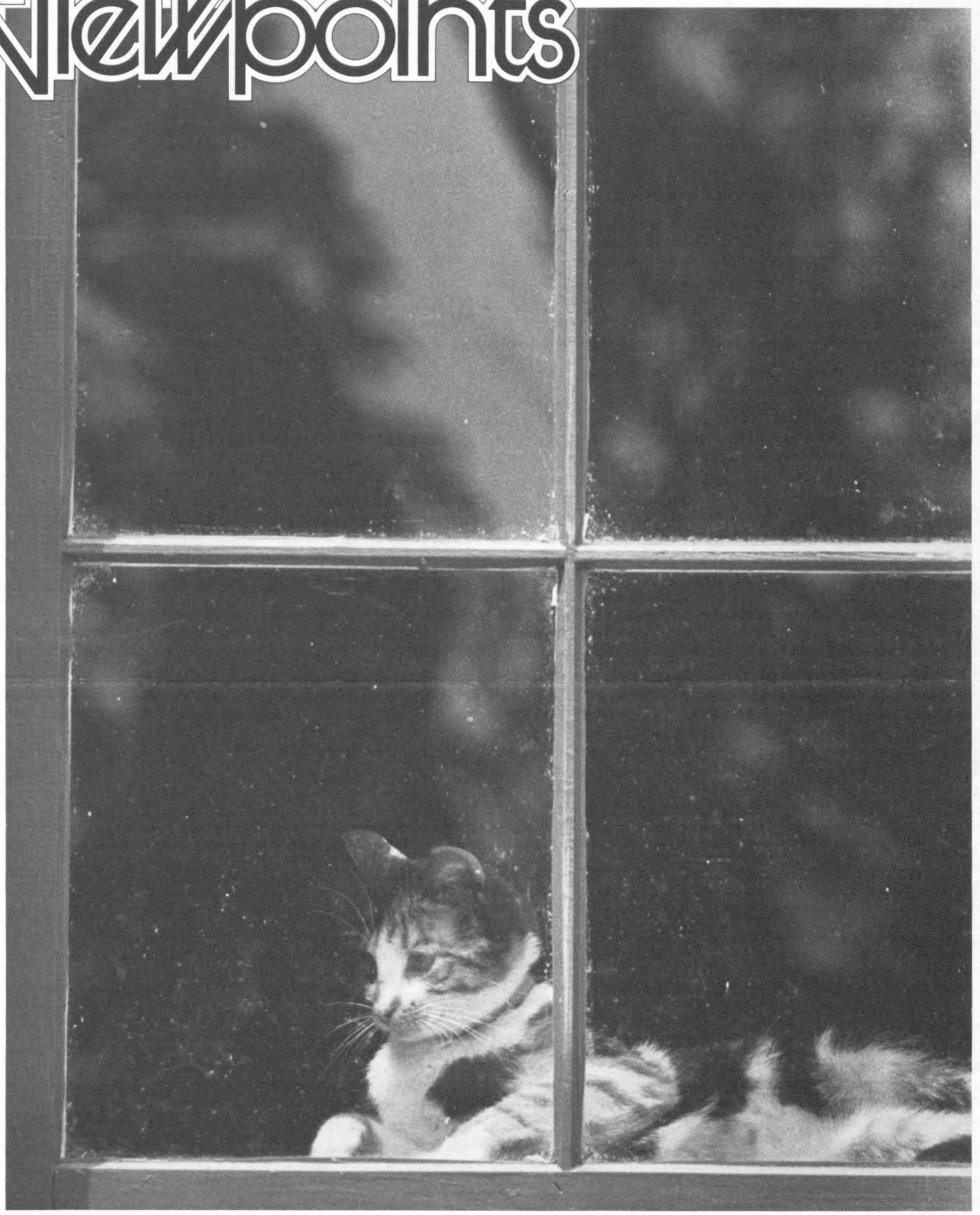
The New York State College of Veterinary Medicine at Cornell University Vol. 1, No. 5, 1986

Veterinary Viewpoints



"We cannot stand in isolation from the real world. We exist for the benefit of society and not the other way around. We will not survive for long if we attempt to insulate ourselves from the world around us with all its problems, its challenges... and its opportunities. This College and veterinary medicine must be directed to the important societal concerns of today and tomorrow. In the end, we will be judged not by how well we serve ouselves, but by how well we serve society."

Dean Robert Phemister
From the Dean's Report to the
79th Annual Meeting of Alumni Association

NEW ASSOCIATE DEAN NAMED

DR. S. GORDON CAMPBELL has been named Associate Dean of Academic Affairs at the New York State College of Veterinary Medicine. Dean Robert Phemister made the appointment following recommendation from the faculty. Associate Dean Campbell will direct those affairs that affect students and veterinary medical education at the College including admissions, financial aid, graduate studies and continuing education.

Dr. Campbell has been associated with the Veterinary College for 25 years and believes that "we are an integral part of a major university, and we have enough resources and talent to set and maintain international standards for veterinary medical education." The veterinary profession is still a close-knit group and Dr. Campbell feels there is much to be learned from others; "The universities I attended or served all had their areas of strength. We can learn from them and we have the traditions, the students, the faculty, and the motivation to implement the very best."

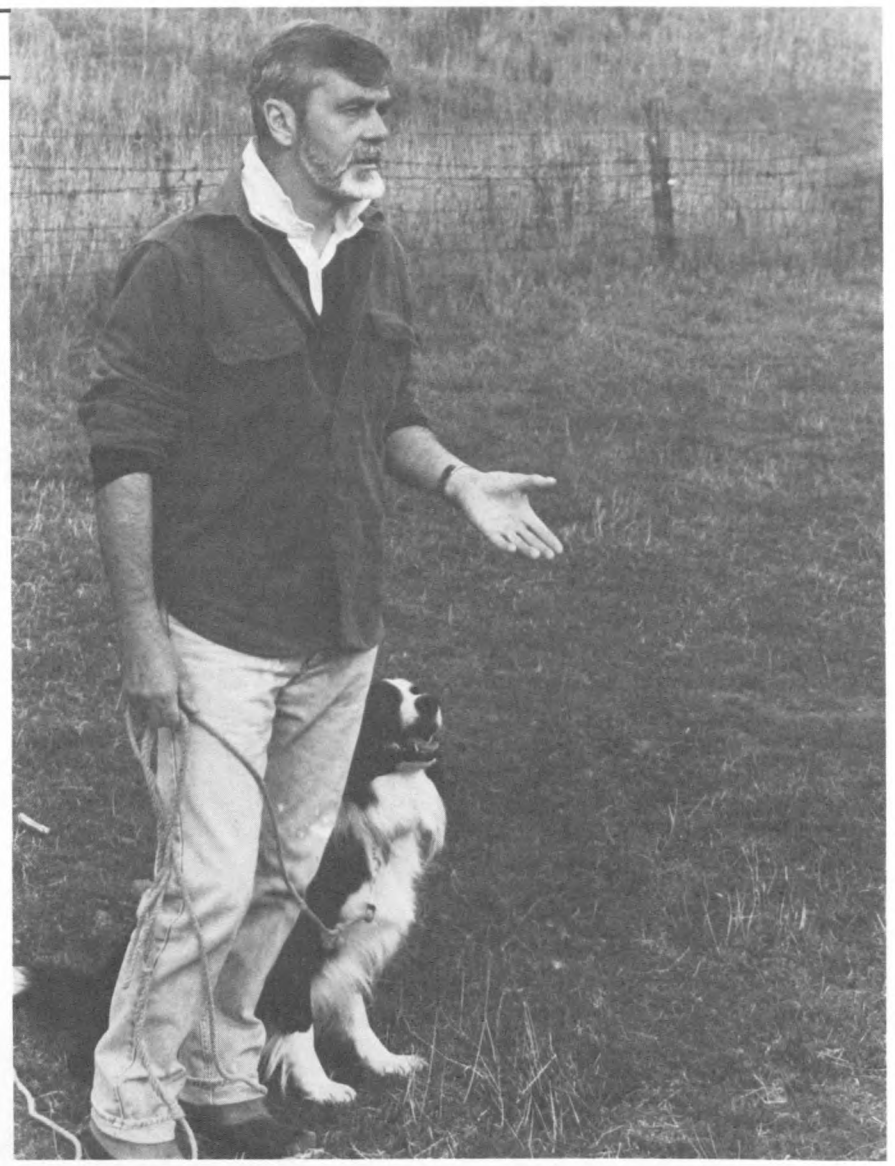
Born in Argyle, Scotland, the new Associate Dean began his academic career at Glasgow University in Glasgow, Scotland, earning the M.R.C.V.S. and B.V.M.S. between 1951 and 1956. He taught and worked under Professor W. I. M. McIntyre as the house physician at Glasgow. He was accepted into the graduate studies program at the Ontario Veterinary College, Guelph, Canada, where from 1957 to 59 he earned his M.V.Sc. in Veterinary Bacteriology. He served for two years in the British Army and was responsible for the training and deployment of the war dogs in Malaya. He studied at Cornell University and by 1964 had earned the Ph.D. in veterinary microbiology. In October 1964 he joined the faculty of the School of Veterinary Science, Melbourne University, Australia, as Senior Lecturer, a position he held until December 1966. As the New Year began, he was again at Cornell—this time as an assistant professor. In July 1970, he was promoted to associate professor and in February, 1979, he became Professor of Immunology.

Dr. Campbell and his wife Beth have three sons—Rory, Kyle and Scott—in college and this contributes to his understanding of the financial problems today's students face in pursuing a veterinary education. "We do not want to become wealth-selective," he says, "with only the wealthy entering the profession. We need to be able to select the best young people and make them excellent veterinarians. The profession needs a broad spectrum of talents including the best minds and people who are prepared to calve cows at 3 AM."

He is also concerned about the future employment market for veterinarians. "In a relatively small profession, there are quite fine limits that must be maintained between intake and opportunity. Looking at the future job market, a statistician would say, 'Decrease intake.' An optimist might say, 'Increase opportunities.' I see myself as an opportunistic pragmatist who would keep the supply in reasonable balance with future demand."

Part of the solution, according to Dr. Campbell, will be in producing well-educated and versatile graduates who can think for themselves and who can actually do things. This will mean constantly evaluating and adjusting the educational system to produce that type of individual. After 20 years on various curriculum committees, Dr. Campbell has seen many changes. "The curriculum has gone through two major reviews in my time and another in the 40's. No matter what changes it underwent in the past it still has to be optimum for the future. It must meet accreditation requirements, and produce a versatile, productive veterinarian and educated person."

The primary importance of the faculty in meeting these challenges is clear to Associate Dean Campbell. "We have an advantage," he says. "Our faculty has always exercised good sense and judgment." His own involvement in the running of the College has been long and productive. He was Director of International Education 1964-68 and was the Consultant on Veterinary Education to the Rockefeller Foundation for Brazil and Peru in 1968. He was the Chairman of Cornell's Committee to Study the Problems of Veterinary Medical Education in 1968. A member of the Constituent Assembly in 1969, he also sat on the General Committee from 1970 to 73 and 1977 to 80 and has served as its chairman in 1972-73, 78-79, and from 1983 until the end of 1985. Dr. Campbell also chaired the ad hoc Committee on Microbiology Department Teaching from 1978 to 1979 and the Pilot Committee to establish a graduate field of immunology, from 1981 to 82. For the Department of Microbiology, he has also functioned as field representative for the Graduate Field of Immunology, from 1982 to 1985. He has served as chairman of the Senior Seminar Committee, 1975-76 and as a member (1975-77) and later as chairman (1977-86) of the Student Conduct Committee. In addition he has served in various capacities on the Committee for Admissions in 1977, 1982, and 1983. He was appointed in 1981 to the University Tenure Appeals Committee. In 1984, he was named Acting Chairman of the Department of Microbiology, a position he will hold until a chairman is named later this year.



Dr. S. Gordon Campbell

LASS, a thirty-five-pound black and white border collie crouches, belly flat to the ground, her eyes fixed on ten, one-hundred-and-fifty-pound sheep. With the cry "Way Bye," the dog streaks across the ground, neatly herding the sheep at the commands of her owner, Dr. Gordon Campbell. About thirty people have gathered to watch Dr. Campbell display the work of the border collie at his home, "Hickory Ridge." With Aberdeen angus in the background and white geese in the barnyard, "Hickory Ridge" is the perfect site for the demonstration.

Border collies are a great asset to the farmer as they can cover distances far faster than man and can move with great agility in rounding up strays. In Dr. Campbell's native Scotland, herding with dogs is essential, given the large tracts of unfenced mountain land grazed by sheep. A combination of training and a 300-year genetic heritage produces a strong-hearted herder. Early in Lass' training, she was confronted by an experienced Suffolk ewe that stood her ground and three times bunted the dog before racing off. It took Lass several weeks to regain confidence and several years to acquire her present herding skills.

At a call, the dog herds in a clockwise, then in a counterclockwise pattern, dropping to the ground at the command of "Down, Lass." In spite of her speed and concentration on the sheep, the dog obeys the commands even when obviously eager to be on the move. Dr. Campbell tells his audience that Lass obeys because she likes to work and wants to please the owner. This remark is greeted with some scepticism as the onlookers consider the chances of their pets responding as Lass has. However, Dr. Campbell's skill and the responsiveness of the well-trained dog are contagious and leave a renewed respect for that age-old bond between man and animal.

Photo by A. Marcham

Veterinary Viewpoints

Veterinary Viewpoints is published four times a year for friends and alumni of the New York State College of Veterinary Medicine, a Statutory College of the State University of New York. Correspondence may be addressed to Karen Redmond, Editor, Schurman Hall, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853. Telephone: 607/253-3740.

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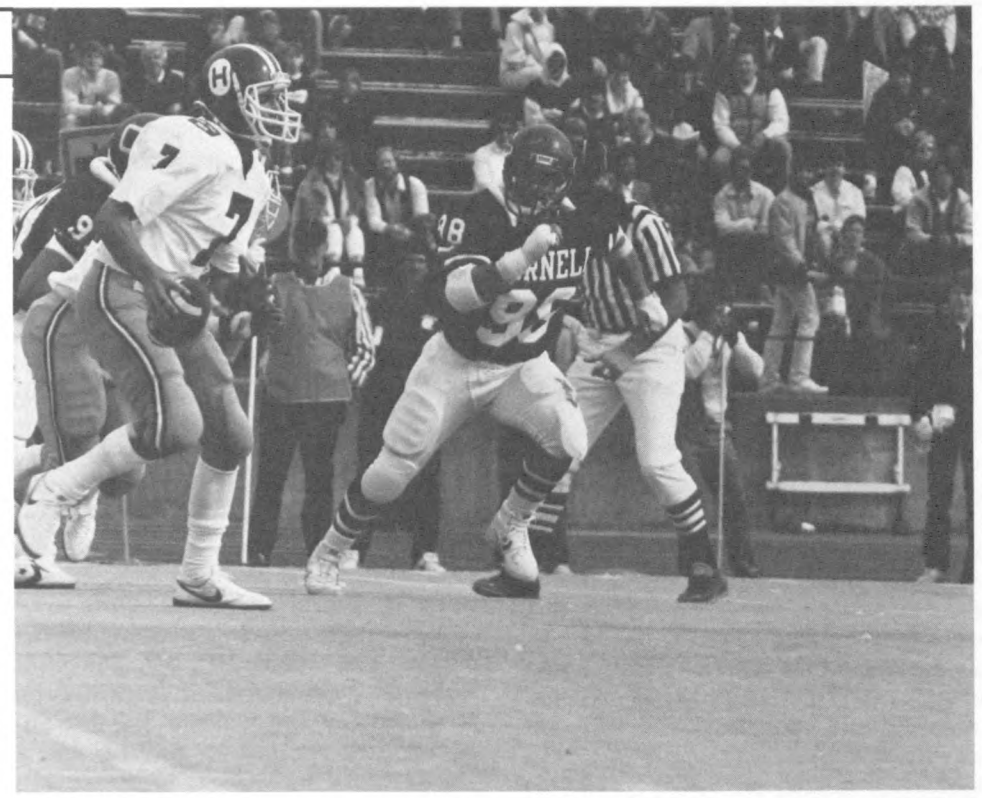
EXCEPTIONAL SPORTS

FOR YEARS students at the College of Veterinary Medicine have played intramural sports alongside the undergraduates and graduate students of Cornell University. At one time in the mid-70's, Dr. John King of Pathology was a pitcher of some renown on a fast-pitch veterinary baseball team. A softball team now meets regularly during the season. In hockey, both the men's and women's teams are gaining a reputation as tough competitors and last year the women's soccer team won the intramural championship in a tense shoot-out while the men's team made it to the quarter-finals. But few veterinary students have the time—or the eligibility—to play on Cornell's varsity teams. There are exceptions, of course, to everything.

David Van Metre is one. He's a first year student in the DVM program who was also co-captain of the varsity football team last fall. How do you juggle a tough first semester with an equally gruelling football schedule—including workouts, practice and games? Says David, "When you're doing two things you enjoy, it's not so much work." And he's used to hard work. Dave came to Cornell University as an undergraduate to major in animal science. Lacking a farm background, he set out to get the experience he knew he needed by working at the Cornell pig farm, assisting Dean Boyd and his graduate students on research projects. To his surprise, he really enjoyed it. A grade point average over 4.0, and extra courses during summer school made him eligible to apply to the College of Veterinary Medicine in his junior year. When he was admitted to the Class of 1989, he was still eligible to play football and there was no question of quitting sports after he went from 2nd string to 1st string player and co-captain. Says David, "I always had to work really hard in football. I'm pretty small in comparison (5'10", 213 lbs.) so I had to put in the hours to make myself a better player." Now he's applying that determination to veterinary college.

The second exception, is Arleigh Reynolds, '86. As an undergrad, he rowed four years on Cornell's varsity lightweight crew. Like David, he entered Veterinary College after three years of undergraduate work and was still eligible to captain the rowing team while in his first year of the DVM program. Arleigh's chosen sport, however, competed with his academic program, with most of the conflict coming in the spring. When finals week came, Arleigh and his teammates were in double practice sessions and the topper came when the last big final was scheduled the day after the last big meet. Since Arleigh is now a fourth year student, we have to assume a happy ending. The end to eligibility didn't put a stop to his sports career. In the fall of his second year he ran in the Marine Corps Marathon in Washington and that spring he competed in the General Clinton canoe race. He entered the canoe race again in his third year, then followed it by rowing in the Head of the Charles Regatta with other Cornell alumni, an effort he repeated this year. When asked how he could compete and still finish four years in the DVM program, Arleigh answered for many sports enthusiasts when he said, "I wouldn't have gotten through four years without it."



David Van Metre (photo center).

Arleigh Reynolds (second from left).

HARRY M. ZWEIG FUND SUPPORTS EQUINE RESEARCH AT CORNELL

EQUINE RESEARCH at the New York State College of Veterinary Medicine will receive a total of $373,000 from the Harry M. Zweig Memorial Fund, a fund supported by both state breeding and development monies derived from betting revenues at New York tracks. Thanks to this fund, ten projects will continue to receive support, including studies of respiratory disease and enteritis in young horses ($60,000); immunogenetic research ($50,000); support of broodmares and stallions at the Equine Research Park ($50,000); development of improved equine influenza vaccines ($45,000); and studies of the causes of early pregnancy loss in mares ($40,000). Zweig funding was also renewed for further evaluation of procedures for determining the presence of steroids in horses ($25,000); the development of monoclonal antibodies to equine influenza virus ($25,000); studies of acute inflammation in horses ($15,000); an investigation of the enteric nervous system of the equine cecum and colon ($10,000); and for laminitis research ($8,000).

Several newly proposed studies also received awards with $30,000 allocated for the development of improved diagnostic tests for equine viral arteritis, $8,000 for a study of the causes of equine degenerative myeloencephalopathy, and $7,000 for research on the regulation of glucocorticoid secretion in foals.

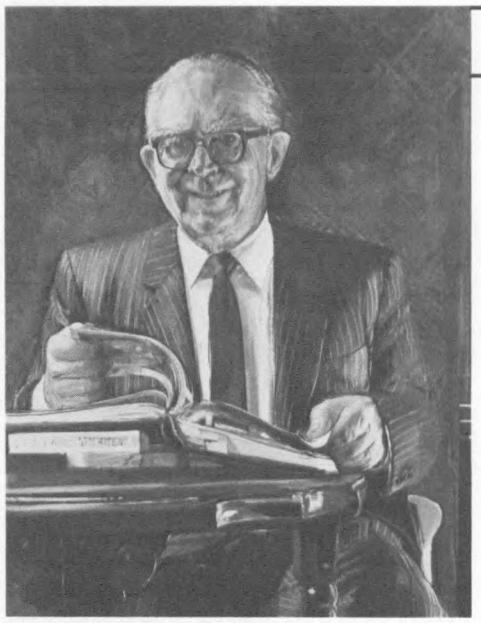
All projects are submitted by faculty members at the New York State College of Veterinary Medicine, Cornell, to the Zweig Fund Committee. Need, priority, and potential benefit to the state's equine industries are the major critieria on which decisions for funding are based. Since the fund was created in 1978, over $2.5 million have been used to support research on more than thirty topics relevant to equine health. The Zwieg Fund itself was established to honor the late Dr. Harry M. Zweig, a well-known and respected figure in the racing industry.

Zweig Fund Committee membership consists of individuals in specified government and equine industry positions and others who represent equine breeders, owners, trainers, and veterinarians. Current committee members are Daniel J. Burke, Longford Farm; Morton Finder, President, Pine Hollow Stud; Joseph Gerace, Commissioner, New York State Department of Agriculture and Markets; John L. Hardy, Tucker and Hardy Associates; John Hettinger, Vice President, New York Thoroughbred Breeders; Charles Knauss, Jr., Executive Director, Agriculture and New York State Horse Breeding Development Fund; Albert W. Miller, DVM, Practitioner; John Van Lindt, Chairman, New York State Racing and Wagering Boards; William H. Welch, Executive Administrator, New York State Thoroughbred Breeding and Development Fund; Theodore J. Zornow, Avon Farms; Anna Zweig, widow of Dr. Zweig; and Robert D. Phemister, Dean, New York State College of Veterinary Medicine, who serves as chairman.

LONDON LECTURE

DR. WILLIAM HANSEL, Professor of Physiology in the Department of Physiology of the New York State College of Veterinary Medicine and the Section of Physiology of the Division of Biological Sciences, was selected to present the Sir John Hammond Memorial Lecture to the Society for the Study of Fertility in London. The lecture entitled, "New Concepts of the Control of Corpus Luteum Function," was given in December of last year and summarized recent research work on the factors that control progesterone synthesis by corpora lutea of pregnant and nonpregnant animals. Dr. Hansel is an authority on the physiology and hormone regulation of reproduction in the bovine and other mammalian species. This lectureship recognizes Dr. Hansel's many original basic and applied contributions to this field.

Sir John Hammond was a pioneer in the field of large animal physiology and many current feeding, management and breeding practices are based on his early work.



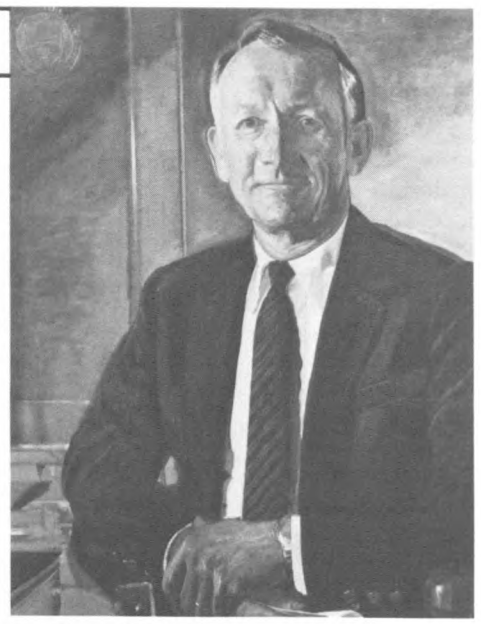
Dr. Charles Rickard

NARRATIVES

ART AND NARRATIVE. The portraits of Drs. Edward Melby and Charles Rickard are, at first glance, a departure from the traditional representations of former deans. While the artist, Jerome Witkin, produced works in which the subjects are readily recognizable he has also made them "narrative stories within a portrait."

Mr. Witkin is a Professor in Studio Arts at Syracuse University, and in one of his courses he examines the history of the portrait. The idea of "portrait" has changed throughout art history, varying from the glorified ideal, through the realist, to the abstract. "The human being is central character in my art," says the artist who began as an abstract painter and evolved into his present style. But while the oil paintings he produced for the College are not abstract, they are not so realistic that a photo could substitute. Mr. Witkin admits the art of portraiture is very complicated, perhaps because he strives to interject a narrative or tell a story about his subjects—a most difficult job in this instance because he became acquainted with his subjects as he painted them. They are remarkably revealing portraits despite this. Dean Melby's portrait shows him seated, although he gives the impression of only momentary inactivity. An office is suggested in the background, with the Cornell seal high above his right shoulder. The combined effect of Dr. Melby's direct gaze and a squared body posture is softened by a half-smile. By contrast, Dr. Rickard's portrait positively twinkles at the viewer. He is seated at a carved table and is captured in the act of looking up from an open book. There is a richly patterned background behind him.

Both portraits now hang in the Flower Library, next to the portraits of former dean George Poppensiek and a man who was instrumental in the library's development, Dr. Simon Henry Gage. Mr. Witkin, the artist, is represented by Sherry French Gallery in New York City.



Dr. Edward C. Melby

DR. SEARS HEADS MASTITIS CONTROL PROGRAM

PHILIP MICHAEL SEARS, DVM, is the new Director of the New York State Mastitis Control Program with responsibility for the daily operation of one of the largest and most advanced mastitis control programs in the country, including milk quality control, and preventive measures to assist the dairymen in the control of mastitis. Applied field research is also conducted in cooperation with industry, regulatory, veterinary and agriculture college specialists. In addition, Dr. Sears will bring the practical side of mastitis control to the classroom with lectures and presentations to extension agents and college students.

The program, which has been in existence for some 30 years, includes five field laboratories in New York State managed by veterinarians, their support field and laboratory technicians. In addition to mastitis control, the program deals with milk quality control and preventive measures to assist herdsmen in the control of mastitis. The Department of Agriculture and Markets, Division of Animal Industry, along with user revenue, funds the program which is managed under the New York State College of Veterinary Medicine and the Diagnostic Laboratory. Policy and program mission will be jointly evaluated by the Colleges of Veterinary Medicine and Agriculture and Life Sciences and the Department of Agriculture and Markets.

Dr. Sears is a 1968 graduate of Michigan State University, where he also earned his Doctor of Veterinary Medicine degree in 1971. Following graduation he joined a primarily dairy practice in the "thumb" of Michigan. In 1973 he accepted a position as research veterinarian with the USDA-Agriculture Research Center in Beltsville, Maryland where his work was equally divided between clinical/dairy herd health and research in bovine mastitis. This interest

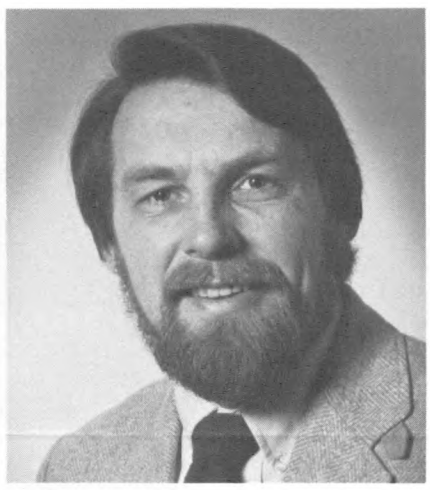


Photo by Biomedical Communications

Dr. Sears

in mastitis led to a graduate teaching associate position in 1976 at Ohio State University and the development of a team approach to bovine mastitis research involving specialists in the areas of physiology, immunology, microbiology, and biomedical engineering. In 1980 he accepted a position as Assistant Professor in the College of Veterinary Medicine at Mississippi State University, and was promoted to Associate Professor in 1982. While in Mississippi he conducted consultations and farm visits for bovine practitioners with dairy herd problems in 87 herds. He has conducted workshops and presentations on mastitis, and herd health for large animal practitioners, and groups of producers, and has appeared on Mississippi PBC TV and radio for the Dairy Health Educational Extension Programs.

The author of numerous publications on mastitis and related topics, he is a member of the AVMA, the Society of Dairy Scientists, the Society of Animal Scientists, the Mississippi Veterinary Association, the Mastitis Research Workers, and the National Mastitis Council. He was board certified in 1982 by the American Veterinary College of Preventive Medicine, has served as microbiology chairman of the Mississippi Academy of Sciences, and is an associate of Teachers of Veterinary Public Health and Preventive Medicine.

FABRICANTS RETIRE

IT IS A MARRIAGE begun with an introduction by former Dean Hagan and a collaboration made for the laboratory. Catherine and Julius Fabricant met at Cornell and married in 1945 when both were graduate students in the College of Veterinary Medicine. Julius had previously received his VMD at the University of Pennsylvania in 1942 and obtained his MS and Ph.D. at Cornell in 1947 and 1949. Catherine received her BS in 1942 and MS in 1948, both from Cornell. They have two children who have also chosen scientific careers; Barbara has a Ph.D. in physical chemistry and Daniel has a Ph.D. in astrophysics. Catherine and Julius Fabricant retired on the last day of 1985, yet neither has the slightest intention of abandoning a hectic work schedule. Their work, as individuals and collaborators, covers nearly four decades during which they made and continue to make original contributions to science.

As a professor emeritus, Julius Fabricant can look back on early research that examined two viral respiratory diseases of birds, Newcastle and Infectious Bronchitis and found diagnosis, epidemiology and a means of immunization against these devastating diseases. In 1950, in collaboration with Dr. P. P. Levine, Dr. Fabricant described a new disease of ducks—Duck Viral Hepatitis. The etiological agent was isolated, and a practical field control program was developed that is given credit for saving the duck industry on Long Island. From 1950 to 65, the major portion of his time was devoted to the study of Chronic Respiratory Disease of chickens and turkeys. Included in the studies were the characteristics, diagnosis, epidemiology and pathogenicity of its etiological agent, Mycoplasma gallisepticum (MG). The most important contribution during this period were studies on the epidemiology of M. gallisepticum, especially in relation to the egg transmission of this organism and methods for prevention. From these experimental studies and field trials on dipping MG infected chicken eggs into antibiotic solutions, a practical successful method for producing MG-free breeding flocks was devised and has been used commercially. From 1965 to 1975, Dr. Fabricant concentrated on the basic problems of isolation, characterization and classification of mycoplasmas, including those from cattle, ducks, dogs, cats and man. Since 1975, a significant part of his research time has been spent on studies of the pathogenesis of Marek's disease and on herpesvirus induced atherosclerosis in chickens.

Catherine Fabricant's work has been spoken of in terms of Nobel Prize material. As a Senior Research Associate in the Department of Microbiology, her experiments produced the first evidence that atherosclerosis was caused by a herpesvirus. She infected pathogen-free chickens with a particular strain of Marek's disease herpesvirus and found that infected chickens developed atherosclerosis regardless of whether they were fed a high or low cholesterol diet. In later studies, Fabricant and Dr. David Hajjar of the Cornell Medical College, along with her other collaborators, explored mechanisms by which the herpesvirus caused atherosclerosis. They found that the virus caused increased accumulations of various fats, including cholesterol in cultured arterial cells. From experimental results, there is evidence that a vaccine which prevents herpesvirus-induced tumors in chickens will also prevent herpesvirus induced atherosclerosis. The significance of this is that when a human herpesvirus can be linked to human atherosclerosis, a vaccine may also be developed to prevent the human disease.

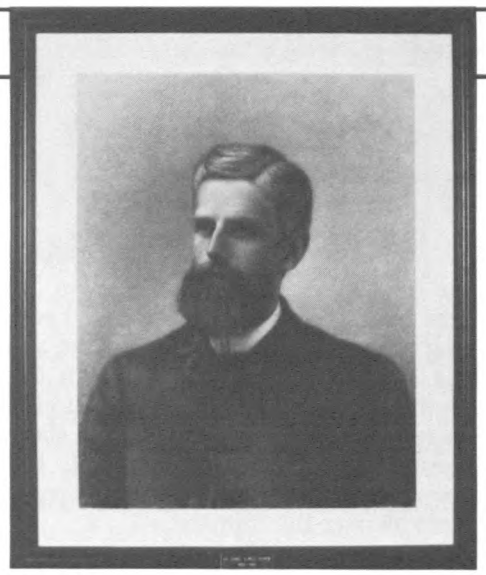
DANIEL E. SALMON, DVM

DANIEL ELMER SALMON, of Mount Olive, New Jersey, was in the entering class when the University opened in 1868. Dr. Law must have taken an interest in the young man because he suggested he spend his last semester working in Alfort, France, and complete his clinical training. Returning in October of 1872, Salmon was the second person to receive the B.V.S. degree (Myron Kasson of Springville, PA and a student with advance standing obtained the B.V.S. degree a year earlier, in June 1871.) Salmon married Mary Corning of Ithaca and entered practice in Newark, New Jersey, but continued to do advanced research for which he received a D.V.M. in 1876. At that time, Cornell University required two years of advanced study for this degree. This was the first to be awarded by a university in the U.S, and the single DVM bestowed by Cornell until 1897.

He continued work that he had begun with Dr. Law, searching for a way to control cattle and swine plague. The *Rural New Yorker* noted early in 1883 that D.E. Salmon was experimenting with a method of inoculation to prevent contagious diseases in livestock and that Commissioner Loring had called him to Washington to work in the Department of Agriculture. Congress subsequently established the Bureau of Animal Industry (B.A.I.) in 1884 and Dr. Salmon was appointed chief, a position he held until 1905. During this time, he established the geographical limits and aided in the eventual control of the so-called "Texas fever." He also conducted the study of the organism that was later named in honor of him, *Salmonella*. Under him, research by Drs. Smith and Kilborne, "opened the road to others for the discovery of the way in which insects transmit the germs of malaria, sleeping sickness, yellow fever, typhus, spotted fever and bubonic plague."*

Federal law gave the B.A.I.'s meat inspectors control over the condition of the meat but not over the sanitary or working conditions. However, in the early 1900's Upton Sinclair wrote a book that told the public the distasteful facts about slaughtering practices in the large meat packing houses of Chicago. (To be fair, the author of "The Jungle" meant to expose the poor *working* conditions in these establishments, but his publisher's publicity campaign played down this theme in favor of the more sensational news.) Public outcry came to a peak in 1905 with a Congressional hearing and, as Chief of the Bureau of Animal Industry, Dr. D. E Salmon was asked to resign. This was politically advantageous rather than being right or just.

Dr. Salmon's career was far from over. He participated in many veterinary medical projects including an 1906 investigation on behalf of the livestock owners in the Deer Lodge Valley, Montana. They claimed that the copper smelters of the Anaconda Copper Company released arsenic that was poisoning their animals and Dr. Salmon subsequently found traces of arsenic in animal tissues and plants. That same year, Salmon was engaged by the Uruguayan government to organize a veterinary school. He was an honorary associate of the Royal College of Veterinary Surgeons, a fellow of the American Association for the Advancement of Science, chairman of the Committee of Animal Diseases of the American Pubic Health Association, a member of the Washington Academy of Sciences and president of the United States Veterinary Medical Association. Dr. Salmon died in Butte, Montana on August 30, 1914 at the age of 64. The *American Veterinary Review* noted that "an attack of pneumonia cut short the career of this good and gifted man" and with his death the "American veterinary profession lost one of its most brilliant members."



Dr. Salmon

* a quote by Simon Henry Gage, in "A Cornell Heritage" by Dr E. P. Leonard.

RESTORATIVE ARTS

After Dr. Salmon's death in 1914, his books were assigned to the College of Veterinary Medicine at George Washington University. That school closed in the fall of 1918 and its Dean presented the books to the New York State College of Veterinary Medicine at Cornell. In the collection are the notebooks covering the lectures given by Dr. Law. There is also a framed portrait of Dr. Salmon. This is probably the charcoal portrait made in 1891 which is presently in the Flower Library.

"In the James Law Tradition"
By E. P. Leonard,

THAT PARAGRAPH from Dr. Leonard's history, "In the James Law Tradition," is only the tip of the iceberg in a strange story of lost and found art. Early in 1985, a charcoal portrait was found in a storage area of James Law Auditorium. Dr. E. P. Leonard was consulted in his capacity as college historian and he immediately identified the subject as Dr. Daniel Elmer Salmon. Dr. Salmon's sojourn in the closet hadn't improved his looks. When Flower Library's head librarian, Suzanne Whitaker, was asked to oversee the preservation of the artwork, she could accurately describe it as being in "tough shape." Two tears were visible in the area of the sitter's coat and to the left of his beard. Insects had eaten through the paper in several spots and the dust of nearly eight decades had accumulated on its surface. At one point in time the original art had been affixed to a cloth, and this was disintegrating where it was nailed to a wood frame.

Restoration of the art was obviously necessary, not only because of its age, but because it remains the best available likeness of Dr. Salmon. The Alumni Association agreed to fund the restoration and, providentially, local help was available in the person of Daniel Clement, an artist who specializes in conservation of works of art on paper. In little less than three months, Mr. Clement repaired the tears, removed the dust and dirt and the fabric support, humidified the paper to make it pliable again, and re-matted the portrait using acid-free materials that will never discolor the art. The transformation is amazing. Even Suzanne Whitaker has to look very carefully to detect where the tears once were in the portrait.

The charcoal likeness of Dr. Salmon is now on permanent display in the Flower Library. Below the portrait is a glass case holding several of his notebooks, a thesis on equine colic, references to his work in contemporary journals, and a biographical sketch. A wall plaque is already in place with the names of the first recipients of the Daniel Elmer Salmon Awards—a fitting, if long-overdue tribute to one of veterinary medicine's founding fathers.

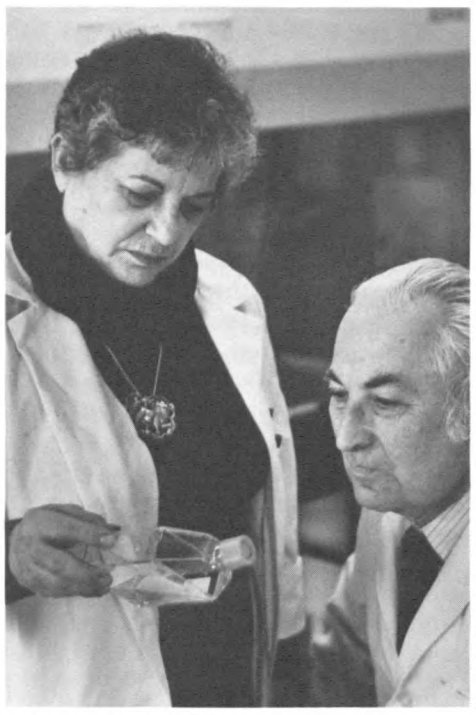


Photo by Sol Goldberg

Catherine and Julius Fabricant

AWARDS HONOR ALUMNI & DR. SALMON

THE FIRST **Daniel Elmer Salmon Awards for Distinguished Alumni Service** on behalf of the New York State College of Veterinary Medicine have been awarded to Drs. Gordon Danks, E. P. Leonard and F. (Bud) Wright. Initiated by the Alumni Association, the award is named in honor of Dr. Daniel Elmer Salmon, the first person at Cornell and in the U.S. to earn a DVM degree from a regular academic program. The first recipients of this award recognizing exemplary alumni contributions were nominated by a body of the alumni and voted on by the Executive Committee of the Alumni Association. The presentation of awards was made by Dr. Edward C. Melby, Jr. at the Alumni Luncheon during the 78th Annual Conference for Veterinarians, January 7–9, 1986. In his remarks, Dr. Melby noted the special contributions each of the recipients had made to the College as alumni:

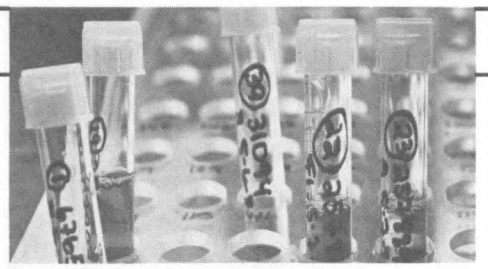
Arthur Gordon Danks '33, remains an enthusiastic ambassador for the College to its alumni and through his influence many substantial gifts have come to the College. At the 50th reunion of his class, with 10 out of 14 living members present, their class gift set a 50th class reunion record.

Ellis Pierson Leonard '24, is the author of a book chronicling the College's first eighty years. This two volume set was the culmination of 13 years of work, during which Dr. Leonard located sources and photographs, identified those individuals who had contributed to the growth of the College, traced graduates in their far-flung careers, and finally compiled it all into a fascinating history. In addition, he has served as the secretary- treasurer of the Alumni Association for the past four years.

Frederick Oliver Wright '41, was the chairman of the College's first capital fund campaign from 1976 to 1980 which raised a total of nearly 7.2 million dollars from alumni and friends. He was a member of the executive committee of the Alumni Association from 1977 to 1983 including two years as association president elect and two years as association president. He has been a member of the College development advisory committee since its inception in 1976 and he has chaired the College's bequest and special gifts committee since it began in 1982. He has also represented the College on the college liaison committee of the New York State Veterinary Medical Society for nearly 20 years.

Recipients were given a bronze plaque bearing the likeness of Dr. Salmon. The names of these and future awardees will be listed on a wall plaque under the newly restored Daniel Elmer Salmon portrait in the Flower Library.

STARTING FROM SCRATCH AND BUILDING THE BEST



THE VETERINARY diagnostic laboratory is dedicated to meeting the service and health needs of the state's animal industries, and committed to preventing and controlling diseases of food and fiber producing species and horses. The quality of the programs offered is universally recognized and as examples of excellence Dr. Raymond H. Cypress, Director of the Laboratory, cites such diverse areas as bacteriology, serology, virology, endocrinology, parasitology, pathology, toxicology, field diagnostics and extension, and exports. Part of the Diagnostic Laboratory's strength lies in its continued growth and innovations to meet tomorrow's demands. In this area, the Section of Bacteriology under the direction of Senior Research Associate, Sang J. Shin, DVM, has taken a leading role.

In 1973, there was virtually no diagnostic bacteriology section. Thirteen years of planning and commitment gradually increased and updated techniques to the state of the art. To handle the demanding work, the number of laboratory bacteriologists rose from one to seven and almost all technicians are ASCP or ASM certified microbiologists. There is also an in-house training program, and technicians are also given special training at such institutions as Duke University and NADC.

With the emphasis on developing new techniques and skilled manpower, the laboratory has become one of a few veterinary diagnostic laboratories certified by a human health department. This permits the extraordinary latitude to study both human and animal samples from an outbreak of a zoonotic disease such as anthrax or brucellosis.

Some of the credit for this accomplishment goes to the section director, Dr. Sang J. Shin. Dr. Donald Lein, Associate Director of the Diagnostic Lab, calls him "one of the top veterinary diagnostic bacteriologists in the country, maybe in the world." Shin is a member of the American Society of Microbiologists, the AVMA, the Korean Veterinary Society of America, and he recently became a diplomate of the American College of Veterinary Microbiologists.

Shin is in charge of the New York State Brucellosis Laboratory and it is here, according to Dr. Lein, that some of the section's top work has been done. The brucella organism is difficult to isolate and yet researchers have been very successful at this task. Not only New York State, but Vermont and Canada too, rely on this laboratory to solve difficult brucellosis problems. Over the years, the laboratory has made significant contributions to the eradication of brucellosis from New York State and the state's herds are now free from the disease. According to Dr. Shin, no new cases have been reported in 4 to 5 years. Brucellosis also affects dogs and the lab may be the only one in the nation doing a complete canine brucellosis test. In collaboration with Dr. Leland Carmichael, a series of four tests has been established and samples now come from all over the country.

Dr. Shin takes a personal interest in problems that beset the clinical side of veterinary medicine. He combines skills in immunology, pathology, and laboratory methods, then applies them to his own twenty years of experience in clinical and diagnostic microbiology. Clinicians appreciate his ability to look at samples from several species and relate his findings to the clinical picture.

Because of close contacts with clinicians, practitioners and animal owners, Dr. Shin and his associates are often the first to become aware of some new disease entity or problem. In fact, wherever there is a need, odds are that the section of bacteriology is working on it. For example, the potable water test laboratory for bacterial culture is centered here. Graduate students within bacteriology have also broadened the section's abilities; Dr. John Fairbrother was responsible for the development of the leptospirosis laboratory and work on salmonellosis was done by Patrick McDonough. Reports of reproductive problems including infertility in artificially inseminated cattle led to a mycoplasma laboratory and a $97,000 grant from the National Artificial Insemination Breeders for intensive study of bovine mycoplasma and ureaplasma. A new formula was found to control disease-causing organisms transmitted by mycoplasma including *Haemophilus somnus* and *Campylobacter fetus*. Dr. Lein and Dr. Shin are now at the point of publishing data and a monograph on the testing process. The information will open new markets to the artificial insemination industry by making it competitive with other countries—especially those that require testing for diseases carried by the mycoplasmas.

Equine reproductive bacterial diseases including contagious equine metritis and endometritis are receiving their share of attention. The proximity to the Contagious Equine Metritis Quarantine Facility—the only facility of its kind in New York State—has given researchers the opportunity to continue investigations and testing into the disease. Under a USDA grant, Dr. Shin and Dr. Peter Timoney have already developed a new media for the difficult CEM organism cultures.

Funding from New York State began the 3-Disease Program, one part of which provides for a Johne's laboratory in the bacteriology section. Johne's is a slow killer of cattle and is an equally slow-growing organism in culture media, Johne's is hard to confirm in a herd before the affected animal is literally wasting away. It now takes 10 to 12 weeks to confirm a diagnosis and only 15-20% are detected by this method. Dr. Callihan, assistant director of the bacteriology section, with Dr. Shin and their associates, will work to improve rapid detection techniques.

The latest addition to the section of bacteriology is an anaerobic laboratory, "a neglected area" says Dr. Shin, "and one in need of expansion." Their's is a complete anaerobic system with incubator and facilities to culture samples under completely anaerobic conditions. The objective is to characterize the agents in anaerobic infections through by-product analysis and biochemical tests. Dr. Callihan, the laboratory's chief, will look at tetanus, clostridial disease, botulism, foot rot and other anaerobic infectious complications.

Bacteriology is also in the process of setting up special equipment not often seen in a veterinary facility. It's for the first mycology laboratory, a self-contained room with a safe, biologic hood for the study of systemic mycosis. Ms. Valerie Patten, an ASM-certified microbiologist, is the technical supervisor and has been trained extensively in clinical mycology at Duke University.

Dr. Raymond Cypess credits the success of the Diagnostic Laboratory and, by extension, the Section of Bacteriology, to the support of the profession, the animal industries of the state, the Department of Agriculture & Markets, and the administration of Cornell University. He goes on to include the "dedicated, professional, technical, and operations staff of the Diagnostic Laboratory." Certainly, the reputation of the Bacteriology Section rests on the day-to-day work of individuals who not only meet, but anticipate, the needs of their constituencies.

Photo by Sol Goldberg

Dr. Sang Shin

TRAVERS COMMITTEE WILL AID EQUINE RESEARCH AND THE ARTS

Photo by Biomedical Communications

Audrey Lowe presents the Travers check to Dean Phemister

A TOTAL OF $60,000 will benefit Equine Research Programs at the New York State College of Veterinary Medicine and the Saratoga Performing Arts Center thanks to the fund-raising activities of the Travers Committee. The committee includes members from the Thoroughbred and local Saratoga community who organize and promote the festivities prior to the running of the annual Travers Stakes. Their 1985 effort was the most successful to date and included a cocktail party given by Sotheby's at the home of Mrs. Mollie Wilmot, a program book, and the sellout Travers Celebration—a dinner dance honoring previous Travers winners on the eve of the race. Five-hundred party-goers filled the Hall of Springs and danced to the music of Meyer Davis. A pre-dinner auction was also held at which two original oil paintings and a Saratoga barn were sold to the highest bidders.

Other events emphasized Saratoga's role each August as "Horse Capital of the World." The "Travers Ride and Drive," the all-equine parade through the streets of Saratoga, is sponsored by the Travers Committee and has become a welcome tradition. Thanks to donations of carriages and mounts from the equine community, this year the parade featured 300 horses representing nearly every breed.

The $45,000 in funds donated by the Travers Committee to the New York State College of Veterinary Medicine at Cornell will be awarded as grants to faculty members studying problems of the Thoroughbred racehorse. The Saratoga Performing Arts Center will put the remaining $15,000 to use in the further enhancement of their already outstanding schedule of programs.

Plans for the 1986 Travers festivities are well under way. The re-elected Travers Committee officers are: President, Audrey M. Lowe, Ithaca, NY; Vice Presidents - Marguerite Whitney, Washington, Conn., Mollie Wilmot, New York City, and William Dake, Saratoga Springs, NY; Secretary - Herbert Chesbrough, Saratoga Springs; and Treasurer - George Walker, Saratoga Springs. Penny Chenery of Old Westbury, NY continues as Chairman of the Board and Jean Tulin of Saratoga Springs will again serve as chairman of the Travers Celebration.

NEW EQUINE EXTENSION VETERINARIAN

DR. MAIRE O'CONNOR has been appointed Senior Veterinary Extension Associate with the New York State Diagnostic Laboratory, New York State College of Veterinary Medicine, the first position of its kind in the history of the College. She will have special responsibility for equine extension work throughout the state, working closely with equine practitioners and the New York State horse industry on the control of equine disease, management problems, and the maintenance and improvement of their horses.

According to Dr. Donald Lein, Associate Director of the Diagnostic Laboratory, Dr. O'Connor's appointment has been eagerly anticipated by not only equine practitioners, but horseowners, the racing industry, and breeders too. As the equine liaison for the veterinary and agricultural colleges at Cornell University, Dr. O'Connor will facilitate access to the University's diverse resources. She is experienced in management, equine health programs, training programs for personnel in all facets of the equine industry, research, and international equine trade, transport and health regulations. Her expertise in these areas will be especially valuable to an industry that depends on the national and international demand for breeding, racing and performance animals. Dr. O'Connor is also expected to participate with the New York State Department of Agriculture and Markets and the equine industry in statewide equine health programs that are essential if sale or transport for competition or pleasure is to continue without restriction or threat of complete suspension. The

Photo by Biomedical Communications

Dr. O'Connor

College's ability, through Dr. O'Connor, to provide this excellent support for all facets of the equine industry will be an added incentive to increase the size and scope of the horse industry in this state.

Dr. O'Connor joins the Cornell staff from her previous position as Deputy Manager of the Irish National Stud, Co. Ltd. She earned the the M.R.C.V.S. in 1973 from the University of Dublin, then entered private practice in Callan, Co. Kilkenny. In 1974 Dr. O'Connor received a three-year National Science Council Fellowship Award and left practice to pursue research in genetics and animal breeding at her alma mater. In 1976, she was awarded the M.V.M. degree and went on to complete her Ph.D. in October 1979. At that time she had already begun her association with the Irish National Stud as the veterinary surgeon, an appointment that was made permanent in 1981. Dr. O'Connor has travelled extensively throughout the United States, in the Far East, and Europe and is fluent in French and Gaelic, the ancient celtic language of Ireland. She has visited and/or studied at several foreign research organizations including the Centre National de Recherche, Zootechnique, Jouy en Josas, France, the Equine Research Station at Newmarket, and at Cornell (Ithaca) and University of California (Davis) in the U.S.

CORNELL IS HOME FOR "WIMBORNE CASTLE" AND TOP TRAKEHNER, "JAGDGEIST"

WIMBORNE CASTLE adds his name to the expanding list of stallions standing at the Equine Research Park, New York State College of Veterinary Medicine, Cornell. Standing 16 h., he is a handsome, dark bay Thoroughbred with an equally impressive lineage; his sire is *Sir Wimborne*, his dam *Amber Souffle* by *Ambiorix*. A newcomer to stud in 1986, *Wimborne Castle* has already demonstrated his abilities on the track with over $220,000 in career earnings to his credit. His offspring, eligible for the New York Sire Stakes, stand to inherit those qualities that promise a successful racing career. **Wimborne Castle's** stud fee is $500.00 with a live foal guaranteed. **Wimborne Castle** was donated by Mr. John Hettinger of Akindale Farms, Pawling, NY.

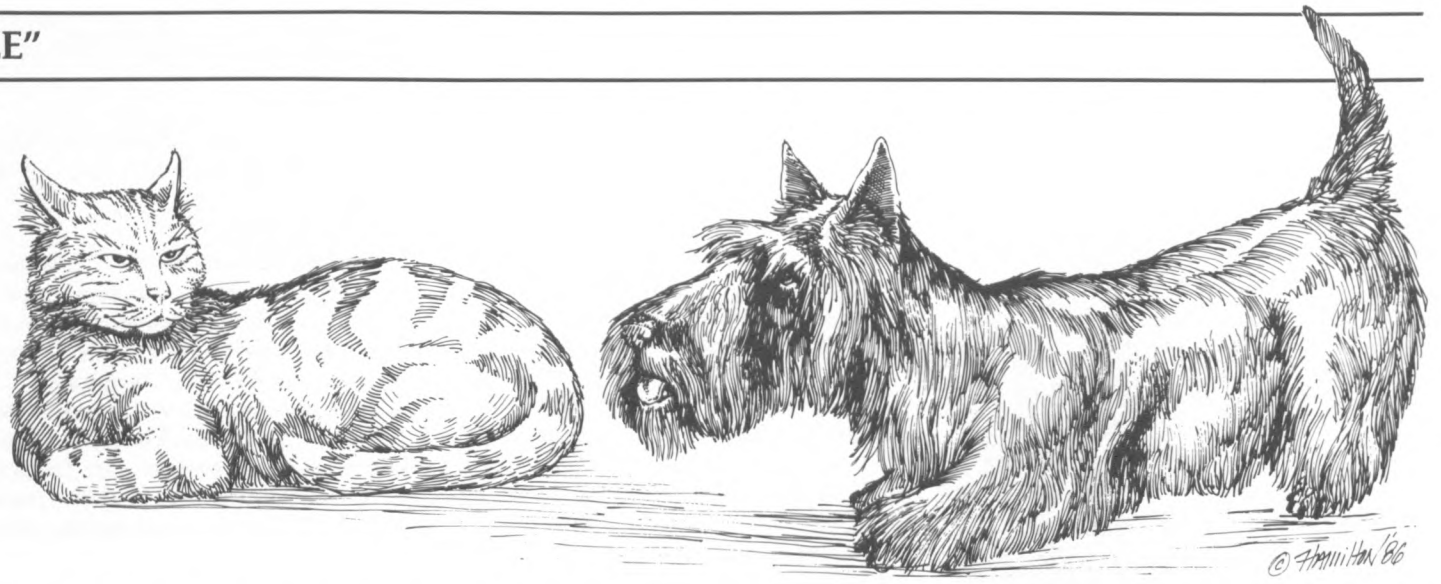
JAGDGEIST is another newcomer to the stallion barn. "Jagdgeist" loosely translates to "hunting spirit," an appropriate name for this 12-year-old Trakehner who became known as "the winningest stallion at Dressage at Devon." In 1979, he was honored with the **ATA Treda Friedrichs Award** for Trakehners best promoting the breed. In addition to performances in dressage and eventing, he was a successful jumper, winning several Mini Prix and competitions. Before his retirement, **Jagdgeist** was winning in the Open Jumper Grand Prix division. Standing at 16.1 h, he was donated to the College by Mary Alice Malone of Iron Spring Farm of Pennsylvania. **Jagdgeist** is by **Preussengeist,** out of **Jagd.** His stud fee is $500 LFG.

For more information, contact Dr. Tom Little at the Equine Research Park at Cornell University, Bluegrass Lane, Ithaca, New York 14850, or call 607/253–3081, 607/255–7753.

Jagdgeist

"TOO MUCH OR TOO LITTLE"

The Two Cases of Ajax & Babe



INSULIN IS ESSENTIAL for glucose to be broken down into energy the cell can use. Without it, as in diabetes, glucose circulates in the blood but is unavailable to body cells for energy. However, large concentrations of insulin in the blood will push blood glucose levels dangerously low. Too much or too little, both cause problems.

I.

Babe's problem was a series of seizures over a period of three weeks. The eight-year old Scottish terrier was referred to the Small Animal Clinic for a complete work-up and during the preliminary examination, blood samples were taken and submitted for a routine blood glucose test. Clinicians were specifically looking for low blood sugar (hypoglycemia), a condition that may trigger seizures in a patient because there is too little sugar for normal brain function. In this first test, normal glucose levels were found in the blood.

The central nervous system was the next area to be considered since damage to the brain or nervous system is yet another cause of seizures. But a neurologic examination and a brain scan also failed to reveal any abnormalities.

Clinicians were stymied—until Babe seizured again. The attending intern, Dr. Tom Fry, drew blood during the actual seizure episode and submitted these samples to the Diagnostic Laboratory. Tested for insulin levels, these samples finally showed the expected low blood sugar levels and the *highest* insulin levels ever seen at the laboratory.

The high levels of insulin were depressing blood sugar levels to the point where the seizures occurred. (Although certain amounts of insulin are necessary for glucose to be made available to body cells for energy, too much insulin can drive the blood glucose levels dangerously low.) Dr. Fry suspected that an insulin-producing tumor, an insulinoma, on the pancreas might be producing the excess insulin. Surgery revealed a growth on the pancreas and this was removed but multiple insulinomas on the liver were also found. It is not unusual, if a growth is cancerous, to find tumors in parts of the body remote from the site of the first tumor. In this instance, the liver tumors could not be removed.

Faced with their pet's terminal illness, Babe's owners were very concerned that the terrier's quality of life remain high. Fortunately, the surgery to remove the tumor from the pancreas went well and drug therapy to control the high insulin levels generated by the liver insulinoma could begin immediately. The drug, Diazoxide, a chemical that inhibits insulin release from the tumor tissues, was prescribed in a daily dosage. This would not inhibit the reappearance or growth of the tumor, but simply keep in check the insulin production, thereby increasing blood glucose.

Babe's future care will require a great deal of commitment. The medication is very expensive and increasing amounts of it will be necessary as the tumor recurs and progresses. For a time, Babe must return to the clinic or the referring veterinarian for monthly re-checks of blood glucose levels. Frequent meals also help keep blood glucose up and a special diet was been recommended while the pancreas heals.

II

Ajax's problem differs from Babe's in a major respect—as a diabetic he produces too *little* insulin with resulting high blood sugar. An elegant silver-colored American domestic shorthair, Ajax began receiving insulin in April 1984 to control his diabetes, and until late last year he had led a normal life.

Interestingly enough, diabetes mellitus in cats is sometimes transient and cats may lose their requirement for insulin. That's why it's important to monitor the individual cat closely. When Ajax's owner noticed her cat acting disoriented, she recognized the signs of hypoglycemia or low blood glucose and decreased the amount of insulin administered. Such steps are not unusual and owners of diabetic animals are carefully instructed in the proper care of their pet's diabetes. Unfortunately, the lower dose of insulin was too low and the blood sugar levels rose. The increased sugar in the blood eventually appeared as sugar in the urine and caused excessive urination, then urinary incontinence. As the fluid loss worsened, the thirsty cat drank more and more water and at the same time developed a ravenous appetite. There wasn't enough insulin to convert the blood sugar into energy and the body was literally putting out the call for more food and more energy.

Dr. John Randolph examined Ajax and ordered a glucose profile that would determine the proper dose of insulin. In the Small Animal Clinic, the patient was fed the same food and at the same times as at home. Throughout the day blood samples were taken and tested for glucose levels. After twenty-four hours the glucose profile showed that although the insulin lasted all day with normal peak activity at 8 to 12 hours, the overall levels of sugar in the blood were still too high. The insulin dose was increased to compensate and Ajax went home a livelier cat.

At age 14 Ajax is no youngster, but the treated diabetes shouldn't affect the quality of his life. Although diabetic animals are more prone to infection and their wounds often heal slowly, with good care Ajax should live to a ripe old age.

STUDYING HOW and when insulin is released in the body may tell us more about diabetes. For example, although we know insulin is released from the islet cells of the pancreas, we don't know what mechanism triggers that release. In the laboratory of Dr. Geoffrey Sharp, Department of Pharmacology, **Dr. Margarethe Hoenig** is looking at the role of calcium in insulin secretion. Researchers formerly lacked the sophisticated tools necessary to look at changes in intracellular calcium concentrations but fortunately, the tools and technology have become available in the last few years. One of the new tools Dr. Hoenig utilizes is a fluorescent agent that functions as an indicator of intracellular calcium levels. Using this agent on insulinomas in rats, tumors that produce insulin and readily respond to increased glucose in the blood, Dr. Hoenig has found that the intracellular levels of calcium rise when the tumor is stimulated with glucose. There is a strong possibility then, that calcium is the "trigger" mechanism researchers are trying to identify.

Veterinary Viewpoints

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