Breaking Ground

Ceremony Marks Beginning of Construction

The ground breaking ceremony was opened by Dean Robert Phemister, DVM '60, who welcomed the more than three-hundred guests gathered for the early morning ceremony. The audience was also addressed by Frank H. T. Rhodes, president of Cornell University, Carolyn Comans, DVM, 60, president of the college's alumni association and Dr. Kenneth Rotondo, DVM, '75, president of the New York State Veterinary Medical Society. For the actual ground breaking, the dignitaries shared center stage with the animals including cats, dogs, a goat, a Holstein cow and Clydesdale horse. Said Dean Phemister, "Construction of our new teaching, research and service facilities will ultimately improve animal health. It is entirely appropriate then, that those who will benefit most from our growth be represented on this occasion."

The College's present physical plant dates from 1957 and must be upgraded and renovated to address the serious problems of crowding and obsolescence brought on by the remarkable growth of the college and by the constant advances in science. Continued on page 7.

Photo credit: Chris Hildreth
The Story of Babe, the Asian Elephant

There are between 30,000 and 40,000 Asian elephants in the world, according to the National Zoo in Washington, a statistic that places this animal in the ranks of endangered species. A dozen North American zoos have breeding programs to increase the numbers of Asian elephants, but the birth rates remain very low. Of the forty captive male elephants in North America only fourteen can be used in breeding programs and, according to unofficial counts, as of spring 1990 only eight of North America's 320 female Asian elephants were carrying young.

So when Babe, an Asian elephant and mother-to-be, went into labor at Syracuse, New York's Burnet Park Zoo, not only the zoo veterinarians but most of Syracuse looked on and hoped for the best. Two days after labor began the zoo's veterinarian was concerned enough about Babe's progress to call in a group of Cornell veterinarians to examine her. Over the next few days, this group included Drs. Barry Ball, Robert Hillman, Robert Gilbert, and Claire Card from the College's Section of Theriogenology.

On the first examination, ultrasonography and fetal electrocardiography were used in an attempt to assess fetal viability. Said Dr. Ball, "Because of the female elephant's size, it was not possible to determine the location or viability of the fetus. Examination of the genital tract revealed that the cervix was closed and that there were fetal membranes present in the birth canal. Because of the animal's size, it was not possible to detect the fetus by examination per rectum." They decided to attempt to dilate the cervix by hormonal therapy with estrogen. Over the next two days, some cervical dilation occurred and on the sixth day following the beginning of labor, an attempt was made by Drs. Ball and Hillman to induce labor. Examination of the genital tract showed two front feet in the birth canal; however, the calf's head was not present in the birth canal. This blocked further delivery of the calf and Babe's sheer size prevented correction of the fetus' positioning. Normally baby elephants are delivered in a posterior fetal position so that their trunk cannot interfere with the normal birthing process.

The only recourse appeared to be a cesarian section which was performed by Dr. Mike Schmidt, a specialist in Asian elephants, and Dr. Tom Byron, from Sarasota Florida, assisted by veterinarians from Cornell. A stillborn calf was delivered.

Sadly, Babe died nineteen days after the surgery following progressive renal failure. Almost immediately, pathologists at the College of Veterinary Medicine were notified that Babe's remains would be sent to Cornell for autopsy. An autopsy team was quickly assembled led by Dr. Robert M. Lewis as the pathologist-in-charge with Dr. Donald H. Schlafer as assisting pathologist. Pathology residents were assigned to every major organ system: musculoskeletal and central nervous system, gastrointestinal tract, pulmonary and cardiovascular, urinary, endocrine, and reproductive. In addition each group leader had three veterinary students to assist them and over a dozen other veterinary students volunteered to assist as needed on an ad hoc basis. The entire autopsy was conducted according to a national protocol developed by the Species Preservation Program, a subcommittee of the American Association of Zoological Parks and Aquariums. "It was," said Dr. Lewis, "a very thorough, detailed, complicated autopsy protocol which will provide a great deal of information concerning the biology of elephants."

Due to the great public interest in Babe, the preliminary findings in the autopsy of the 36-year-old Asian elephant were announced at a press conference held at the College. The autopsy found there was gross evidence of renal cortical necrosis. "This," said Dr. Lewis at the news conference, "undoubtedly contributed to the progressive deterioration of the animal with secondary effects on hepatic (liver) function."

Pathologists also found that Babe's placenta had been retained; normally this is expelled shortly after the birth of a calf. An area approximately five inches by nine inches of the uterine wall in the region of the caesarean section was devitalized with some signs of a localized peritonitis. Bacterial culture of the fluid collected from the abdominal cavity at necropsy revealed a gram negative anaerobe yet to be specifically identified. The same organism was present in the placenta.

The report concludes, "It seems likely that there was devitalization of the wall of the uterus following the caesarean section with passage of bacteria from the uterine lumen into the abdominal cavity which was eventually followed by the development of a diffuse fibrinous peritonitis. The development of generalized peritonitis superimposed upon a background of declining renal function was the likely cause of death."

Even as the elephant's death was announced, requests for tissues and samples came from scientists around the country working in the field of elephant biology. A researcher in Wisconsin studying the development of hair follicles received the tip of Babe's tail; a scientist in Michigan who is characterizing the anatomy of the elephant's eye received one; parts of the skeleton were requested by a pathologist at a midwestern museum of natural history studying bone fractures in mammoths; a researcher studying artificial insemination asked for several feet of rectum.

Babe's death saddened her caregivers and hundreds of visitors to the Burnet Park Zoo, but what is learned from her death may one day assure the survival of these endangered animals.
Dr. Cornelia E. Farnum has received the 1990 Beacham Award for Research Excellence for her studies of postnatal bone development in growing animals. The award is presented annually by Beecham Laboratories to an investigator at the College of Veterinary Medicine whose research achievements are likely to have a significant impact on our understanding of the biology or medical management of animals.

In its fifth year of funding through the Musculoskeletal Institute of the National Institutes of Health, Farnum's work centers on understanding the cellular activity responsible for the rate and extent of the longitudinal growth of long bones by endochondral ossification. "Bones grow in length because they have cartilaginous discs at either end known as growth plates," Farnum, explains. "It's been known for 300 years that the rate of bone growth at each end of a given bone is different, sometimes 2 or 3 times faster at one end than the other.

"The first question I want to answer is how this differential growth is controlled. Where two bones exist in parallel, I am trying to understand at a cellular level the interaction of systemic and local factors that regulate coordinated growth so that all four growth plates, growing at different rates, will result in two bones of the same overall length."

Her work has major implications both for human and animal medicine, in treating traumatic injuries that impede bone growth as well as in congenital chondrodysplastic diseases of impaired or unequal bone growth. "Orthopedic surgeons—both veterinary and human—have to deal with the consequences when co-ordinated bone growth goes awry," she says. "The resulting angular limb deformities are highly devastating conditions in humans and very serious ones in both foals and growing dogs. Although surgical interventions can be performed directly on the growth plate to either accelerate or impede growth so that co-ordinated growth is re-established, no one knows what happens at the cellular level when various techniques are used. If we did, then treatment could be much more efficacious."

An Associate Professor in the Department of Anatomy, Farnum came to Cornell in 1986 after completing a Ph.D. in the School of Medicine at the University of Wisconsin, funded by an NIH postdoctoral fellowship. She received her D.V.M. from the University of Minnesota where she was a member of Phi Zeta; she was a Phi Beta Kappa at Stanford University with a major in Biology and a minor in Italian. Farnum served in the Peace Corps from 1969 to 1971 in the Kingdom of Tonga (South Pacific) where she did applied research in tropical agricultural rodent control.

Farnum teaches small animal gross anatomy and has served on various college committees including chairing the Academic Planning Committee. She is a member of the Orthopaedic Research Society, the New York State Veterinary Medical Association, American Association of Anatomists, American Veterinary Medical Association, American Association of Veterinary Anatomists, and the World Association of Veterinary Anatomists. She is the author of more than 21 papers related to endochondral ossification.

Dr. Susan L. Fubini has been selected by the College's fourth-year D.V.M. students to receive the 1990 Norden Distinguished Teacher Award. Traditionally, the award goes to a full-time member of the veterinary faculty who has demonstrated continuing excellence in teaching.

Although students meet Fubini during their first and second years at her lectures in clinical orientation and surgical techniques, they come in closer contact with her in the large animal surgical techniques course taken during the junior year. Fubini coordinates this required course and it is, among all that she teaches, the one she enjoys most.

"The course highlights some of the rewards of teaching," Fubini explains. "It's very satisfying to watch how much students improve over the semester, how much more comfortable and confident they are at the end."

It's also a course that opens up a lot of discussion. Some of it is one-on-one, as when students have trouble with their animal after surgery and seek out Fubini for advise. At other times the class as a whole grapples with broader questions such as the ethics of students performing surgery on live animals. "These days you really have to be able to justify the use of animals for teaching purposes," she says. "We talk quite a lot about this."

Fubini particularly enjoys teaching about her own area of expertise—large animal soft tissue surgery, especially gastrointestinal surgery. "It's fun to teach students about a subject I like so much, to get them to become enthusiastic about it too," she says.

Fubini's teaching continues, on a more informal level, in the clinics where she spends fifty percent of her time. There she supervises four to six students on her rotation. As to her research activities, Fubini is currently working with Dr. Donald Smith, Chair of Veterinary Clinical Sciences, and resident Dr. Jeffery Ward on the use of hypertonic saline as a treatment for metabolic alkalosis, a common metabolic disturbance of dairy cattle affected with gastrointestinal disease.

She has also presented lectures on various aspects of large animal surgery to local, national, and international veterinary medical associations.

Currently Fubini is an Assistant Professor of Large Animal Surgery. After receiving her D.V.M. from the University of Georgia, she came to Cornell in 1986 where she completed an internship and residency in the Large Animal Clinic. She is board certified by the American College of Veterinary Surgeons.
Rabies Symposium Held For Veterinary Practitioners

By Metta Winter

Dr. Donald Lein demonstrates the correct procedure for removing brain tissue from suspected rabies victims without removing the skull. The technique significantly limits a veterinarian’s exposure to the rabies virus.

Most New York State veterinarians (except for those practicing in areas adjacent to Ontario) have never seen a rabid animal. In the last 40 years there have been only occasional incidents in the Northeast of this fatal disease.

That’s about to change, according to Charles V. Trimarchi, Director of the Rabies Laboratory for the New York State Department of Health. “Right now we’re on the brink of a dramatic increase in the numbers of rabies cases in New York State,” he says. “The Mid-Atlantic Rabies Outbreak, which began in Florida in the 1950s and gradually spread northward through the raccoon population, has finally reached our borders.”

In 1989, only 54 cases of rabies were reported in the state. By contrast, Pennsylvania had 699 cases; significant numbers were also reported in New Jersey. On May 3rd, the first confirmed case of raccoon rabies was reported in New York State when an infected raccoon was discovered in Steuben County. Raccoons, which are very common in both urban and rural New York and formerly not often infected with the disease, are a common rabies carrier in the Mid-Atlantic states.

In response to the impending outbreak here, the New York State College of Veterinary Medicine held a rabies symposium April 11. More than 180 veterinarians, veterinary technicians, Cornell Cooperative Extension staff, wildlife biologists, animal control officers, public health workers, and college faculty, staff, and students attended the day-long event.

“Rabies is of such public health significance that you don’t take any chances with it,” says John E. Saidla, Director of Continuing Education for the college. “It’s a viral disease that crosses species—any mammal can get it—and it’s 100 percent fatal, once clinical symptoms appear.”

Participants were encouraged to vaccinate companion animals to protect both the animal and human populations. “In the past we’ve been very nonchalant about this,” says Saidla, “but when vaccinated these animals become a biological barrier between wildlife and people.”

Participants learned specific techniques.

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Hunters Aid In Annual Deer Survey

By Metta Winter

Once again the state’s deer hunters have given outstanding cooperation to the New York State Diagnostic Laboratory in its annual deer survey. Begun just four years ago, the survey is believed to be the only one of its kind in the country. Using kits supplied by the Diagnostic Laboratory, the hunters were asked to supply samples of blood, fecal matter, intestinal tissue, and external parasites from white-tailed deer to the laboratory where they are tested for three diseases: Bluetongue, Johne’s disease and leptospirosis. Parasites are also identified in a search for the tick which transmits Lyme disease.

“Hunters are very interested in helping us determine the presence of these diseases among the state’s deer population,” says Dr. Christine A. Rossiter, the epidemiologist in charge of the survey. “The samples obtained using the pocket-size kits provided information we would otherwise have absolutely no access to.” The 120 kits returned this year contained samples from 31 counties covering all areas of New York State except Long Island and Manhattan.

Only six external parasites resembling ticks were submitted. None were Ixodes dammini, the deer tick which transmits Lyme disease, a bacterial infection which can cause skin, arthritic, cardiac, and neurologic complications in humans. Lyme disease has reached epidemic proportions in New York State: in 1988, 56 percent of all cases in the U.S. were reported by New York State to the federal Centers for Disease Control. However, these cases have occurred primarily in the southeastern part of the state—in Westchester and Suffolk counties. Thus far infected deer ticks have been found throughout Long Island and northward as far as Dutchess counties.

 khắc nhận.state by deer and migrating birds carrying infected ticks.

“It’s important to find out where the tick is moving,” says Rossiter, “and the survey helps to do this. If a deer tick were to be sent in we would know what county it came from.”

All 120 samples tested negative for Bluetongue, a viral disease of sheep and cattle, and EHD (Epizootic Hemorrhagic Disease) an often-fatal disease of deer caused by a similar virus. According to Rossiter, this further supports the belief that these two diseases are not present in the state. Thirty percent of samples submitted were positive for leptospirosis, a spirochete infection of animals and man. This is slightly higher than the prevalence of the disease surveyed in deer populations elsewhere in the country. The impact of this disease on the white-tail deer populations is unknown at this time.

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For the summer of 1990, the College of Veterinary Medicine at Cornell received grants from the Merck Foundation and the Geraldine R. Dodge Foundation to fund an education program for veterinary students considering academic careers. The program allowed fourteen students from ten veterinary colleges in the United States and England to work in research laboratories at the college on assigned projects. According to Merck Foundation spokesperson Dr. Janice Nichol, “the purpose of the program is to expose students to careers in other avenues than practice. We want students to be aware of what research can offer them. We hope the experience broadens their base.”

Veterinary students who had completed at least one year of their studies were eligible to apply for Foundation fellowships. Awarded on a competitive basis, the fellowships included an honorarium and a living allowance. Upon joining the program fellows were assigned a research project designed to give them insight into the planning and conduct of research.

The 1990 summer program lasted ten weeks and included a trip to the Merck research facility and a weekend conference on the Cornell campus during which students discussed their research and careers with leading veterinary scientists and administrators. Participants in the program also met weekly with their faculty mentors to review ongoing investigations and were encouraged to attend seminars and lectures at the College.

**A Day in Hollywood**

Veterinary college isn’t all lectures and clinic cases. For Parents’ Weekend, students sang and danced their way through a production of “A Day in Hollywood, a Night in the Ukraine.” Onstage were (center): Heidi Heinzerling; (front, from left): Elizabeth Sanders, Rich Goldstein, Brooke Hines, Jeff Lapoint, Justine Johnson and James Morrisey; (back, from left): Michael Bukowski, Maria Delaney, Elia Colon, Rosemarie Floetenmeyer and Rob Lee.

**Rabies** (continued)

for examining and handling potentially rabid wildlife, domestic and companion animals and safe methods of obtaining and handling tissue samples.

The symposium also included a discussion of differential diagnosis (other diseases that mimic rabies) and a demonstration of how to remove brain tissue samples from large animals without removing the skull.

“Since there is no way to eradicate rabies at the source,” says Saidla, “our hope is that the symposium will enable practitioners in the Northeast to be ahead of the game when the outbreak gets here.”

Symposium presenters included: Jack G. Debbie, Epidemiologist and State Public Health Veterinarian, New York State Department of Health; Charles V. Trimarchi, Director of the Rabies Laboratory, New York State Department of Health and Chair of the New York State Interdepartmental Rabies Committee; Svend W. Nielson, Director of the Northeastern Research Center for Wildlife Diseases, University of Storrs; Dorothy F. Holmes, Coordinator of the college’s Rabies Vaccination Program for Students, Faculty and Staff; and Donald H. Lein, Director of the Diagnostic Laboratory.

**Deer** (continued)

Test results for Johne’s disease (paratuberculosis), a bacterial disease of increasing economic importance to the dairy industry, will be available in the fall. Since deer often share the same territory as cattle, horses, and other pastured animals, the survey was begun as a parallel to the New York State Three-Disease Certification Program to control Johne’s disease, Leukosis, and Bluetongue in dairy cattle.

Deer kits for the coming hunting season will be available in late summer from the New York State Conservation Council, rod-and-gun clubs and veterinarians. Clubs and individuals who participate are mailed a report summary of the survey results.

Participating in the survey poses no health hazard, but the New York State Department of Environmental Conservation urges all hunters to protect themselves against deer ticks and take appropriate precautions when field-dressing game. None of the surveyed diseases affects the safety of deer meat.
### Academic Notes

#### New Chairman of Department of Clinical Sciences Appointed

Dr. Brian R. H. Farrow has been appointed Chair of the Department of Clinical Sciences. He will join the College's faculty in September. Dr. Farrow was formerly associate professor of veterinary anatomy and consultant in neurology and internal medicine to the Veterinary Teaching Hospital at the University of Sydney. He brings a distinguished record as a teacher, research scientist, clinician and administrator. He has been a leader in organized veterinary medicine in Australia and has earned international recognition for his investigation of naturally occurring diseases of the nervous system. His experience has been unusually broad, ranging from internal medicine and clinical neurology to neuromotor and equine gross anatomy, from small animals to horses, from private practice to being a sub-dean (associate dean).

#### Divers Joins Clinical Staff

Dr. Thomas J. Divers has joined the College's faculty as associate professor of medicine in the Department of Clinical Sciences. Dr. Divers is a distinguished large animal internist with nationally recognized clinical and research interests in diseases of the liver and kidney in large domestic animals.

A 1975 graduate of the University of Georgia, Dr. Divers completed an internship at the University of California-Davis and a residency at the University of Georgia, where he served as assistant professor of medicine for three years. Since 1981, he has been a faculty member in the Section of Large Animal Medicine at the University of Pennsylvania. He served as associate professor of medicine and chief, section of large animal medicine. Dr. Divers is a diplomate of the American College of Veterinary Internal Medicine.

#### Distinguished Veterinary Immunologist Award

The American Association of Veterinary Immunologists has presented Dr. Alex Winter with its 1989 Distinguished Veterinary Immunologist Award. Dr. Winter is a professor of veterinary microbiology at the college. His selection was based on his work in host-parasite interactions in Gram negative infections and vaccine development and on letters of recommendation from present and former colleagues. The award was presented on November 7, 1989, in Chicago at the ceremony concluding the Conference of Research Workers in Animal Diseases.

#### Cambridge Honors

Dr. Alan Dobson has been elected to a Quatercentenary Research Fellowship at Emmanuel College, Cambridge. This is a singular honor for Dr. Dobson and Cornell's College of Veterinary Medicine. Few Research Fellowships are available and this is the first to be awarded to a recipient at the college. He will spend six months in residence at Cambridge, from July to December 1990.

#### College Hosts First A. D. White Professor

Through Cornell's Program for Professors-at-Large, the College hosted its first A. D. White Professor, Dr. Peter M. Biggs, CBE, FRSE. 

The former chief of Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Animal Health Laboratory, Biggs visited the campus in May as the College's 1990 George C. Poppensiek Visiting Professor.

The former chief of Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Animal Health Laboratory, Snowdon visited the campus in May as the College's 1990 George C. Poppensiek Visiting Professor.

#### Anatomy Award

Dr. Cornelia Farnum, recently promoted to Associate Professor of Anatomy, has received the 1990 Basmajian/Williams and Williams Award in Anatomy. The award is given by the American Association of Anatomists for outstanding accomplishments in research in the anatomical sciences and demonstrated excellence and commitment to the teaching of gross anatomy.

#### 1990 George C. Poppensiek Visiting Professor

The importance of the livestock industries in Australia's economy and the role of the veterinarian in their development was the topic of a public lecture by Dr. William Snowdon. The former chief of Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Animal Health Laboratory, Snowdon visited the campus in May as the College's 1990 George C. Poppensiek Visiting Professor in International Veterinary Medicine. In addition to his public lecture, he gave a number of informal talks on the epidemiology and pathogenesis of cattle diseases in Australia.
$82 million Construction Program Begins

The teaching facilities—tentatively identified in architectural plans as the primary and secondary teaching centers—will house smaller classrooms and specialized clinical facilities geared to the new structured-choice curriculum endorsed by the college's faculty in fall, 1989, and now in development. Within the new teaching hospital, provision has been made for extended research/laboratory space. It is hoped this proximity will promote further collaboration between the basic and applied sciences. In addition, the new facilities will provide room for many programs forced off-campus because of space shortages. Following ground breaking, construction of the planned facilities is expected to proceed over the next five years.
Centennial Medals Honor Friends of College

Recipients of Centennial medallions were, from left to right, state senator James L. Seward from the 50th district; L. S. Steve Riford, former senator from the 50th senatorial district; Joseph P. King (seated); Dr. Kenneth Rotondo, presenting the medallions; Morton Adams; and Elwin W. Stevens of the State University Construction Fund.

This year, the 100th Anniversary of the New York State Veterinary Medical Society marks a time of celebration for both the College and the Society. At the College's recent ground-breaking festivities, the Society's president, Dr. Kenneth J. Rotondo, was on hand to award Centennial medallions to several of the College's friends and supporters. The medallions commemorate a "century of caring for man and animals." Medallion recipients are individuals who, through their dedicated work and commitment, have helped to ensure the continued strength and health of the veterinary profession. They recipients honored at the ground breaking were:

Morton Adams, a 1933 graduate of Cornell, and a long-time friend of the College of Veterinary Medicine and member of the College's advisory council. A trustee emeritus of Cornell University and a Presidential Councillor, Adams is honored for his years of commitment to and advancement of the College's goals.

Joseph P. King, a 1936 graduate of Cornell, and a trustee emeritus of Cornell University. A member of the College's Advisory Council since 1978, King has been a long-time friend to the College. He is honored for his enduring support of the College's programs.

L. S. (Steve) Riford, the former senator from the 50th district. He chaired the 1984 Senate Subcommittee on the future of the College of Veterinary Medicine whose recommendations led to a long-range plan of increased support for the College's programs and recognized the need for construction of new facilities.

James L. Seward, of the 50th Senatorial District. He assumed a leadership role in implementing the long-range plan. Senator Seward played a key role in efforts to lift the state's bonding cap and secure funding for College construction through the State University Construction Fund.

Elwin W. Stevens, now retired from the State University Construction Fund and honored for his leadership in the development of the University's facilities for 38 years. In particular, he was instrumental in the formation of the master plan, program development and preliminary planning and architectural concept of the College of Veterinary Medicine's new facilities.