when about 900 participants filled about 80 percent of the Field House. This was the year that the Clydesdale pledge was fulfilled.

If there was any thought of disbanding the GDB then, it didn't last long. The

Parents Committee was intimately knowledgeable about the rising costs of a veterinary education and the massive debt load many students took with them to their first jobs. Besides, GDB was a University institution that had long since become the largest non-sporting or graduation event in the MU System.

For 1999, the committee issued the GDB its new mission: To fund a \$100,000 endowment for student scholarships.

The other Dean's impact award winner, Donna Dare, joined the College in 1978. In 1987, Ben asked her to help plan the first GDB. Since that time the



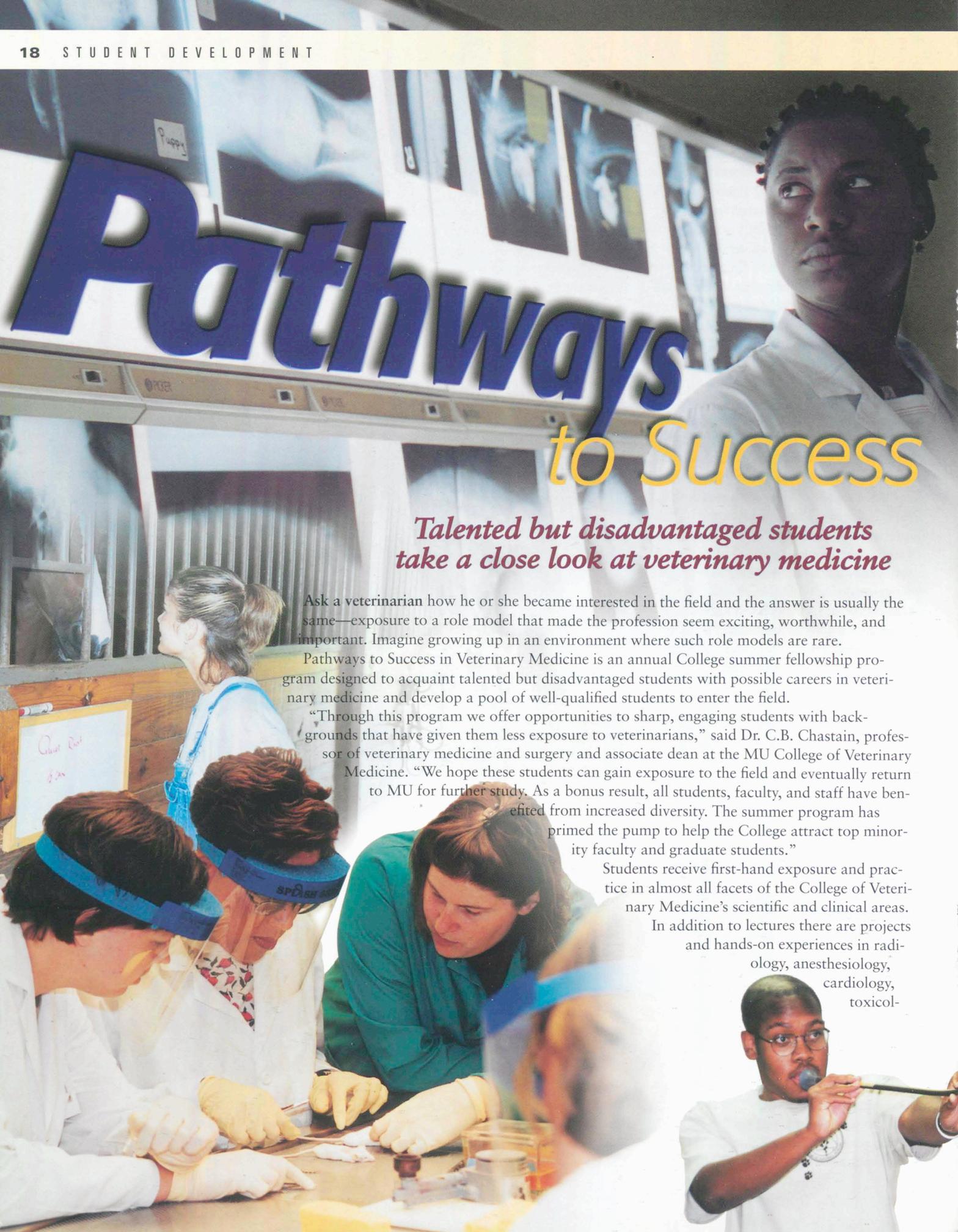
Donna Dare

GDB has filled a good part of many days and her office almost always gives visitors a glimpse of the special gifts donated that will be sold at the next benefit.

It was about five years ago during a western-themed GDB that Ben and Lawrence's hat tradition started. That year Lawrence arrived sans-cowboy hat to help put up the benefit's decorations and tables with his fellow Parents Committee members and College volunteers. Questioned by Ben how someone could come to a cowboy-themed event without a cowboy hat, Lawrence said he never wore a hat and didn't even own one. Ben went to his truck and fished out an ancient and decrepit cowboy hat that looked like it did more than its share of winning the West. Lawrence wore the hat during the GDB preparation work. "My wife liked to have died," he said.

But the hat was put to work, too, and thus started the tradition. Lawrence charged people who asked about the hat a quarter to hear its story. That money, usually a few dollars, was put into the GDB fund. Every year since, Ben provides Lawrence the hat for its small but visible role in fundraising.

October 1999 will see the end of an era in the College's history when Ben officially retires. He'll still be around, working half time at keeping things going. And, of course, he will continue to manage the Gentle Doctor Benefit.



# Pathways to Success

## *Talented but disadvantaged students take a close look at veterinary medicine*

Ask a veterinarian how he or she became interested in the field and the answer is usually the same—exposure to a role model that made the profession seem exciting, worthwhile, and important. Imagine growing up in an environment where such role models are rare.

Pathways to Success in Veterinary Medicine is an annual College summer fellowship program designed to acquaint talented but disadvantaged students with possible careers in veterinary medicine and develop a pool of well-qualified students to enter the field.

“Through this program we offer opportunities to sharp, engaging students with backgrounds that have given them less exposure to veterinarians,” said Dr. C.B. Chastain, professor of veterinary medicine and surgery and associate dean at the MU College of Veterinary Medicine. “We hope these students can gain exposure to the field and eventually return to MU for further study. As a bonus result, all students, faculty, and staff have benefited from increased diversity. The summer program has primed the pump to help the College attract top minority faculty and graduate students.”

Students receive first-hand exposure and practice in almost all facets of the College of Veterinary Medicine’s scientific and clinical areas.

In addition to lectures there are projects and hands-on experiences in radiology, anesthesiology, cardiology, toxicol-



ogy, pathology, virology, anatomy, and serology. Students engage in clinical observation, "shadow" faculty, and watch surgical operations and other hospital activities such as CT scans, ultrasound readings, and radiation therapies. They also meet private practice owners to hear the joys and frustrations of a veterinary medical business.

The students come from diverse backgrounds. One group is made up of high school students while another is in their second or third year of college. They come from large cities and rural areas from around the nation.

Getting in is tough. Students are chosen on a competitive basis and must have a cumulative grade point average of 3.0 on a 4.0 scale for high school students, and a 3.2 grade point average for college students outside of Missouri and 2.75 for in-state students. Most students exceed these requirements.

1999 was the fifth year of the program. In 1993 and 1994 the program was jointly funded by the College, vice provost for minority affairs and faculty development, and MU Graduate School. Subsequent years were paid for by a three-year \$300,000 Public Health Service's Health Resources and Services Administration grant. The HRSA grant helped the program to expand.

In the past, these grants have usually been awarded to medical schools, but recent attention has focused on minority participation in other types of medical programs. MU is only one of three veterinary medical colleges in the nation to receive such HRSA funding.

As hoped, veterans of past programs are beginning a veterinary medical education, Barbra Horrell, College director of student recruitment and retention and coordinator of the Pathways program said. Eight former Pathways students have already entered veterinary, pre-vet, or related programs. Three of these have been accepted at the MU College of Veterinary Medicine. One of those students, who had decided on an engineering degree before the program, changed his

mind, scored third on Missouri's veterinary medical entrance exam, and was accepted into the College's Class of 2003.

### Dean's Column continued from page 3



Faurot Field here at MU or, for that matter, the football stadium of essentially any large state university. This contrasts with the approximately 750,000 physicians and one million

lawyers in the United States today. Too many veterinarians? Perhaps, at least in terms of those in private practice (see the study cited below). But, surely not, when one considers the many career opportunities for veterinarians. For our part in academia, it will be important to expose students to these alternative careers. Practitioners should also emphasize these other options in counseling students both before and during veterinary school. Private practice will undoubtedly remain the most popular career path for our graduates. However, a number of other stimulating and financially-rewarding careers are available.

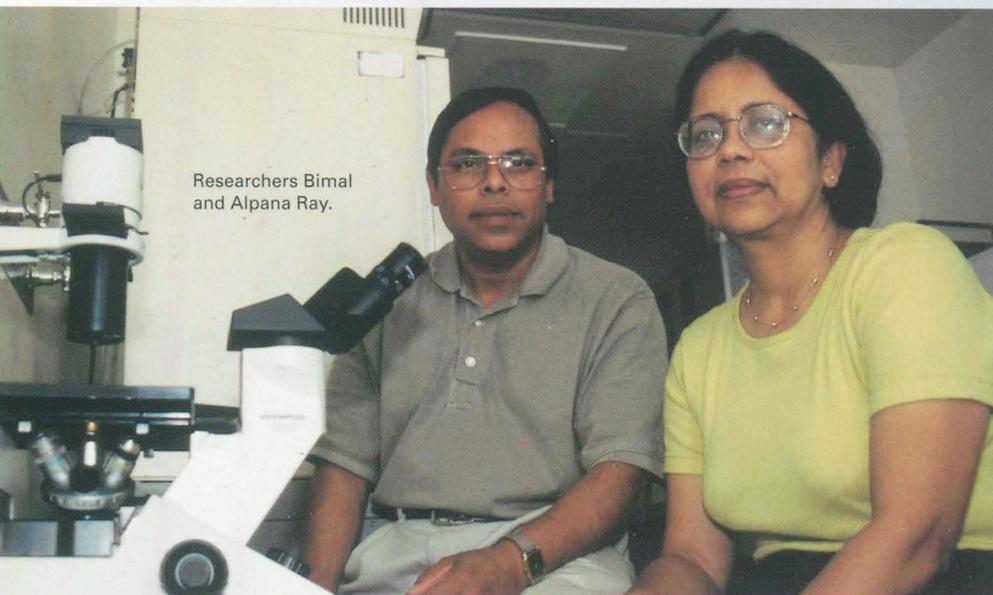
That leaves us with practice economics. Let's be inclusive here—both universities and private practices are in this together. We must all remember that society places tremendous value on the health and well being of animals and commit to doing the same. The universities have got to impress upon students the value of their clinical services, increasingly run teaching hospitals like businesses, and ensure that our students have marketable skills, not just in problem solving, but also in practice management and other key areas. Similarly, at the risk of stating the obvious, our teaching hospitals, and, dare I say, private practices, must charge fees that reflect the importance that animals play in our lives and the expertise involved in the sophisticated

services we provide. And, we must all agree to never commit the cardinal sin of underestimating the commitment that an owner has to an animal.

Most of my career has been spent as an academic clinician with a predominantly referral caseload. I'll never forget one very telling experience. A woman had driven 200 miles to the teaching hospital where I was on faculty with her 12-year-old dog and two young children in tow. Apparently, leading up to the referral, the woman's neighbor, certain family members, and even, I sensed, her veterinarian had discouraged her from driving "all that way" and from spending "all that money" on her dog. She apparently assumed I'd feel the same way and was compelled to pull me aside prior to the examination. In a hushed voice, the woman emphasized that the dog had been with her longer than the children and was even more special to her. Now, to this day, I doubt she really meant that. She was frustrated and needed to be sure that I appreciated the depth of her commitment to the dog. And, she made her point! This experience will always be with me as a reminder of what animals mean to people.

The special relationship that exists between people and animals, whether as companions or a source of income, is the basis for much of what we do in the veterinary profession. People truly do value our services; we must do the same, and keep this in mind, while confronting the two-headed monster of student debt and low-starting salaries? Unfortunately, no knight-in-shining armor appears ready to ride to our rescue. We're in this together as a profession. Much hard work will be required. And, to a certain extent, we'll literally have to change the way we do business and educate students. VMR

*Many of these issues have been studied closely in a recent study jointly sponsored by the American Veterinary Medical Association, the American Animal Hospital Association, and the Association of American Veterinary Medical Colleges (see the July 15, 1999 Journal of the American Veterinary Medical Association). To ensure that the veterinary profession continues to focus on these problems and doesn't lose momentum created by the study, a national commission will be established to guide our efforts. Look for more information on this commission in the Journal in coming months.*



Researchers Bimal and Alpana Ray.

## Interrupting a Crippling Disease

*Causes and Possible Cures for Rheumatoid Arthritis Are Subject of a National Institutes of Health Grant*

Rheumatoid arthritis is a crippling disease that leaves its victims in pain and nearly helpless.

Identified for decades as an inflammation of tissue between the afflicted bones, research on the disease was rare as its cause seemed straightforward. It was a foregone conclusion that there was little hope for a cure.

Recent discoveries in cellular biology and immunology, however, pointed to a more complex cellular process in which the body contributes to its own destruction. A process, that if interrupted, could relieve its victims of the constant pain and suffering.

Investigating this process, and possibly determining a treatment, is the goal of a five-year National Institutes of Health \$1.2 million grant awarded to two MU College of Veterinary Medicine researchers.

Drs. Bimal and Alpana Ray, a husband and wife team, are co-investigators on the project. This work is a continuation of an earlier project begun three years ago. With clues from that study, they hope to identify the process that causes rheumatoid arthritis, design pharmaceutical treatments to stop it, and investigate possible connections to cardiovascular disease, diabetes, and other problems.

### RA the Crippler

Rheumatoid arthritis (RA) is a chronic disease that affects several joints, most commonly the small joints of the hands. It inflames and thickens the tissues that line the joints, causing pain and swelling. Uncontrolled, RA will destroy and deform the bones.

RA usually strikes its victims between 20 and 50 years of age, although it can begin anytime. Its severity varies. In some cases, the disease may be mild, while in others it's crippling. Its course is unpredictable. It can flare up suddenly and just as quickly go into remission.

RA has unique features compared to other kinds of arthritis. For example, RA generally occurs in a symmetrical pattern—if one knee or hand is involved, the other one is also.

RA may begin without obvious symptoms in the joints. The disease's first weeks may see listlessness, loss of appetite, low-grade fever, and muscular pain. Eventually, it affects the small joints, often beginning in the fingers and spreading to the wrists and elbows. The disease can also inflame the eyes, heart, lungs, and blood vessels, as well change tissues just beneath the skin.

About 10 percent of patients have a single RA attack with a long lasting remis-

sion. For most, RA persists if left untreated. If inflammation is prolonged, the joint may be damaged and the muscles around the joints may become weak and wasted. In severe cases the joints become deformed, the tendons rupture, and the fingers "drop" and are unable to move.

Current treatment strategies include pain relief through medication, rest and exercise, patient education, and support programs. Surgery may be recommended for patients with severe disease to correct or prevent joint deformity.

Based on earlier investigations into immune system disorders and cellular biology, the Rays theorized that RA is a cellular process triggered by an unknown agent in people with a genetic susceptibility. That research also provided a glimmering of what that unknown agent could be.

### The Research

The Rays' work indicated that rheumatoid arthritis starts when the synovial tissue between the joints is damaged, either by disease or the aging process. In reaction to the inflammation, a cellular chain reaction begins with the release of various inflammatory chemicals called cytokines. These then trigger production of a protein called serum amyloid A (SAA).

The Rays believe SAA is the key chemical trigger that causes RA. SAA in the cells induces synthesis of collagenase, an enzyme known to destroy joint and connective tissue and is commonly associated with RA cases.

Normally, SAA is synthesized in the body at a very low level. But in response to injury or inflammation, its synthesis seems to increase 1,000-fold. In injuries that heal, SAA production quickly returns to normal and RA is not triggered.

In chronic inflammation, SAA production continues without stop, thus creating more and more of the damaging collagenase.

One possible avenue of the new research is to control the disease process by simply limiting SAA production and its related actions in the synovial joints, Dr. Alpana Ray said. This option can be tricky. Eliminating SAA entirely is impossible as it is needed to maintain normal cellular functions.

Another option is to identify and trigger a benign “decoy” protein in the cells that would make the body think that SAA is being produced when it isn’t. Studies in the Rays’ lab have identified a benign protein called SAF that could be used here. Stimulating SAF production may help short-circuit the SAA chain reaction by, in its simplest terms, diluting SAA in the cells with increased production of harmless SAF.

The Rays have been working on SAA-related research for almost 10 years. Dr. Bimal Ray is an associate professor in veterinary pathobiology. Seventy-five percent of his time is dedicated to research, the remaining time in graduate level teaching. He joined the College in 1986 after work at Washington University in St. Louis as a research instructor in the department of biology and microbiology.

Dr. Alpana Ray has a Ph.D. in biochemistry from Calcutta where she studied germination of seeds. She also worked at Washington University in the 1970s-1980s where she conducted early experiments in cloning. At MU she is an assistant research professor working on the SAA project full-time.

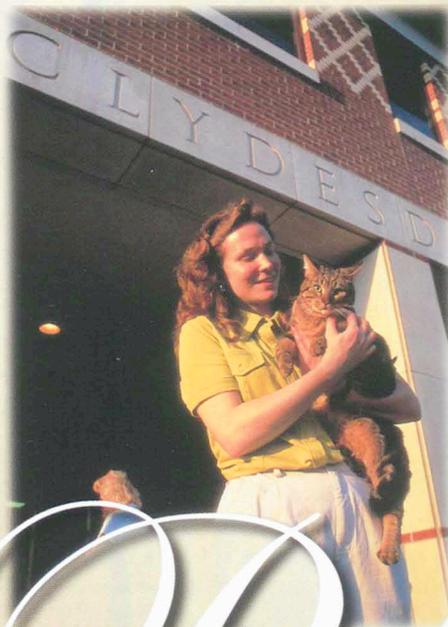
#### Future Therapeutic Strategies?

If initial research proves successful, an experimental treatment for RA could begin testing in five to ten years, Dr. Bimal Ray said.

This research may have implications in other arthritis diseases where SAA plays a role such as osteoarthritis.

Interestingly, SAA is also associated with atherosclerosis, a cardiovascular ailment that clogs the arteries. SAA is found in resident macrophage cells in coronary arteries and seems to trap cholesterol and convert macrophage into cholesterol-laden foam cells, a hallmark of atherosclerotic plaques. If SAA production can be controlled, the possibility exists for better coronary disease treatment.

Understanding SAA production may result in a new treatment for diabetes, also, Dr. Bimal Ray said. SAA is an important regulator of insulin and wound healing, he said, which may be a significant clue why many diabetics also suffer from cardiovascular disease and healing problems.



# Pet

## IN MEMORIAM

- When a pet owner experiences the death of a pet, the pet need not be forgotten.
- If you know someone who has recently lost a beloved pet, you can show that person that you understand the loss by sending a gift to the MU College of Veterinary Medicine in the memory of that fallen friend and companion.
- The pet owner will receive a letter indicating that a donation was made in the animal’s name. Donations are used by the College to support a variety of needs such as student scholarships, hospital equipment needs, client services, and the health of animals.

Send your completed form to:

**College of Veterinary Medicine, Pet in Memoriam Fund, Office of the Dean, W203 Vet Med Building, University of Missouri, Columbia, MO 65211**  
Attn: David Horner, Director of Development

The enclosed \$ \_\_\_\_\_ is given in memory of \_\_\_\_\_  dog  cat  other \_\_\_\_\_

**Pet owner:**

Name \_\_\_\_\_

Address \_\_\_\_\_

**Please acknowledge this gift in my name:**

Name \_\_\_\_\_

Address \_\_\_\_\_



Dr. Jack Stephens and canine member of the graduation platform party.

To many of you Skeeter may appear to be a dog, and for others an overindulged pet. But to those of you in the graduating class that see a surrogate child, I predict you will go far. Skeeter is my constant companion and a daily reminder of why I love our profession so much.

All of you who are the graduates of 1999 are entering a wonderful, respected, and honored profession. The general public has the utmost regard for veterinarians. This cannot be said of all professions. Note that there are derogatory jokes about most all professions, especially attorneys. However, there are not any jokes regarding veterinarians. Not a single one.

I want to state that all this stuff we hear about low incomes and low expectations in this profession is bunk. You can be at whatever economic level you aspire. There are many very successful and high-income veterinarians. Of course, others have lower aspirations. But for those of you who want economic success, I declare it is there for you if you're willing to earn it. Notice I said earn. You must be willing to work and

# '99 GRADUATING CLASS

By Jack L. Stephens, DVM '72

work smart. Wonderful opportunities will be available to you.

I was fortunate enough to be successful early. I started six veterinary clinics, had a kennel, apartments, and even a health club. I still practiced full-time even with this diversity of investments and I saw a major flaw in companion pet medicine. Veterinarians could not practice the best medicine because economics interfered with the ability of pet owners to accept expensive care. All too often, pet owners would ignore needed care, euthanize the pet, or negotiate the care to fit their current budget.

In other words, finances got in the way of practicing the best medicine. To find a solution to the problem, I worked with the Southern California Veterinary Medical Association and over 900 veterinarians and started Veterinary Pet Insurance Company to provide true insurance or fee for service reimbursement without any managed care principals prevalent in human health care. Over the last 18 years in growing Veterinary Pet Insurance, our struggles included many grave obstacles, as we were on the verge of bankruptcy many times.

Personally, I utilized my prior success to fund my living expenses, losing slowly all that I had built. The California Department of Insurance where we were domiciled could have shut us down 15 of the last 18 years. Why didn't they?

Although there are many reasons such as trust and developing a personal relationship, not the least was because of being a veterinarian. Since I was a veterinarian, I was allowed to break down normal barriers between state regulatory authorities and an insurance company executive. They saw my actions and intent as pure, to help animals, and gave me discretion not always shown in other areas of insurance.

Nearly ten years ago in the midst of

our struggles as a company to endure, I received word that I had throat cancer. The news came at another of many critical times in our company's history. I was given a poor prognosis of a squamous cell carcinoma with a T4 lesion (out of four levels) of the tongue and throat. We also faced a nefarious investment banker who attempted to take advantage of my personal situation by trying to seize control of the company. Due to my imminent demise he assumed I could do nothing to prevent it. Well, he was wrong!

Initially, my medical condition was misdiagnosed. Later when the more serious cancer was found, the medical profession then overwhelmingly recommended removal of part or all of my tongue and jaw. This would mean no speech and tube feeding as a consequence.

It was a veterinary oncologist or doggy cancer doctor who steered me to my ultimate treatment that saved my life and



speech. This veterinarian was so knowledgeable regarding leading edge technology and treatment modalities that she gave me an opportunity that literally saved my life. It certainly preserved my quality of life to be able to even speak to you today. So a veterinarian saved my life!

I was too busy to be sick. I was in the prime of life and had so much yet to accomplish. I was told that I needed to take

six months off work. In actuality, I took two weeks off. Veterinarians are tough and we work despite any current medical problems. In my case, my goal had not been fulfilled to improve the economics of the profession. Although I had developed the template for pet owners to budget and provide for their pets' care and avoid economic euthanasia, the concept and company was not firmly established. Additionally, I simply made up my mind early after a brief period of self-pity, that I was not ready to die.

Most all of us, at one time or another,

# CLASS COMMENCEMENT SPEECH

President, Veterinary Pet Insurance Company • May 7, 1999

## Secrets to Success in Veterinary Medicine

**Never Quit Learning** Continued learning prevents burnout, maintains your interest, and builds self-esteem.

**Learn Communication Skills** An animal's care and their lives, whether it is a pet or livestock, depends upon how successful you are in communicating a therapy or prophylactic regime. Pets or animals that have poor communicators for veterinarians will usually die. This is not because of the care or knowledge of the veterinarian, but the inability to convince the owner to fund the care. Good communicators are successful whether they enter teaching, research, large animal practice, or small animal practice.

**Earn Respect** Do so by setting an exemplary example. Work to earn it and seek situations which allow you to accomplish the best.

**Get Involved** Join the AVMA and your local and state associations. Become involved in non-profit groups such as the AVMA Foundation, civic organizations, or other non-profit groups.

**Buy AVMA Health Insurance** The power of our own group and its advantages cannot be matched in the marketplace. At one time I

sold other health insurance, but never changed my own AVMA insurance.

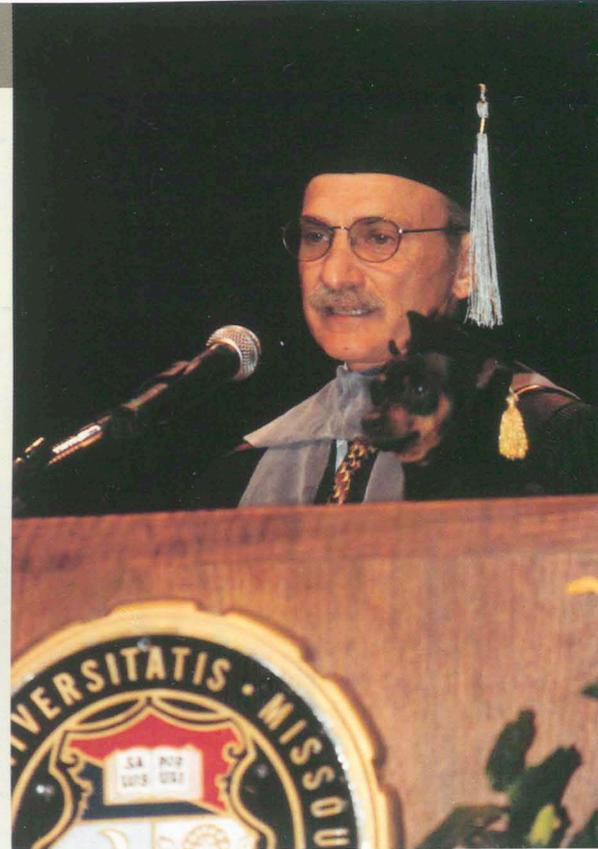
**Give Back** Give back to your school. Later you'll understand the true value you have received and the opportunity your education provides. Give back to your profession, your community and most important, to the animals we serve.

**Be Resilient** Life is not always fair. Expect the unexpected. Bad things happen to nice people. It's how you respond to adversity that you will be remembered. Fine steel requires tempering or forging to become strong. Learn to adapt rapidly and even daily to changing situations.

**Be Focused** Focus on a project or goal and it will happen, regardless of whether it's family, career, or other worthwhile causes.

**Never Burn Your Bridges** Life is a series of twisting roads that lead to bridges that will need to be re-crossed. Keep the bridges intact and open whether they are physical or emotional ties.

**Do Your Best Every Time—Not Just Some of the Time** It builds self-esteem, discipline, and is the absolute cornerstone to success.



have fantasized about what we would do if we were told we only had six months to live. Some think they would travel while others prepare. But I know from experience that as a veterinarian you keep on doing what you like or, as in my case, what's undone.

Most of us have had near death experiences such as an auto accident. Immediately, we resolve to change our life and become a better person. However, as the event becomes a distant memory like most New Year's resolutions, the resolve is soon forgotten. However, in my case due to the radiation causing damage to my salivary glands, I have a difficult time swallowing, talking, and have a consistently dry mouth. As a daily reminder, this gives me an advantage to maintain my resolve.

My cancer, in addition to demonstrating the vast and timely knowledge possessed by veterinarians, also

overwhelmingly demonstrated to me the value of companion pets. Having pets all my life and working on them so many years, I still objected to another household pet. My wife, over my objections, had purchased a miniature pinscher for herself. Naming him Spanky, I quickly succumbed to his charms and he bonded to me. During my ordeal, Spanky provided me and my family unconditional love. In addition, he supplied us with entertainment, exercise, and simply took our minds off my many personal and business problems. Spanky forced me to take walks thus aiding my recovery. His many "antics" entertained us and brought much laughter and joy into our home. When in practice, I had lost the significance of the bond. I was so busy caring for pets that I lost sight of their value.

My pursuit of career and success had me so focused I had lost sight of why I

entered the profession. This epiphany brought on by Spanky and now Skeeter vividly demonstrates to me that there is NO limit to a pet's value. Nor is the significance of a pet in a person's life limited to a household cat or dog.

The point is that we, as a profession, cannot and should not measure a pet's value. The type of pet or animal is irrelevant. It's really the bond that counts. I've seen similar incidents for guinea pigs, mice, steers, and all types of wildlife. The value of a pet is immeasurable if it's from the heart.

You never know what life will bring or what you'll accomplish. Let no one set limits on you. You're entering the best profession possible. You'll be held in the highest regard, while being honored and respected. It's your mission to maintain our profession's respect.

Thank you for the honor bestowed on me today. I wish you all well.

# Dysautonomia

## Is a rare, unpredictable disease with no known cause or cure killing dogs in southwest Missouri?

Jack is a typical farm dog with, unfortunately, a typical case of dysautonomia.

Jack can't salivate, urinate, or defecate. His eyes no longer secrete tears and are covered by elevated third eyelids. He has a constant nasal discharge. His large muscle motor skills have deteriorated to the point that he can't get up. He occasionally involuntarily regurgitates as his gastrointestinal tract has shut down.

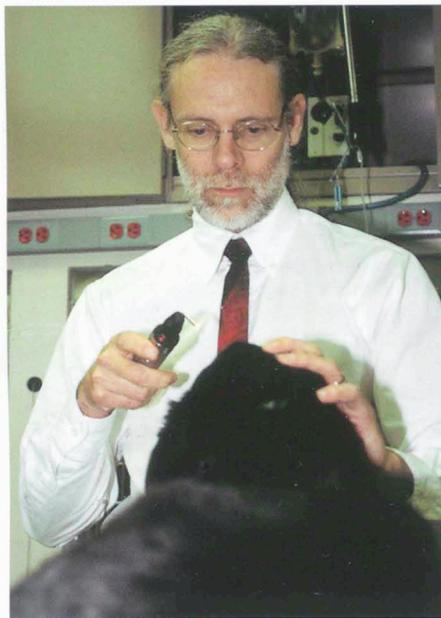
Two weeks ago, Jack was a healthy dog.

A rare but growing disease in Missouri, dysautonomia, is characterized by degeneration of the autonomic nervous system—the part that controls basic body functions like pupils, salivation, heart rate, and elimination. So far, there is no effective treatment.

Dr. Dennis O'Brien, associate professor of veterinary medicine and surgery at the MU College of Veterinary Medicine, is studying about 50 cases of the disease from the southwest corner of the state. So far, the cause is not only unknown, but also vexing. Not one clear common denominator that indicates a trigger for dysautonomia has emerged. In fact, the clues are contradictory.

Dysautonomia was first diagnosed in the northern United Kingdom almost 90 years ago. Only a few horses and ponies, limited to specific pastures, got the disease.

The disease appears to strike at random. Dr. O'Brien said the closest common denominator is that a majority of



Dr. Dennis O'Brien has noted a disturbing increase in a rare disease afflicting dogs in southwestern Missouri. He has begun compiling information about an effective treatment. Veterinarians who think they have seen a case of dysautonomia can contact Dr. O'Brien at the MU Veterinary Medical Teaching Hospital at 573/882-7821.

dogs had been allowed to roam. This fact might indicate an environmental virus or toxin.

"All outside dogs share common characteristics," Dr. O'Brien said. "They have fleas and ticks, chase rabbits, get into fights with raccoons, and chew on bones from deer carcasses. Still, four other dogs that lived with Jack, and

shared his same environment and other physical characteristics, show no sign of the disease."

To complicate even this clue, a few Missouri dogs with dysautonomia have never been outside a fenced backyard or roamed farther than their owner's leash.

Unfortunately, post-mortem investigations yield little evidence. "It's unusual for what's not there," Dr. O'Brien said. There is no inflammation to indicate infection, no evidence of toxins, pesticides, herbicides, molds, or pollen. Cells in the autonomic system just degenerated and died."

Based on the increasing number of Midwest canine cases, Dr. O'Brien advises Missouri veterinarians to be ready for more canine cases.

### Dysautonomia's Unpredictable History

Dysautonomia was first described in Scotland in 1909. Afflicting horses, it was called Grass Sickness as the disease seemed localized to specific geographic areas, sometimes even specific pastures. Horse owners avoid these pastures even today. As late as five years ago, rabbits in the pastures contracted dysautonomia.

Though the name Grass Sickness caught on, a few stabled horses caught the disease. In fact, "pit" ponies, which live their entire lives underground in mines, developed dysautonomia.

In the next decades, the disease and its

characteristics showed up in South America. Small numbers of zebras and donkeys were also afflicted, as well as a few dogs and rabbits.

In 1982, British veterinarian Dr. Philip Johnson, now an associate professor in veterinary medicine and surgery at the MU College of Veterinary Medicine, saw the first feline dysautonomia case in his mixed veterinary clinic in Keynsham, near Bristol, England. In the following months, five more cases appeared.

Dr. Johnson ran a battery of diagnostic tests that revealed few clues. Dr. Johnson visited the homes of the affected cats. In a house with 10 cats, only one was affected. Dr. Johnson eventually sent his cases and notes to the University of Bristol.

The disease suddenly and rapidly began to afflict hundreds of cats in England, adding even more mystery to the disease. Within three years, the disease reached epidemic proportion. Unlike occurrences in horses, dysautonomia in cats spread beyond a local area, eventually appearing in much of Western Europe.

The mortality rate reached almost three-quarters of all afflicted cats. Those who survived were left with permanent dysfunction that required intensive nursing care to survive.

As suddenly as it appeared, the disease mysteriously disappeared. As the epidemic was winding down, a few dogs contracted the disease. So few were afflicted that their cases commanded scant attention and dysautonomia fell from the newspaper headlines.

In 1986, just as the European epidemic was subsiding, a Kansas City indoor tabby named Floyd was diagnosed with the disease. "Oh oh, here it comes, I thought," said Dr. O'Brien who examined Floyd. "Unlike the experience in Great Britain, an epidemic in U.S. cats never occurred."

Instead, cases of afflicted dogs began appearing in the Ozarks area of Missouri. Beginning in 1988 with one case, the number of affected dogs has slowly but steadily increased. About 50 cases of the usually fatal disease have been diagnosed in the past six years. Most have been reported in southwest Missouri, near Springfield. Jack was from Springfield.

"We've seen a few cases in Colorado,

New York, South Dakota, and Kentucky, but nowhere near the numbers that we've seen in Missouri." Dr. O'Brien said.

Unfortunately, the first case of dysautonomia in horses was also diagnosed recently by Drs. Johnson and O'Brien. Given the unpredictable nature of the disease, no one knows if this case will be the first of many, or an isolated occurrence. The horse is also from southwest Missouri.

The disease is so contradictory that it is difficult to know where to begin researching it, Dr. O'Brien said. It seems to affect one of the body's most complicated systems, in several species, in a similar way. If it is caused by an environmental toxin, what substance is common to specific pastures in England, European cats, one Kansas City house cat, and Ozarks dogs? If it is caused by a pesticide, how many pesticides in use around horses in 1900 are now in use, a century later, in Missouri?

#### People With Dysautonomia

Human dysautonomia also was first recognized about 90 years ago and afflicts people in much the same way as it does animals. The first usual symptoms in people, however, are fainting spells. Luckily, the disease is rare, afflicting only one out of several hundred thousand people.

As in animals, it attacks the human autonomic nervous system, the part that manages most of the bodily systems, including the cardiovascular system, gastrointestinal, urinary and bowel functions, temperature regulation, reproduction, and metabolic and endocrine systems.

As in animals, afflicted people retain all of their mental faculties. "That's one of the saddest parts," Dr. O'Brien said. "The patient remains mentally perfect while the body's motor functions deteriorate."

While some therapies in humans seem to slow the disease, dysautonomia treatment in humans centers on treating symptoms and making the patient comfortable.

The prognosis of dysautonomia in humans is poor. Most human patients live for only seven years from the time of diagnosis. These patients become progressively more disabled and generally succumb to a complication such as pneumonia or other infection. Less often they sometimes die in their sleep, perhaps of sleep apnea.

Since the first signs of dysautonomic degeneration is usually in the gastrointestinal tract, some human research is looking for an ingested neurotoxin as the disease's trigger. A pre-existing genetic predilection may cause some victims to contract the disease, while others don't. Still, researchers are puzzled by one person will contract the disease while a sibling with the same lifestyle will not.

#### The Search for Clues

Because of its rarity, few research programs are devoted to dysautonomia in animals. With so many seemingly mysterious, random, and contradictory characteristics, it would be difficult to craft a funding proposal that would offer much promise, Dr. O'Brien said. Until a clue illuminates some common denominator that would show researchers a direction, Dr. O'Brien will continue preliminary research.

The MU Veterinary Medical Teaching Hospital is providing Dr. O'Brien time and money to continue his research.

The first phase of the plan will be the creation of a database containing information on afflicted Missouri animals. Dr. O'Brien hopes that by tracking the location of the cases, characteristics of the animals, and clinical data, some common denominator will emerge to guide the next step.

In addition to the database, Dr. O'Brien is working with the Veterinary Medical Diagnostic Laboratory, across the parking lot from the MU Veterinary Medical Teaching Hospital, on tests that could reveal clues. For example, English researchers found that hares that shared a pasture with affected horses could become affected. The laboratory may work with Missouri conservation officials to collect rabbits from affected areas for study in the laboratory.

Dr. O'Brien hopes to post a web site devoted to dysautonomia that would allow veterinarians to contribute case studies and medical findings.

Until a significant clue reveals itself, a disease that has baffled veterinarians for 90 years will remain mysterious. 



Dr. Bert Childers (in blue jumpsuit) tends to a wounded bull.

Dr. Carla Byers Barker.

# The Animal Eye

On May 3, what may have been the most destructive U.S. tornado ever recorded roared like a giant freight train through Oklahoma City and its suburbs. Two MU College of Veterinary Medicine alumni, one retired and another beginning her first job, were caught up in the emergency effort using their expertise to aid farm and companion animals wounded by the storm.

Working long hours under a state of textbook chaos, they saved as many animals as possible in the first days after the storm that destroyed whole portions of the city. The destruction made the job surreal: Trees in living rooms, roofs blown off, crumpled cars in fields where cows should have been, and bloated dead livestock in parking lots. At the storm's ground zero, the landscape was almost lunar. Returnees sometimes had trouble locating not just their homes but their neighborhoods.

Giving care that sometimes more resembled a M\*A\*S\*H unit rather than a quiet veterinary clinic, the two alumni provided a needed service not addressed

by state and federal disaster preparedness plans.

Meteorologists say 76 tornadoes were spawned by massive supercell storms that swept through Oklahoma, Kansas, Texas, and Tennessee on May 3. At least 47 people died. Oklahoma was the hardest hit. U.S. insurers expect to pay at least \$1.5 billion for all storm damage—\$1 billion in Oklahoma.

Forty-four Oklahomans died and almost 800 were injured. More than 12,000 homes, apartments, and businesses were destroyed or damaged. The number of animals killed or hurt will never be known.

## A Call for Help

Tornadoes were still tracking northward into Kansas when Dr. Bert Childers' phone rang. Would the retired small animal veterinarian, MU DVM class of '67 and now president of the Dallas-based Texas Society for the Prevention of Cruelty to Animals, come to Oklahoma to help? Within hours, Dr. Childers and team were driving north-

ward on I-35 with emergency medical supplies and food.

Emergency assistance for companion and farm animals is nothing new to Dr. Childers. He led a relief team in the early 1990s when St. Louis was ravaged by floods.

But Dr. Childers was not prepared for this destruction.

"I couldn't believe what we were driving through," he said. "Tractor trailer trucks were so mangled that only their 18 wheels were still recognizable. Trees were stripped bare and only their trunks still stood. Whole parts of cities were so demolished that there was only rubble left—some debris was only about waist high. Some areas, former sub-divisions, looked like construction sites. There were no trees, no grass, no buildings, nothing. Only the concrete slabs of the houses remained."

Wounds to farm animals were just as unbelievable. Thousands of blades of grass and debris propelled by 300-mph winds impaled themselves into one side of a horse. "Another horse was picked up by the wind and slammed against a wall so hard that his eyes were knocked out," Dr. Childers said. "The wind blew a cow along the ground and the friction stripped the animal's flesh off one side. By the time I got there, maggots were all over the wound. Another cow had a 2x4 impaled in his neck. Of the 18 in the herd, this was the only one to survive. Four other cows just disappeared."

"Cats and dogs? We'll never know for sure how many were just picked up by the winds and disappeared," he said.

After graduation, Dr. Childers practiced veterinary medicine in Kansas City before starting his own practice in Smithville, Mo. and New Jersey. He moved to Dallas in 1972 and started his own practice there in 1977. He sold that business in 1997 and retired to head the Texas SPCA. Dr. Childers is also president of the Jefferson

*While state and federal agencies aided the wounded caused by the May 3*

Club's board of trustees, MU's most prestigious donor organization, and is a member of the College's 50th Anniversary Endowment steering committee.

Dr. Childers' Oklahoma mission was two-fold: Provide emergency medical treatment to supplement the work of local veterinarians, and bring food and other medical supplies that would be immediately needed. He also became involved in the massive need to temporarily house, treat, and return companion animals to their owners. With other nonprofit animal welfare groups, Dr. Childers and other volunteers arranged temporary foster care for about 100 lost pets.

"The local veterinarians were doing a tremendous job," Dr. Childers said. "But they were overwhelmed by the number of lost pets needing temporary shelter." Homeless tornado victims asked for temporary help with animals, too. Soon, the

first tornado warning. For the next 20 hours, a legion of twisters—more than 40—ravaged central Oklahoma.

A behemoth F-5 tornado—the most powerful on the weather service's strength scale, formed near Chickasha, Okla. This tornado was nearly a mile across. An University of Oklahoma mobile Doppler radar clocked its wind speed at 318 mph—the strongest wind ever recorded on Earth.

Average tornadoes log mere minutes on the ground. The F-5 Chickasha twister settled in like a plow for four hours, ripping an 80-mile gash, and headed northeast toward Oklahoma City and suburbs. In its path was Moore, Okla. The tornado plowed through Moore, killed four residents, and virtually destroyed the town.

Dr. Carla Byers Barker, a brand-new Class of '99 graduate of the MU College of Veterinary Medicine, arrived in Newcastle, a town of 4,900 people

just two miles south of Moore, to start her first full-time job as a veterinarian. Amid emergency efforts to find the wounded and trapped, she began her career working 18-hour shifts repairing farm animals blown around like toys in the tornado's winds. She tended 80 large animals in the first few days.

A typical case was Rowdy, an 18-year-old quarter horse. Rowdy was blown into a fence that wrapped around him like a cocoon. Horse and fence slammed into the debris of a destroyed barn. The owners found Rowdy but thought he was dead and tended other injured animals. The horse apparently heard the people's voices and struggled free, dragging part of the fence behind him. Rowdy was lucky. The horse stalled with him was found dead in a pond a mile away, Dr. Byers Barker said.

Dr. Byers Barker's father-in-law, Dr. Lloyd Barker, who witnessed the tornado, described it as something out of

the movie *Twister* with Holsteins flying around.

Dr. Byers Barker tended a Dalmatian named Simone that she said should be nominated as pet of the year. Simone sniffed through the wreckage of his destroyed house to find a litter of Siamese kittens drowning in a pool of water. Simone pulled each out of the water and guarded them until the animals' owners arrived home.

Dr. Byers Barker is married to an U.S. Army Apache helicopter pilot deployed to Albania that spring. She said she accepted the Oklahoma position because she couldn't handle waiting with nothing to do at his duty station in Germany.

As Dr. Lloyd Barker was often in the field tending other injured animals, Dr. Byers Barker tended the broken limbs and backs of the animals in the clinic, often calling instructors back at the MU College of Veterinary Medicine for advice.



# of the Storm

local media published hotline telephone numbers and web sites to organize the chaos.

One team looking for lost animals spoke to a woman combing debris in a devastated sub-division. The team said they were looking for lost animals, Dr. Childers said. The woman pulled the blanket from an empty infant safety seat and said she was looking for her lost baby.

"It was all unbelievable," Dr. Childers said.

With first-hand knowledge of Oklahoma City, Dr. Childers plans to rewrite the Texas SPCA's disaster plan to better cope with such truly massive destructive events.

## Welcome to Oklahoma

At mid-afternoon May 2, National Weather Service meteorologists noted a startling accumulation of supercell thunderstorms. At 4:45 p.m. they issued their



The most daunting challenge were the maggots. Maggots not only developed in wounds waiting to be treated, but in treated wounds that had not yet closed. "Our main focus the first few days was just keeping the maggots controlled," she said.

Like many veterinarians dealing with the aftermath of the storm, the Barkers donated their services. They boarded as many animals as they could and formed, with other veterinarians, a central database where people could report lost or found animals.

Three weeks after the storm, Dr. Byers Barker reported seeing a turnaround in the number of cases, although she was still working 12-hour days.

"Talk about jumping in with both feet," she said.

NAMS

## '85 grad publishes novel optioned as mini-series

Dr. James Czajkowski, DVM class of '85, has received national attention for his third novel titled *Subterranean*. The book debuted with enough sales to rank among USA Today's list of best sellers after its first week, and ranked 15th on Barnes & Nobles' paperback best sellers. The novel has also been optioned by NBC for a potential mini-series.

The book follows a team of researchers who explore a cavern system two miles under Antarctica's ice. Dr. Czajkowski wrote the book under the pen name of James Rollins.

## Kenneth Vroman honored as Veterinarian of the Year

Kenneth Vroman, DVM '69, received the Missouri Veterinary Medical Association's most prestigious award of Veterinarian of the Year for 1999. Dr. Vroman operates a mixed animal practice in Glasgow, Mo.



Dr. Ken Vroman.

Following graduation from the MU College of Veterinary Medicine, he served as assistant veterinarian to Dr. John Pearce in Poplar Bluff, Mo. From 1969 to 1971, Dr. Vroman served as a General Veterinary Officer in the U.S. Army and was assistant veterinarian to Dr. R.F. Taylor, DVM '62, in Fayette, Mo. from 1969-1972. Dr. Vroman operated his own practice in Fayette from 1971-1986 and is still a veterinarian and shareholder in that city's Professional Corporation.

## Debbye Turner Wins the '99 MU Faculty/Alumni Award

Dr. Debrah (Debbye) Turner, MU DVM Class of '91, adjunct instructor, and former Miss America, won one of the University's most highest honors, the 1999 Faculty-Alumni Award.

The annual award is presented by the University's Alumni Association. Chosen from among hundreds of nominations,



Dr. Debbye Turner

the award recognizes outstanding service by an alumnus.

The award was first given in 1968 and includes some of the most significant graduates of the University.

Dr. Turner is anchor/host for the highly-rated television show, *Show Me St. Louis*, that has a viewership of more than 500,000. In

addition to being a Doctor of Veterinary Medicine, Dr. Turner is a traveling motivational speaker who addresses such topics as goal setting, self-esteem, perseverance, and personal excellence.

As a veterinary medical student, she was honored in the Who's Who Among Students in American Universities and Colleges. She won the Miss America crown in 1990 and was host of *The Gentle Doctor*, an animal care and veterinary medicine TV series in 1994 and 1995.

## Class Notes

### 50's

**Richard Stringer**, DVM '59, recently retired from the Missouri Department of Agriculture. Dr. Stringer, who lives in Cabool, Mo., worked for 25 years as a district veterinarian. He helped develop the Division of Animal Health strategic plan and established emergency management planning and policies.

### 60's

**John Hennessy**, DVM '62, recently retired from the Missouri Department of Agriculture. Dr. Hennessy, who lives in Poplar Bluff, served 10 years as a district veterinarian, deputy state veterinarian, and state veterinarian. **Ken Vroman**, DVM '69, won the 1999 Missouri Veterinary Medical Association's Veterinarian of the Year Award.

### 70's

**William Elkins**, DVM '74 and Diplomate ACLAM, was married April 24 to Marisa St. Claire. Dr. St. Claire is also a DVM who received her MS in Laboratory Animal Medicine from the University of Missouri-Columbia in 1995. Both work at the National Institutes of Health in Bethesda, Maryland.

### 80's

**Michael Joyner**, DVM '84, earlier this year was elected third vice president of the Texas Veterinary Medical Association. He practices at the East Lake Veterinary Clinic in Killeen, Texas. He was previously the association's director for its north-central district. The association, founded in 1903, is a professional organ-



Dr. Michael Joyner

lives in Pomona, NY.

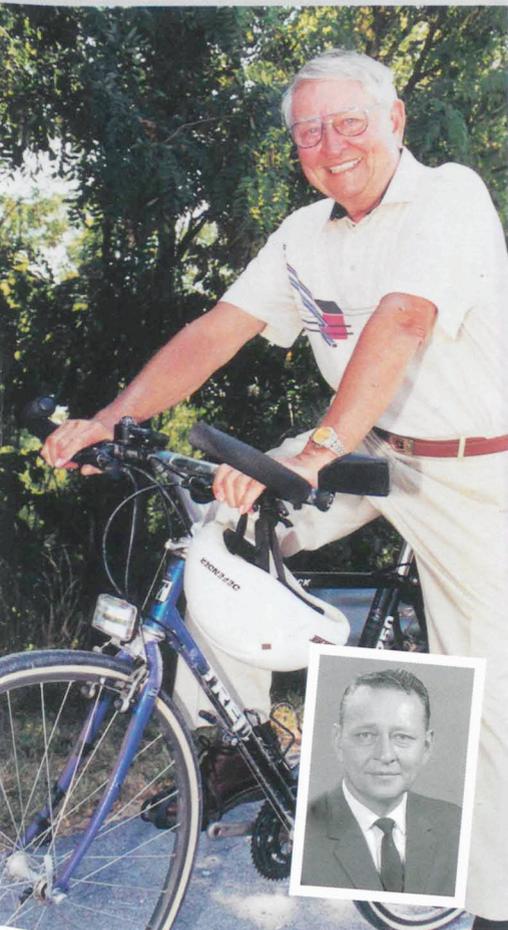
ization composed of about 3,000 veterinarians. **Steven Brunert**, DVM '85, and his wife recently announced the birth of a son, Jared Steven Brunnert, born July 20, 1998. The family

### 90's

**Kenneth Allison**, DVM '92, and his wife recently announced the birth of a son, Shane Carey Allison. The birth occurred August 14, 1998 and the baby weighed 8 lb., 15 oz. Dr. Allison is an equine practitioner in San Francisco. **Tim Sullivan**, DVM '92, recently accepted the position of Senior Falcon Veterinarian at Abu Dhabi, in the United Arab Emirates. **Cortney Elliott Wright**, DVM '92, and her husband announced the birth of a daughter, Eleanor "Ellie" Annette Wright. The baby, the family's second daughter, was born February 19 and was 6 lb., 3 oz. Dr. Wright works at Rolling Hills Veterinary Medical Hospital, Columbia, Mo. **Paul Amerling**, Ross University DVM '97, recently joined the Miller-Clark Animal Hospital in New Rochelle, NY.

### In Memoriam

**Jeff Shikles**, DVM '88, died in July after being kicked by a horse that he was shoeing. The Columbia, Missouri resident worked at the Noah's Ark Veterinary Hospital. He is survived by his wife Nancy; a daughter Katherine, 7; and a son, John, 10.



Dr. C.J. Bierschwal

Want to catch up with retired professor Dr. C.J. Bierschwal? Better put on your running shoes.

Retirement to "Bush," as his friends know him, is as busy and intense as when he was pioneering a clinical specialty at the MU College of Veterinary Medicine. Sometimes he's volunteering at his church, other times he's building (or rebuilding) computers. On a slow day, he converts LP records from his Big Band and jazz collection to CD-ROM, or edits a neighborhood newsletter.

Fit, trim, and active, he is more often on a bicycle. Not for a leisurely trip around the park, but for a 40-, 50-, or sometimes, 60-mile trip at least three times each week. "I rode 125 miles one day in Holland," he said.

As this is being printed, Dr. Bierschwal is scheduled to lead a group of theriogenologists on a bike ride along the Old Natchez Trace—from Natchez, Mississippi to Nashville, Tennessee.

Retirement? "I haven't got enough

# Dr. Bierschwal

hours in the day," he said.

Raised in Nevada, Iowa and the son of a barber, Dr. Bierschwal followed the local veterinarian on rounds. He loved what he saw and tried to get into veterinary medical school. World War II intervened and he served in the U.S. Marine Corps in the Fifth Amphibious Corps, stationed in the Pacific where he saw combat.

The G.I. Bill helped Dr. Bierschwal earn his DVM degree in 1950 from Iowa State University after discharge from active service. He began a practice in Excelsior Springs, Mo., but was recruited to join Missouri's brand new veterinary medical college as a large animal ambulatory clinician. The future professor emeritus of veterinary medicine and surgery was then asked if he had an interest in obstetrics. "Yes," he said, "Sounds like a challenge."

That decision led to not only to an outstanding career in teaching theriogenology, the science of animal obstetrics and reproduction, but a leadership role in developing the theriogenology teaching and clinical program as a specialty at MU. He did this at a time when many did not consider the work a specialty. Slowly, he developed techniques on a sound scientific basis and taught them to his veterinary medical students as well as practitioners in the field with continuing education programs.

"It turned out to be the best thing that ever happened to me," Dr. Bierschwal said.

Dr. Bierschwal's work won him national recognition including a David E. Bartlett award which rewards the most distinguished theriogenologists in the country.

In his career, awards and professional recognition would be nothing new to Dr. Bierschwal. He won the University's Alumni-Faculty award in 1970. In 1982, the MU Alumni Association honored him with its highest tribute, the Distinguished Faculty Award—the first MU College of Veterinary Medicine faculty

member to achieve this honor. In addition, he earned two Norden Teaching Awards.

Dr. Bierschwal was instrumental in forming the Society of Theriogenology and later the American College of Theriogenologists. He was part of the committee that coined the term theriogenology.

As proud as he is of his work in establishing theriogenology as a science at MU, Dr. Bierschwal is equally pleased with his pioneering work in creating audio-visual teaching aids. In the days before computer-based presentations, Dr. Bierschwal wrote, scripted, filmed, and sound-recorded dozens of eight-mm instructional movies. Using the technology of the time, his early movie titles were typed on a yellow sheet of paper and filmed with a camera. Texas A&M College of Veterinary Medicine utilized 26 of his productions where, like MU, many of the works have been converted to videotape and are still in use.

"Just flat, plain teaching doesn't get it," he said. "You've got to have the visual part to make it effective."

Dr. Bierschwal retired from the College in 1986 as chief of the theriogenology section.

He briefly performed consulting work after retirement and helped test how new drugs affected animal reproduction. His interest began to focus away from veterinary medicine and onto computers, bicycling, and his family. He often combines these, such as when he built computers for his grandchildren.

Dr. Bierschwal and his wife, Beryl, have two daughters, both of whom chose careers in medicine. Betsy Ann is a dentist, and Beverly, DVM '83, practices small-animal medicine in Springfield, Mo.

"I want to take a computer course and learn to troubleshoot PCs and video editing," he said. "If I can ever find the time."

# Going Mainst

*Moving the Beetle Bailey Statue Involved More Than Just Distance*

Tucked away under trees so dense that often little light showed through, a reminder of one of the University of Missouri's most famous, perhaps infamous, landmarks, led a quiet life calling little attention to itself.

A statue of a smiling Beetle Bailey with a large beer, sitting at a bench and table scrawled with carvings, was tucked neatly into a little rock-outlined park. The statue was in homage to a long destroyed, but famous campus bar called The Shack. If you didn't specifically know where to look, you would probably miss the statue, which could have been the whole idea.

That was probably best for a serious university. Why be reminded of its connection to a little bar even if it was the subject of a hit 1950's song, countless cartoon strips, and the fond if admittedly hazy recollections of generations of MU alumni?

Then, suddenly this spring, the statue of The Shack was uprooted from its obscurity and moved into a prominent place in front of one of the most important buildings on campus and closer to The Shack's original site. Regional and state newspaper stories followed. TV reporters cooed up to Beetle in his booth to deliver their stories. Mort Walker, The Shack veteran and Beetle Bailey creator, gave interviews about the move. Coat-and-tied

alumni, on their way to dine in the Reynolds Alumni

Center, almost had to walk around the Beetle and his beer to get inside. Kids found the new location irresistible.

It all goes to show, if anything gets old enough, it can eventually become acceptable.

The Shack was a converted truck camper that stood for 67 years on Conley Avenue near where the Reynolds Alumni and Visitor Center now stands. The Shack was a dark campus hangout where students carved their initials on walls and tables as they drank sodas and beer.

The Shack wasn't pretty even when it opened in the Roaring Twenties and alcohol

was officially banned by the National Prohibition Act of 1919 through December 1933 when the act was repealed. Legend states The Shack was not always in accordance with that law, which set it on its road to notoriety.

Returning World War II veterans who wanted a quick beer found The Shack, painted an almost military surplus green, an antidote to staid academia.

Midnight, one more night without sleepin'  
Watchin' til the mornin' comes creepin'  
Green door, what's that secret you're keepin'?

There's an old piano  
And they play it hot behind the green door  
Don't know what they're doin'  
But they laugh a lot behind the green door  
Wish they'd let me in  
So I could find out what's behind the green door

\*The Green Door  
Artist: Jim Lowe  
Words by Marvin Moore and Music by Bob Davie

# ream?

The Shack and the carvings were made famous by World War II vet Mort Walker when he drew comics for *Showme*, an MU humor magazine, and later drew *The Shack* in his syndicated comic strip, *Beetle Bailey*.

Recollections of college and beer seemed to strike an almost universal chord. That propelled the green-doored shack as the subject of a song performed by Jim Lowe that held Billboard's number one song for three weeks in 1956.

Dr. Kenneth Niemeyer, former associate dean for academic affairs, and his wife, Margaret contributed to the fund to build the statue even though they visited *The Shack* only once. As newlyweds who came to the College on the G.I. Bill, they couldn't then afford such extravagance. Now, the couple's initials are part of the *Beetle Bailey* statue.

But it all ended in the 1960's when *The Shack* closed. It briefly reopened in the 70's, but never regained the popularity for which it was famous.

In February 1988, MU purchased the land surrounding *The Shack* to build the Reynolds Alumni and Visitor Center. On Halloween night, 1988, a mysterious fire destroyed the hangout. National headlines again linked the University with a decrepit bar.

More than a decade after its destruction, *The Shack* was still able to make headlines by just moving a statue a couple of hundred yards. The move from woody shade to sunny prominence was more symbolic, however. *The Shack* officially and proudly became part of the University's heritage.

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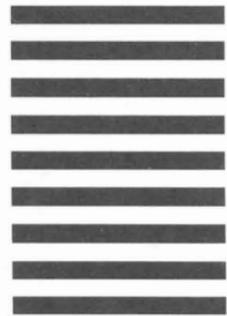
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