

Arkeology

WINTER-SPRING 2005 News and trends on veterinary medicine and the human-animal bond.



A Second Chance For *Birds of Prey*

When Injured Owls, Hawks, and Eagles Need Help,
A Unique Group of Volunteers Come to Their Aid



n a blustery March day near Grindstone Creek Park in Columbia, Mo., Bob got a second chance.

Shot by a hunter who destroyed one of the Great Horned Owl's eyes, Bob was carefully held by a MU College of

Veterinary Medicine student. When ready, the student slowly uncoupled her hands and Bob eagerly flew back into the trees.

Bob is one of hundreds of birds helped by a unique group of volunteers, veterinary medical students, and professionals called the Raptor Rehabilitation Project. The group, hosted by the University of Missouri College of Veterinary Medicine, has dedicated itself to the specialty medicine of healing and rehabilitating injured birds of prey and returning them to the wild.

The group is on call 24 hours a day and responds to requests from law enforcement and conservation departments. They drive hours in an ancient Ford minivan to capture injured birds and give immediate first aid. Then, it is usually back to the MU Veterinary Medical Teaching Hospital where the bird receives medical care that will help him return to the wild or live the best pain-free life possible.

Medical Help to Owls, Hawks, Eagles, Swans, and Falcons

The Raptor Rehabilitation Project was formed in 1972 to rehabilitate injured eagles. Today, it serves a host of Missouri birds including the Red-

tailed Hawk, Broad-wing Hawk, American Kestrel, Turkey Vulture, and a variety of owls.

Raptor is Latin for "to seize or grasp," a perfect definition for birds that use strong talons to capture their prey. Eagles, falcons, hawks, and owls are all considered raptors. They also possess keen eyesight and sharp beaks for tearing food. Raptors are essential to the environment for maintaining a healthy balance in the rodent population.

The group has three goals: Give medical care to and rehabilitate injured birds of prey so that they can be released into the wild, educate veterinary medical students about avian medicine, and educate the public about birds of prey.

Barn Owls
prowl the night
Missouri sky. They
will stake out a territory
and defend it fiercely.
Their tapered and soft
feathers allow them to
fly soundlessly while
their keen eyes
search for prey.

Enrollment is open to veterinary students, faculty, and staff of the MU College of Veterinary Medicine. Interested members of the public can also participate, although medical treatments of the birds are performed by the veterinary medical students and faculty only.

These birds are often the victims of hunters, or are hit by cars. Sometimes, a bird fixated on catching a rat dinner will snag a power line. Many cases involve injuries to the bird's wings, which while not immediately fatal, may soon kill the animal as a flightless bird of prey cannot hunt.

One notable case was a five-foot-long Trumpeter Swan shot on a November day by a hunter. These birds fall under provisions of the Migratory Bird Species Act and shooting one can result in a \$15,000 fine and six months in jail. No wonder the hunter abandoned his prize when he got close enough to recognize it.

Students named this animal Venus and she needed orthopedic surgery. While the buckshot missed her vital organs, the pellets fractured many of the bones in one wing. Enter Dr. James "Jimi" Cook, the orthopedic surgeon who fixed the fracture by installing an eight-inch long pin to reattach the broken bones. During her rehabilitation, veterinary medical students who cared for Venus had to construct a "swan shield" to avoid the bird's powerful serrated

▪ Continued on page 6

Our Mission

Because animals are more important today than ever before in our history, the MU College of Veterinary Medicine is dedicated to preserving, protecting, and strengthening the human-animal bond. Arkeology, as its name implies, is a medium for bridging between the role of the College as a protector of the animal kingdom (a kind of modern ark) and as a place where science, medicine, learning, and teaching can flourish (logia is the old Latin and Greek word for study or discipline). Continuously embarking on voyages of teaching, healing, and discovery, the College invites you on board this vessel to journey with us.

P R E V I E W S

Art as Education

When MU College of Veterinary Medicine students begin their clinical work in the teaching hospital, they have an advantage that other veterinary students do not have—**3** an anatomy instructor who can reveal the inner workings of animal health through the creation of art.

Veterinarian to the Sacred White Buffalo

MU veterinary medicine alumni face all kinds of challenges in their clinical careers. For one, his greatest test came in performing surgery on a Sacred White Buffalo—a possible **4** harbinger of world peace.

Not Yet Out to Pasture

Our cats and dogs are living longer because they have become part of the family and often get the same medical attention as humans. Horses are now **6** living longer for the same reason.

The Final Stretch

With governmental funding still at a low ebb and education costs rising, the MU CVM development team looks to partner with **8** friends of the college for a strong finish for the For All We Call Mizzou campaign.



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All Creatures GREAT

and
S m a l l



This issue of Arkeology provides a glimpse of the amazing diversity of the animal kingdom, ranging from Lucifer, the tiny screech owl who couldn't fly, to Miracle, the rare white buffalo whose birth was seen by some as a harbinger of world peace. These stories also remind us of the range of responsibilities that veterinarians have in caring for animals, be they great or be they small. While reading these stories, I couldn't help but think of another story that chronicles the veterinary profession, James Herriot's book, *All Creatures Great and Small*. In his inimitable way, Herriot (Alf Wight, in real life) mesmerized millions of readers by recounting the adventures (and misadventures) of an English country veterinarian. *All Creatures Great and Small* and Herriot's subsequent books reminded us of our own humanity and the special place that animals have in our lives.

Who among us has not been touched by animals, whether it's a special companion that is there for us through thick and thin or a wild creature that strikes awe in us because of its sheer beauty. A special relationship with an animal often provides the spark that leads a young person to choose a career in veterinary medicine. And, in pursuing this career, veterinarians are constantly reminded of the animal kingdom's breath and majesty. Dr. Thomas Williams witnessed first hand a wonderful example of this majesty while caring for Miracle. As detailed in the story, the legend of the Sacred White Buffalo started with the Lakota People almost 2,000 years ago. Of course, the special bond between animals and humans goes back even further, to the beginnings of life itself.

This bond between animals

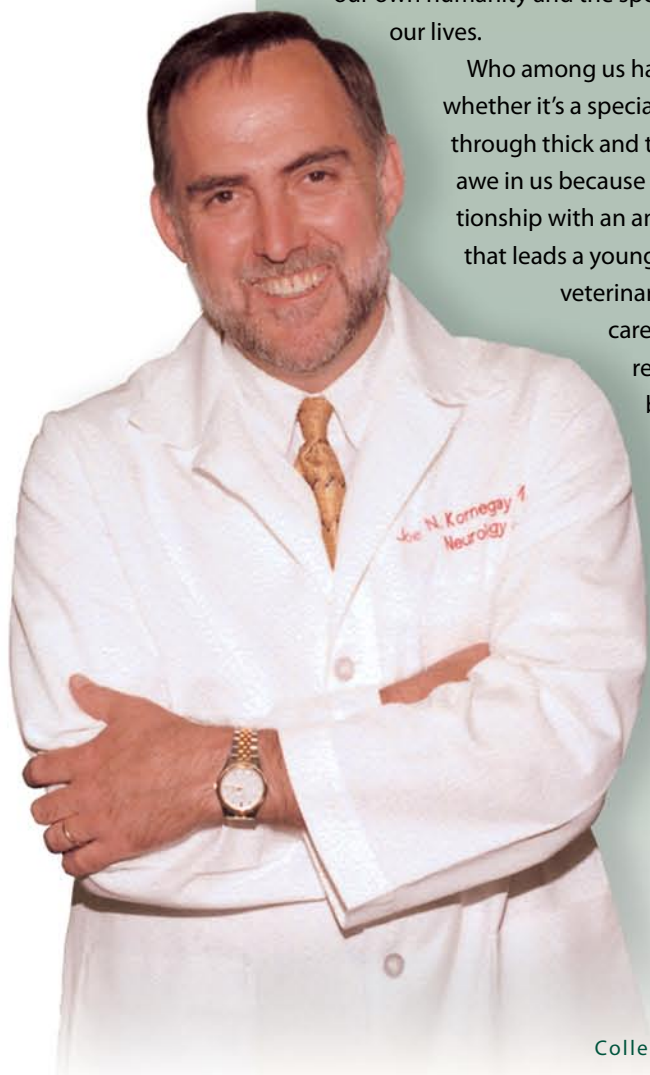
and humans is further illustrated through the College's Raptor Rehabilitation Project. People who come in contact with injured birds (or other animals) feel an obligation, perhaps a compulsion, to seek care for them. Fortunately, care for injured raptors is only a phone call away, as our students, faculty, staff, and other volunteers fulfill their own heartfelt obligation to protect our animal friends. Through their three-fold mission, Project members not only provide care to the injured birds, they also teach themselves and educate the public about birds of prey.

The story about Copper, the 51-year old horse, also touches our hearts. Copper was certainly down on his luck when the Jefferson County Sheriff's Office found him malnourished ten years ago. How easy it would have been to just put the old horse down. But, Copper had lived too long and seen too much for that. Kim Mestor came to his aid, providing another story of the tremendous bond that exists between humans and animals.

Dr. Gheorghe Constantinescu also enjoys a special relationship with horses. Indeed, as detailed in his story, *Art as Education*, the horse is his favorite species. Thousands of veterinary students (and yours truly, as well) have sat spellbound while watching him effortlessly bring the horse's head to life on a blackboard, often two at a time using both hands! Dr. C's fascination with animals and art began early in life in his native Romania. We've been blessed to have him on our faculty for over 20 years.

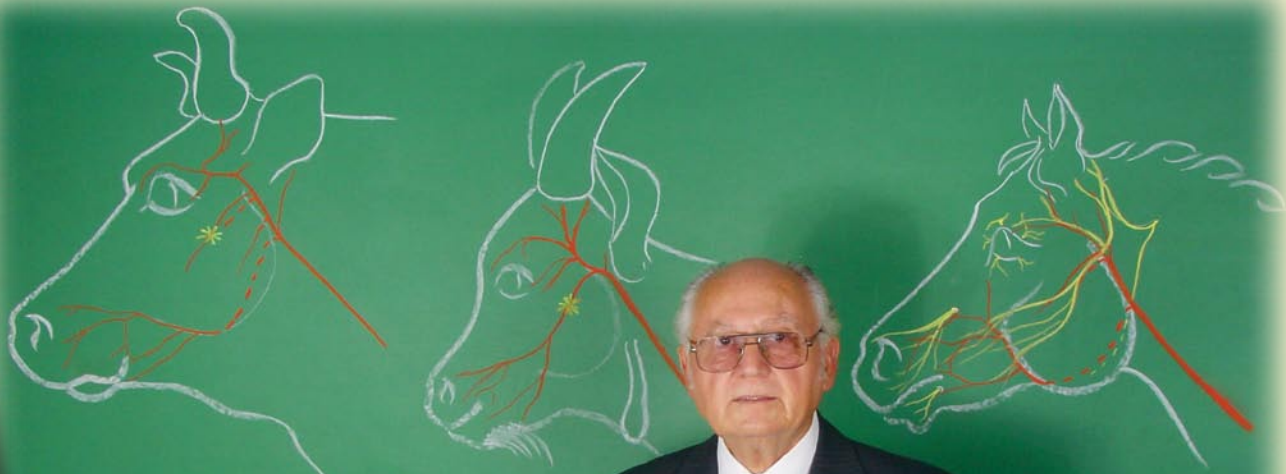
The final story in this issue of Arkeology highlights another special group of people, our College development team. With your help, they are raising funds to ensure that the College continues to do our part to nurture and celebrate the special relationship that exists between humans and animals. This may involve providing scholarships to truly remarkable students who have made veterinary medicine their career, supporting programs that literally breathe life into injured animals, or constructing facilities that make it all possible.

As always, thank you for joining us on this voyage of Arkeology and for your support in advancing our programs in teaching, healing, and discovery. **Ark**



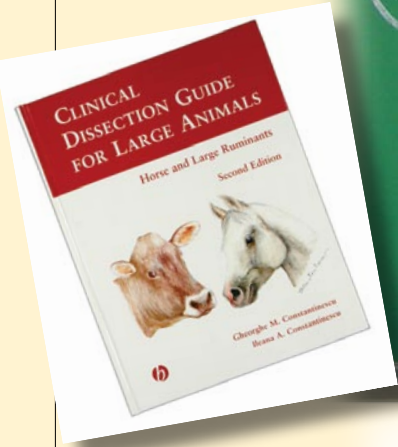
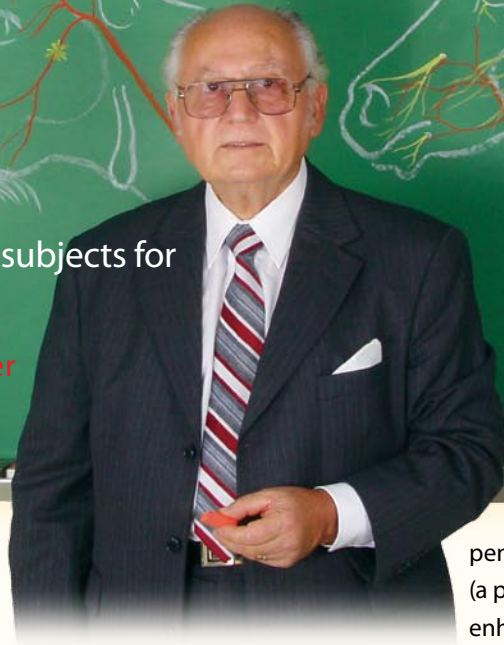


Art as Education



Anatomy is one of the hardest subjects for veterinary medical students—

Dr. Constantinescu makes it easier with his hand-drawn illustrations



Photos by Art Smith

The best educators have a quiver of techniques to reach their students. Some assign challenging projects. Others bring in guest speakers.

Dr. Gheorghe Constantinescu, professor of veterinary anatomy at the University of Missouri College of Veterinary Medicine, teaches anatomy with an artistic flair. In addition to lectures, laboratories, and books, Dr. C, as he is known, illustrates the relationships between bone, muscle, tissue, and skin by using his skills as an artist. With just a few pieces of colored chalk, he takes his students on a journey through the body, showing how the components of animals are put together and work. At the end of his classes, students have a visual understanding of anatomy that will serve them well when they transition to the veterinary medical teaching hospital and their first cases.

And, as a byproduct of this education, a series of illustrations are created. Full of curves and beautiful colors, they rival the beauty of commercial art, and have found their way into 20 books, published internationally, for appreciation by an entirely different audience.

Born to Draw

Dr. C learned about using art in teaching at an early age. "My mother, who graduated Magna cum laude from the Romanian Pedagogical (Education) Faculty (College), decided to help my brothers, sister, and me in doing our homework" he says. "During these sessions she showed us how to describe concepts using color pencils and watercolors."

"As a sophomore in the high school Zoology class, I illustrated different creatures. I was impressed by a photo of a dove on a rock in our textbook and I decided to draw it. I remember that I went to a bookstore and bought different qualities of pencils, from F, HB and the whole class of B, up to B6 (the B6 pencil was the darkest). And I illustrated my dove with lights and shadows in such a manner that the teacher was very impressed and encouraged me to continue my artistic work."

Soon, Dr. C was able to bring his talent into his career interest, veterinary medicine. "As a high school senior, I illustrated body parts in anatomy," he points out. "I liked anatomy from that time on. In the Romanian Faculty (College) of Veterinary Medicine, my Master Professor of Anatomy, Vasile Ghetie, an artist himself, taught me how to use the

pencil and the estompe (a pencil-like tool) to enhance shadows."

Dr. C won his first art contest in 1955, taking first place, in his final year of veterinary college. "Since then, I have published 375 papers including books and chapters and taught Veterinary Anatomy to thousands of students in Romania and in the United States."

A Class to Remember

Dr. C is a legend among MU veterinary medicine alumni. All MU veterinary medical students who have gone through Dr. C's anatomy class remember the experience. Dr. C's ability to create a three-dimensional anatomical component on the blackboard during lectures helps students visualize structure and movement in a way no lecture alone could ever do. By drawing overlapping parts of an animal's body—the bones, the muscles, soft tissue, and skin—he can create images from the inside out that help students see how body components are interrelated and work together.

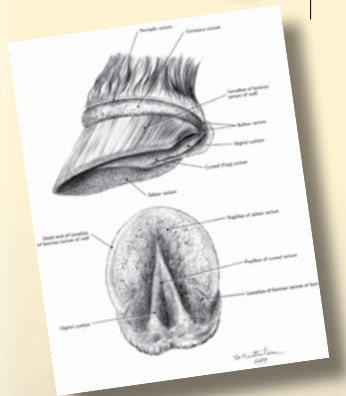
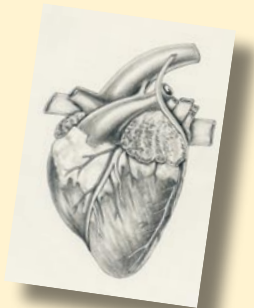
"The so-called 'visualization' of the lecture helps students enormously," he relates. "The actual image of the structure is immediately outlined in students' minds. In the anatomy laboratory, they can correlate my drawings with the reality of the animal."

Dr. C's favorite part of the body to draw is the head, that part of the body that conveys the expression and feelings of the individual. His favorite species is the horse. Drawing bones and muscles gives him the opportunity to better show the interrelationships between the bones, muscles, and skin of his subjects.

For his books, Dr. C does not work in computer animation as many artists do. His art is accomplished in traditional pen and ink, pencil, color pencils, watercolor, oil color, acrylic, and tempera—mediums from which he chooses among for specific drawings.

What is the hardest subject to draw? "Allow me to leave the modesty aside, and tell you that for me there is no subject I cannot draw," he says. "Nevertheless, the most difficult part of a drawing is to proportion the illustration to look similar to the model, and to take the 'perspective' into account."

Dr. C's greatest challenge to date is one he worked on this summer—a drawing of an anatomically perfect frog's skeleton for a poster. Not a hard assignment for someone who has helped so many students through their most difficult class. **Ark**



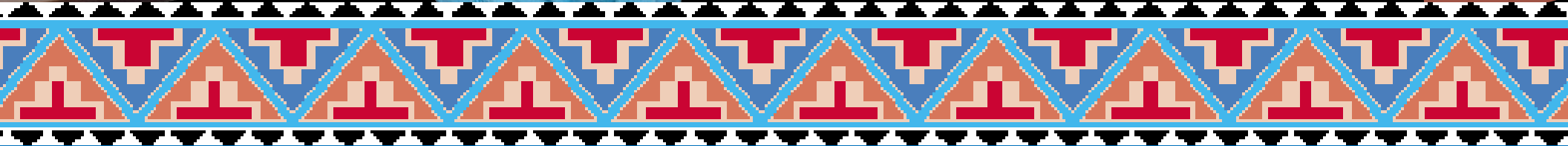


Veterinarian to the SACRED

All Patients Are Special.

Dr. Thomas Williams' patient, however, was a symbol of possible World Peace

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Some patients have more gravitas than others. For Dr. Thomas Williams, MU DVM '79, his most unique patient lived on a Wisconsin farm and was not only a sacred

Prophecy of the Sacred White Buffalo

It is said that the legend of the Sacred White Buffalo started 2,000 years ago in the Black Hills of South Dakota.

The legend began during the "Seven Sacred Council Fires" when the seven Nations of the Lakota People

turned back into a white buffalo calf, then disappeared over the horizon.

Pilgrimages to Miracle

The Heider Family never realized how the arrival of a white baby buffalo would change their lives.

For six-year-old Miracle, Dr. Williams was a veterinarian. He got Miracle from a dangerous and aggressive brown bison. Williams practiced at a farm in Wisconsin. This summer, Miracle was born of unknown origin on Heider's farm. "She became a white buffalo calf," Heider said. "She became lethargic and eventually was dead." "We don't know how she came peacefully. I think she's always been here."

Miracle Comes to Wisconsin

Miracle was born in 1999 and was the first white buffalo calf in Wisconsin. Williams was the first to see her. A white buffalo calf is a rare sight for Indians. According to legend, the female of peace and harmony was born on Earth. Her appearance was seen all over the world in Janesville. People traveled for hours of the day to see her. Reports of her existence were probably more of a tourist attraction in Montana in the 19th century. According to legend, she is now about 100 years old and healthy reemerged. Since Miracle's birth, as many as 14 other albino calves have been brought to the farm in Jamestown, N.D. While all are considered sacred, albino is a prophecy. Many Lakota expect the Sacred White Buffalo because she is albino. Her eyes and her skin was

Baby Miracle at 3 days old.

Photo used with permission, courtesy of the Heider family.

What It Like The Veterinarian Sacred White Buffalo

Q Do you have experience in buffalo veterinary medicine? If so, how did you acquire it?

Dr. W I'd had some exposure at MU. Most of my experience came through 21 years of personal research at the Evansville (Wisc.) Veterinary Service. There, I practiced all aspects of dairy practice, large animal medicine, reproduction, housing and ventilation issues, milking machine analysis, as well as small animal medicine.

Q What significant conditions did Miracle have during your time with her? How did you treat them?

Dr. W Miracle mostly had minor problems. Generally, they were minor respiratory issues and injuries. Her major problem was a bone abscess affecting the distal phalanx.

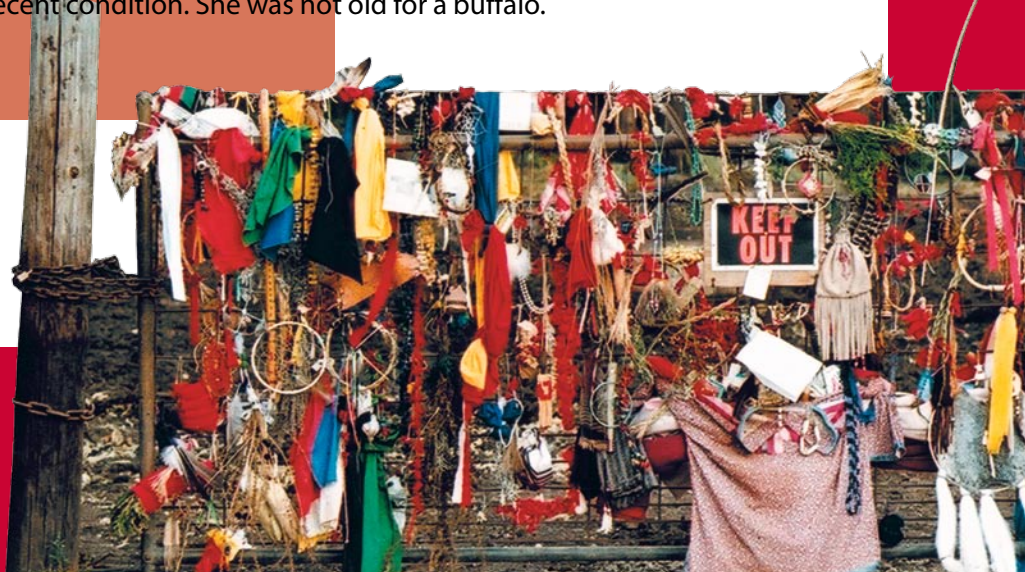
Q In regard to the treatment of the abscess in her hind leg in 1999, how difficult was the anesthesia? How did you judge what to do?

Dr. W Anesthesia in buffalo is tricky. I consulted with noted veterinarians in the US and Canada. We came up with a combination of Valium and Ketamine along with a local block. I received e-mails from all over the country sharing ideas and suggestions.

Q What was Miracle's general medical condition? Do you know of any conditions that could have led to her death?

Dr. W As far as I know, Miracle had been in very good health until just prior to her death. She was very special and her conditions were accordingly excellent. As I haven't seen her for four years, I can't speak to her recent condition. She was not old for a buffalo.

The gate to Miracle's pasture became a focal point of gifts and offerings. Many of these items are now part of a Miracle museum.

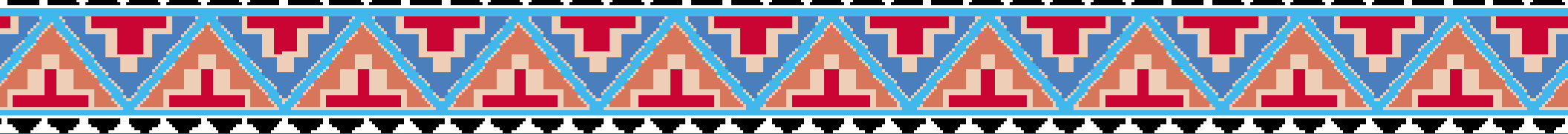


MIRACLE

SUFFALO



Miracle with her first calf, Millennium. All three of her calves appeared as normal buffalo with no signs of special coloration.



respect before walking on sacred ground. They prayed before Miracle and pinned web-shaped dream-catchers to her gate.

A Lakota medicine man from South Dakota phoned the Heiders to tell them not to sell the animal. "You have been chosen to be her guardians," he said.

The medicine man also made a chilling prediction

aborigines from Australia. The Sioux, the Cree, and the Ho Chunk are just a few of the tribes that have been to the farm.

Miracle became famous and the Heiders received, and turned down, offers from theme parks and Native American Nations. Rock singer Ted Nugent, who had a late 1970's hit called "Great White Buffalo," wanted

An Abscess Threatens Miracle

Dr. Williams was Miracle's veterinarian for her first six years. Probably the most significant medical situation he encountered with her occurred in September 1999. The Heiders noticed that Miracle was losing weight and becoming listless. She stopped eating and started limp-

What's To Be narian To A te Buffalo?

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Q Were you aware of Miracle's significance to the Lakota when you examined her? Were you ever in contact with any representatives from any Indian nation before or after your procedure?

I could not help but be aware of her importance to the Indian culture. At the time of her birth, the media presence was overwhelming. The volume of people visiting was amazing. I had no contact from any Indian nation about the surgery, but her owner, Mr. Heider, said that tribal elders were in contact with him before, during, and after the surgery.

Q Was there any media interest in your work with her?

Yes. The media wanted to film the procedure. That didn't happen. Buffalo are very touchy on a good day, and I don't need lights and a news team looking over my shoulder.

Q What brought you from Wisconsin to Osage Beach, Missouri?

Dr. W I was born and raised in Missouri and came to the Lake of the Ozarks with my folks in the 1950's and '60's. For years I would bring my family down from Wisconsin with a thought to retiring there. An opportunity arose to restart a practice at the Lake at the same time that I had surgery on my arm for a trapped ulnar nerve. Since that eliminated large animal medicine for me, I took a leap of faith and moved back to Missouri. I own the practice and we specialize in canine and feline medicine, the basics, medicine, surgery and dermatology.

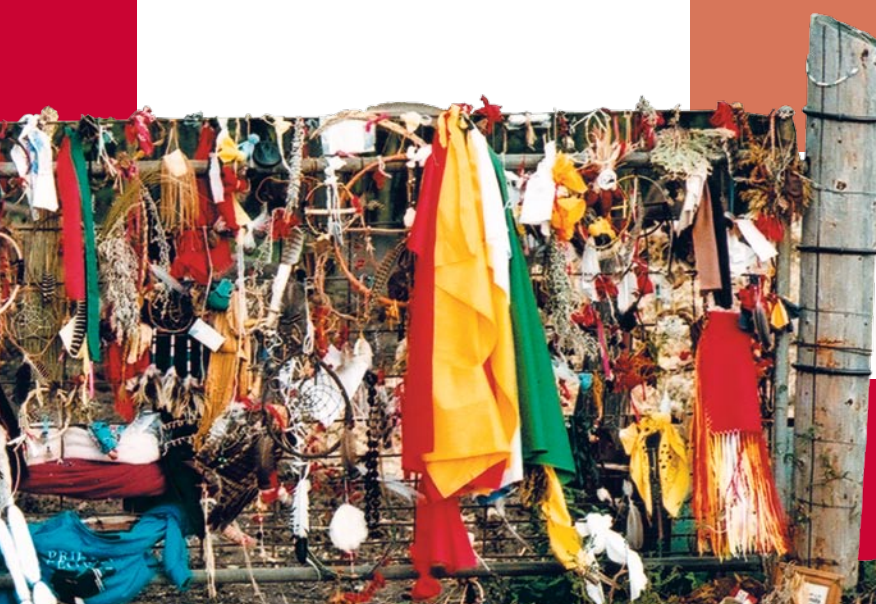
Baby Miracle at 8 days old.

Miracle at eight days old, born August 20, 1994. Behind her is her mother. Marvin, Miracle's father, died two days after Miracle's birth, fulfilling part of the Lakota Indian prophecy. Photo used with permission, courtesy of the Heider family.



Miracle at 3 years old.

Miracle at three years of age. She turned a reddish color as if fulfilling the Lakota Indian prophecy.





Armando Burgos-Rodriguez, then a MU class of 2002 veterinary medical student, holds an injured eagle while its wing is wrapped. Dr. Burgos-Rodriguez is now a resident at Oklahoma State University.



MU Resident Veterinarian Dr. Jeffrey Bryan, with the help of veterinary medical students, performs a surgical procedure on an eagle under anesthesia. Avian patients have a dramatically different cardiovascular system than the usual dogs and cats who come to the teaching hospital.

A Second Chance

Continued from page 1

beak—a reminder that these are wild creatures who will vigorously defend themselves against even those who are trying to help.

Bob's was a typical case. He was found emaciated and weak near a Fulton, Mo. roadway several days after being shot. His worst injury was a buck-shot pellet wound to one eye.

At the College's Veterinary Medical Teaching



Oliver and Annie are Eastern Screech-owls who were orphaned as juveniles. Screech-owls nest in small tree cavities and are known for their eerie whinnying calls. Oliver and Annie were adopted by Storm, a permanent resident Screech-owl, who taught them how to act like owls. Oliver and Annie were later released into the wild.



Lucifer is a Screech Owl who was found with a lacerated wing. Though his injuries didn't seem severe, Lucifer never learned to fly and is a permanent resident in the Raptor compound. He is a favorite of school children.



A juvenile Eastern Screech-owl.

Hospital, Bob was treated with antibiotics. His first few months were rough. His injured eye had to be surgically removed. A second pellet wound to the jaw required additional surgery. After his successful hospital stay, project members worked on helping him regain his strength and flying and hunting skills.

Bob's release was accomplished with an added twist — a small radio locator-transmitter was attached to him that will allow project members to track his movements. This effort will not only help the group determine if one-eyed birds can still hunt and thrive, but aid in Bob's rescue if he were unable to adapt.

Exposure to such cases gives veterinary students a unique insight into avian medical care. Birds, especially the flying hunters like owls and hawks, have special medical needs quite unlike the dogs and cats that typically come into the teaching hospital.

Rehabilitation and Another Chance

Once the birds have been released from their medical caregivers, group members then provide whatever rehabilitation and therapy is needed to help the birds regain their flying and hunting skills.

Much of this work occurs in the group's flight cages—specially-constructed buildings that let the bird see the outside environment and be comfortable, but not so open that the bird can escape. In these buildings, healed birds are placed on high perches and tempted to fly with a meaty snack pulled along with a string. Sometimes the birds have to regain their flying skills and their first attempts result in clumsy student-pilot landings. But, when they regain their proficiency, they travel in the group's black and gold minivan to one of several known areas of strong bird activity to be released back into the wild.

Some birds cannot be released because their injuries will never heal. They are kept by the project and some are used, through presenta-

tions, to help educate the public. Group members bring these birds to venues like elementary schools. School kids stare at the birds who fearlessly stare back. Occasionally, a bird will let out a wild screech, bringing a part of the wild into an urban classroom.

Presentations to adult groups can involve legal subjects. Many common Missouri birds of prey are protected by strict laws and harsh penalties. In 1982, a northwest Missouri man received a \$200 fine and a 30-day prison sentence for killing an owl. It is also illegal to have an owl in captivity—alive or dead.

Each spring and summer, well-meaning people pick up and try to raise baby birds

found on the ground or on low perches, believing them to be orphaned or in danger, not knowing that it is normal for mothers to leave the nest to hunt for dinner.

Such birds in the hands of the untrained generally become sick and die. Even those few that are reared are likely to be social misfits that can never return to their proper place in the wild. The public may contact members of the Raptor Rehabilitation Project by calling 573/882-7821 and asking to have a raptor student paged.

Bob's Second Chance

Bob, the one-eyed Great Horned Owl, didn't waste his second chance.

Volunteers simulated typical prey situations in the flight cages to determine if Bob could still spot food, and then adapt to his reduced depth perception to swoop down on it. Bob's first attempts didn't look good. Gradually, however, Bob caught on to one-eyed flying and hunting, and tests in the Raptor Rehabilitation's flight cage indicated that he could still be a successful hunter.

After his release, his movements were monitored by the radio transmitter. From the radio record, it looked as if he had established a new home and had a wide and active hunting area. He was still going strong when the transmitter's batteries finally gave out and the project lost contact with him. **Ark**



Raptor Group residents nicknamed The Three Amigos.

The Raptor Rehabilitation Group is looking for donations to purchase a new minivan to replace its high-mileage 1980's vehicle. Donations of a new or used vehicle, or cash toward a purchase, would be appreciated by the group. For more information, please contact Greg Jones, director of MU CVM development, at 573/884-2896. Donations may be tax deductible and sponsorship recognition on the vehicle is possible.



Not Yet Out to Pasture

The Old Gray Mare Really Ain't What She Used to Be ... As Owners Elect to Keep Their Geriatric Horses Around

Copper was a celebrity. Students, staff, and faculty from all over the teaching hospital came to pay their respects. While he was probably in some discomfort, he would still occasionally give an enthusiastic whinny to let his admirers know that he was not yet over the hill.

At his admittance to the University of Missouri College of Veterinary Medicine Equine Clinic in April 2004, Copper, at 51 years old, was probably the oldest living horse in America. And, he may have been the oldest horse in the world, according to other records.

The former St. Louis police horse was admitted because he wouldn't eat. After treatment, Copper returned to dine in his grassy pasture near the eastern Missouri town of Richwoods.

A horse's typical life span is 25 years. Copper, a mixed Morgan gelding, was born in 1953. He's outlived a host of more famous equines, including all three Triple Crown winners born in his lifetime.

Copper shows some sign of his age. His walk is slow, he has slight cataracts, and his teeth are almost gone. Still, he continues to enjoy being with his mare friends, and his owner vows to keep looking after him as long as he remains pain free and happy.

The Old Gray Mare No More

Not long ago, a 15-year-old horse was considered elderly and one in its 20's was a curiosity. But horses, like humans, are now living longer. And they are remaining functional well into their 30's and beyond.

An animal is considered geriatric when it has lived three-quarters of its expected lifespan. Assuming an average equine life of 27 years, a 20-year-old horse is equivalent to a 65-year-old person.

It is estimated that about 20 percent of the US horse population are older than 15. With today's advanced veterinary medical technology, improved exercise conditioning, superior feeds, and owners' willingness, horses in their late 20's and 30's are more common than ever.

Part of this trend is because it is often economically realistic for owners to prolong their horses' useful lives. Many of today's horses are well trained, and owners are reluctant to retire these athletes if the horse is still physically vigorous.

Perhaps more significant, however, says Dr. Alison Lacarrubba, MU clinical instructor in equine medicine and surgery, horses have become friends and family members rather than just beasts of burden. Americans expect quality healthcare in their senior years, and many demand the same for their horses.



Copper, during his visit to the MU Veterinary Medical Teaching Hospital, is possibly the oldest living horse in the world.

Equine Senior Citizen Maladies

Older horses suffer from a variety of ailments, notes Dr. Philip Johnson, MU professor of equine medicine and surgery. The single most common is colic.

Colic is a term for a range of abdominal distresses — from gas to life-threatening intestinal twists. Most colics are mild and the digestive system rights itself with minimal medical intervention. Major intestinal disruptions, including blockages, twists and ruptures, can be fatal without surgery.

Dental wear is another oft-seen equine senior citizen malady as their teeth succumb to wear on a grass-based diet. Grass may look soft, but it contains sand-like silicates that are among the hardest compounds in nature.

Worn teeth and dental disease hinders the horse's digestive ability. A horse must be able to thoroughly chew its feed for proper digestion.

Keeping teeth in good shape is a veterinary necessity. Horse teeth stop growing around 15 years. By 20, all but one-half-inch stubs are gone. Some horses live long enough to wear their teeth away, leaving them incapable of chewing a normal equine diet. Diets specifically for old-timers are becoming common.

Treating and Researching the High-Mileage Horse

As Missouri's premier referral clinic, the MU Equine Clinic often sees these equine senior citizens—a great learning experience for veterinary medical students who learn the practical medicine on keeping the old timers going. The cases also give MU faculty an opportunity to learn more about the special needs of older horses.

In fact, a new term, Equine Metabolic Syndrome (EMS), has been coined at the clinic to better identify several oft-misdiagnosed age-related problems. EMS describes horses that are insulin resistant, obese, and tend to deposit fat in places such as the crest of the neck, the sheath, and on the rump near the tail head. These animals tend to gain weight very easily and are more likely to founder.

"Dr. Johnson has described EMS which we are currently investigating and have published several papers on in the past two years," says Dr. Nat Messer, associate professor of equine medicine and surgery. "I have been doing research on equine thyroid dysfunction which is thought to occur in mostly older horses. Many older horses are afflicted with laminitis, another area of investigation in which Dr. Johnson and I are involved."

Another area of study involves horses that develop an eyelid cancer called advanced squamous cell carcinoma. There are few reliable remedies beyond removal of the eyelid, which also means that the eye must be removed as the eyelid protects the eye and keeps it moist. Dr. Elizabeth Giuliano, assistant professor of veterinary ophthalmology, hated to see removal of healthy eyes and, on her own, developed a novel technique using light-sensitive anti-cancer agents that are delivered to the eyelid to target individual cancer cells and not the surrounding tissue. Using this new therapy, she has been able to cure the eyelid cancer, thus saving the eye. So far in a dozen cases, the procedure has proved very successful with additional excellent cosmetic outcomes.

Copper's eyelids were just fine, as was his heart and respiratory system as examined by the teaching hospital's cardiovascular team. An indication, maybe, that Copper will enjoy the glory of possibly being one of the oldest horses in the world for many more years. **Ark**

Seven years ago owner Kim Mester entered Copper in a contest to find America's oldest horse. The American Quarter Horse Association and Purina sponsored the contest, which Copper lost to a 48-year-old horse in Ohio. That animal died a year later, according to a report in *The Horse* magazine.

The Guinness Book of World Records listed a 51-year-old horse in Pembrokeshire, Wales, as the oldest living horse. That animal died just before Copper's visit to MU.

The best evidence of Copper's life indicates that he served as a police horse in St. Louis until age 22. His next owner had him about 20 years, until 1995 when he escaped from his stable. The Jefferson County (Mo.) Sheriff's Office found Copper malnourished, with his ribs and pelvis showing. The owner agreed to release the horse to the humane society, which sent Copper to a rescue ranch near Union, Mo. Ms. Mester volunteered at the ranch, and adopted Copper in 1996.



The Final Stretch

The Development Team Begins the Last Year Of the For All We Call Mizzou Campaign

The MU College of Veterinary Medicine's For All We Call Mizzou efforts are coordinated by Greg Jones, director of development (left). Greg was born and raised in Springfield, Mo. He is a graduate of the MU Business School and Washington University Law School where he graduated in 2000. He owns a mixed-breed dog named Lily who was rescued from a St. Louis pound. He has two daughters, Riley and Maren. Greg is assisted by Kevin Largent, development officer (front). A Sikeston, Mo. native, Kevin has been part of MU's development work for more than three years. He became acquainted with the MU Veterinary Medical Teaching Hospital

when he brought his eight-year-old bulldog in for cancer treatment. Lisa Jones (rear) is the college's special events coordinator, and oversees the planning of the annual Gentle Doctor Benefit. She worked in early childhood education before coming to the college. She has two dogs and numerous cats—she won't reveal how many. She also has a one-year-old son, Eli. Kim Bussard (right) is the team's administrative assistant. A Columbia, Mo. native, she has two children—Cooper and Morgan. She also has a cat named Sophie and a dog named J.R. You can contact the team at 573/882-0548.

8

The last few years have been rough for higher education. With public funding remaining at a low ebb and education costs rising, the role of private giving has never been more critical.

To help fund its important teaching, research, and service missions, the College of Veterinary Medicine in September 2003 publically launched its component of the University of Missouri's For All We Call Mizzou fundraising campaign (www.cvm.missouri.edu/giving/index.htm).

So far, the college's campaign has racked up some significant successes, proving again that the college's friends will step in when needed to provide above-the-call-of-duty support. With a year left to go in the Mizzou campaign, the college is looking to meet its goals to help graduate the next generation of veterinarians and the researchers who support them.

Successes, and Some Things Left to Do

The \$24 million Mizzou goal for the college has three components: student scholarships, endowed centers and programs, and new facilities.

The scholarship effort has fared well, netting more than \$6 million against a \$4.2 million goal. The \$12.6 million centers and programs' objective is largely on target, so far. The \$7.2 million facilities effort, as with other similar programs campuswide, is lagging.

Though the scholarship goal has been achieved, the development team is still soliciting gifts for students, Greg Jones, the college development director points out. As with other colleges of veterinary medicine, MU students incur an average debt load upon graduation of more than \$70,000. Any additional monies will be able to help even more students.

Likewise, funds beyond the program goal will do nothing but enhance an already ambitious set of college projects including the establishment of the Center for the Study of Livestock Diseases, Center

for the Study of Animal Wellness, and Center for Comparative Medicine, as well as new research and clinical efforts in comparative oncology and comparative orthopedics.

Greg points out that donations for facilities will enhance the college's learning environment, starting with a long overdue renovation to its library. The biggest need in the teaching hospital, equally critical, is state-of-the-art imaging equipment. New technologies such as CAT scanning and MRIs have revolutionized medicine. Veterinarians with access to these types of machines can often non-invasively diagnose diseases, eliminating the need for risky exploratory surgeries and, thus, providing better care.

Facilities funding would also help construct Barkley House (a Ronald McDonald House for animals), a new Equine Lameness Center, and upgrade diagnostic and research facilities at the Veterinary Medical Diagnostic Laboratory. The latter effort will give the college new abilities to help protect Missouri's \$2.5 billion animal agriculture industry. The VMDL receives about 40,000 diagnostic test submissions annually with its current facilities.

"Private gifts provide the margin of excellence that distinguishes the MU College of Veterinary Medicine," Greg says. "We are grateful to the many alumni and friends who support our strong tradition of teaching, healing, and discovery. The time is right to capitalize on our strengths and become an even greater resource to Missouri and the country. Gifts to the campaign will help the college shape its future and the profession of veterinary medicine."

A New Partnership, the Connaway Society

The newest part of the campaign is the creation of the John W. Connaway Society (www.cvm.missouri.edu/connawaysociety). This society, modeled after MU's Jefferson Club, is designed to honor Dr. Connaway, recognized as the person most responsible for bringing formal veterinary medical education

to Missouri. His outstanding research on diseases such as Texas fever and hog cholera benefited the state and American farmers.

"The Connaway Society was established to help continue the vision of Dr. Connaway," Greg reports. "The society is a symbol of the abiding interest of its members in the welfare of the college. Founding members will be the backbone of the college's future success and have the satisfaction of knowing that their philanthropy will be critical to guiding the scholars and veterinary practitioners of tomorrow."

Greg says that donors may designate their gifts to a specific fund or college project. Donors may make an outright gift or pledge, make contributions on an annual basis, or include the college in their estate planning.

"Today, MU DVMs are on the leading edge of efforts to improve the health of animals—from restoring eyesight to improving cardiology and oncology techniques," Greg says. "Our graduates also honor something intangible but important—the strength of the bond between animals and their owners."

The Home Stretch for Mizzou

The For All We Call Mizzou campaign will officially end Dec. 31, 2005.

"It's critical that the college achieve its Mizzou goals," Greg said. "While the college has made impressive gains in creating student scholarships, it is still fighting increasing costs and declining state funding. New facilities will be needed to help future students flourish — particularly in the critical area of modern imaging equipment.

"New programs will promote even higher levels of discovery and service in such areas as animal agriculture and companion animal medicine—providing even higher levels of service to Missourians and making students even more capable in their professional careers." **Ark**

Arkeology

Arkeology is published twice a year by the College of Veterinary Medicine at the University of Missouri in Columbia.

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