

Veterinary Viewpoints

Behavior

Spring 1982

Problems

Number Sixteen

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The New York State College of Veterinary Medicine
at Cornell University



Thoroughbred Stallion, Gift To Equine Park

WAVE FOREVER, a seven-year-old Thoroughbred stallion, has settled into his new home out at the Equine Research Park. An important addition to the Park's equine reproduction unit, the bay stallion

is a gift from the Big E Farm of Robert Entenmann and a former racehorse who won \$78,000 in his racing career. WAVE FOREVER's bloodlines include MAN O'WAR and his sire is HOIST THE FLAG, a champion at two years of age who ranks in the top 1% of all sires.

The Equine Reproduction unit conducts research into problems of fertility, pregnancy detection, foaling, prenatal

and postnatal care, and diseases of the foal. Teaching and research at the 160-acre Equine Research Park are also carried out in exercise physiology, drug detection testing, nutrition, and the diagnosis of disease and equine debilitating conditions. The park's facilities consist of animal housing, extensive parklands and field laboratories one-quarter mile from the main Veterinary College campus.

WAVE FOREVER will join the Research Park's four stallions and thirty mares in the equine reproduction laboratory complex which includes a stallion barn, a breeding shed, and two adjacent broodmare barns. While the primary purpose of the Park's mare and stallions is teaching and research, offspring from the band will be offered for sale.

Message From The Dean

The last few months have been characterized by great uncertainty regarding the future of federal aid to higher education. President Reagan's budget message called for a significant reduction in scholarship and loan funding for college students and a complete withdrawal of such funding for professional and graduate students. Were this to occur, the impact on the College, as well as most other professional and graduate training institutions, would be profound. Indeed, it would be an unthinkable situation. An increasingly high percentage of our students depend upon these federal programs to pursue their professional and graduate education. Given the cost of four or five years of post-secondary education, followed by the cost of attending this College, nearly 80% of our students find themselves dependent upon such federal loans. Without this assistance, access to the veterinary medical profession would quickly become limited to an economically privileged segment of society.

At this writing, I do not know the outcome of congressional action to meet this threat. Our College Office of Financial Aid has worked very hard to develop background information, statistics and projections of scenarios which would occur according to the federal options now under discussion. President Frank H. T. Rhodes has testified on behalf of higher education as well as Cornell University, pointing out the importance of maintaining federal assistance at a responsible level. Our student body and faculty have been kept fully informed on these issues. They, and their families, have been urged to contact both Congressmen and Senators to express their concern. Hopefully, in the final analysis, good sense will prevail and appropriate levels of aid to higher education will continue.

We do not take issue with the need to control federal funding and implement procedures which will preclude the waste of tax dollars. At the same time, we strongly embrace the concept of equal opportunity for an education according to the ability and not the pocketbook of the individual. The average debt burden of students in this College now exceeds \$25,000 and is growing. Over the past several years, strenuous efforts have been made to increase College scholarship and loan resources with significant success. However, the impact of persistent inflation is such that it is not possible to stay abreast of accelerating total student need. We recognize the limitations of earning power for our graduates within the veterinary profession, especially during the first several years of professional life. Except under unusual circumstances, veterinary school graduates simply do not enjoy the same opportunities for the significant income enhancement enjoyed by many practitioners of human medicine. If we are to continue to fulfill the important societal contributions of veterinary medicine, it is necessary to find the means to support the long and demanding education process required.

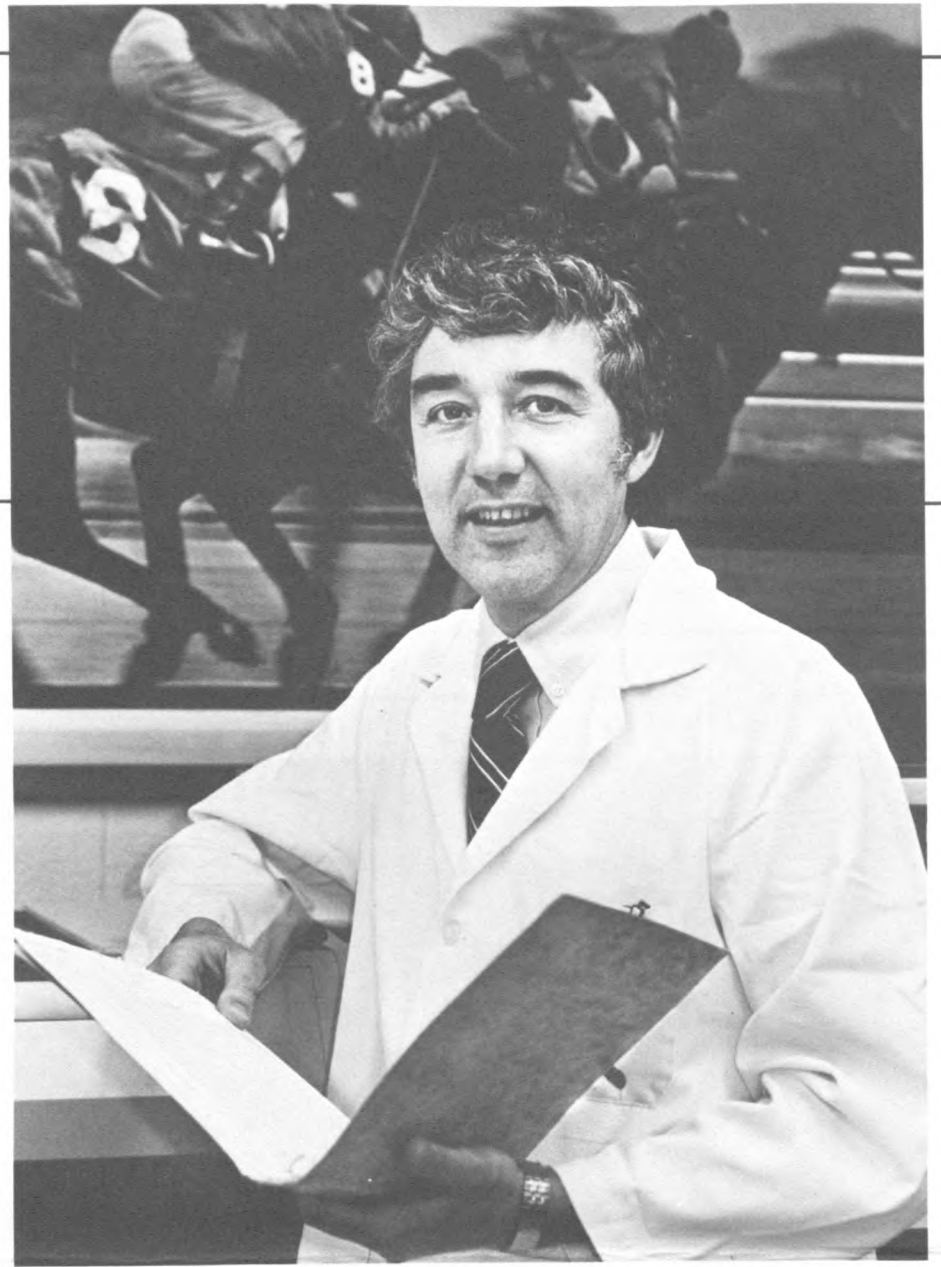
Those who are interested in learning more about our Student Loan and Scholarship Program may wish to correspond with Dr. Donald Postle, Director of the Office of Financial Aid at the College. To a large extent, the future of our profession hinges upon the resolution of these problems.

Edward P. Holby Jr.

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: 607/256-7699.

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G. Frederick Fregin, VMD

Director Appointed for Equine Research Program

Dr. G. Frederick Fregin has been appointed Director of the Equine Research Program at Cornell University. An Associate Professor of Chronic Diseases and Preventive Medicine within the New York State College of Veterinary Medicine, Dr. Fregin is a recognized international authority in cardiology and cardiovascular disease of the horse. As Director, Dr. Fregin will coordinate the various equine research programs of the Veterinary College, and work closely with the Equine Advisory Council. He will also be involved through the College Office of Public Affairs, with the development of external understanding, visibility and support for the entire equine program.

Dr. Fregin is a graduate of the University of Pittsburgh and received his V.M.D. degree in 1964 from the University of Pennsylvania. He remained at Pennsylvania for additional postdoctoral training in the cardiology and comparative cardiovascular studies program and then was appointed an Assistant Professor of Medicine/Department of Clinical Studies. In 1981, he accepted the position of Associate Professor within the Equine Drug Testing and Research Program, Veterinary Diagnostic Laboratory, NYS College of Veterinary Medicine, with a joint appointment in the Department of Preventive Medicine. He is presently conducting work in Equine Sports Medicine applicable to the mission and responsibilities of the New York State Racing and Wager-

ing Drug Testing and Research Programs while participating in the graduate programs within the Departments.

Dr. Fregin is a member of the Academy of Veterinary Cardiology, the American College of Sports Medicine, the Association for the Advancement of Sports Potential and the Veterinary Chemists Advisory Committee to the National Association of State Racing Commissions.

Quarantine!

With funds for renovation raised by the Saratoga Travers Celebration, the only C.E.M. QUARANTINE FACILITY in New York State has opened at the Equine Research Park Annex on Snyder Hill. The Division of Animal Industry of the Department of Agriculture and Markets has approved the new addition as a quarantine facility for horses entering the U.S. from C.E.M. (Contagious Equine Metritis) affected countries.

C.E.M. is a highly transmissible venereal disease of the horse, affecting mainly the Thoroughbred breed. The disease occurs throughout the world and has been confirmed in Australia, France, Belgium, U.S.A., Germany, Japan and recently Denmark. The disease could be more widespread than is currently known but many countries lack adequate laboratory expertise in isolating and identifying the causative bacterium. C.E.M. infection, which seriously reduces conception rates in horses, is transmitted at the time of breeding or by personnel or instruments

that contact infected genitalia. Mares and stallions imported into the U.S. from countries where exposure to the disease is likely, must be quarantined until they are treated and found to be negative to cultures for the C.E.M. organism.

Typically, a quarantined horse will be transported from the USDA Animal Quarantine Facility at Stewart Airport to Cornell in a vehicle under official USDA seal. No person can remove or allow the removal of the horses enroute while the quarantine is in effect. A minimum of forty days in quarantine is needed for the treatment and testing for C.E.M..

Wanted: Equine Experience

Scholarships for Summer Equine Experience, part of a program to develop veterinary student opportunities in equine practice, will be awarded for the first time by the New York State College of Veterinary Medicine. Recommended and developed by the College's Equine Advisory Council, the scholarships provide support and jobs for the students' summer involvement in the equine industry. For the summer of 1982, stipends of \$2,000 per scholarship have been provided by the following: the New York State Division of the Horsemen's Benevolent and Protective Association, the Cavanaugh Trust Scholarship, the New York Thoroughbred Breeders Association, and the Fassig-Tipton Company, Inc.

The demand for equine practitioners has grown with the multi-million dollar Thoroughbred racing industry in New York State. The number of practitioners, however, has failed to keep pace with the need for veterinarians specializing in equine medicine. The purpose of the Equine Experience Scholarships is to encourage specialization in equine medicine by supporting veterinary students in their development of skills in this field.

Second and third year DVM students at the New York State College of Veterinary Medicine are eligible for the scholarships. All applicants are evaluated on the basis of motivation, career objectives, equine experience and other related activities. A special committee of clinicians has already screened applications and this year's recipients will be announced at the May 19th meeting of the Equine Advisory Committee.

Veterinary practices are being sought to offer equine experience to students during the summer of 1983. For more information on sponsoring a Summer Equine Experience Scholarship and/or providing a summer opportunity for a student, please contact Dr. Donald Postle, Director of Student Financial Aid, New York State College of Veterinary Medicine, Ithaca, New York 14853.



SPF Poultry Breeding Facility

The Chicken & Cancer

The Department of Avian & Aquatic Medicine at the New York State College of Veterinary Medicine has officially opened its new Specific Pathogen Free (SPF) Poultry Breeding Facility on Snyder Hill. Inside this building, three genetic strains of chickens, free of all known avian pathogens including three types of virus known to be capable of causing cancer, are busy producing offspring to be used in cancer-related research at Cornell.

The SPF Poultry Breeding Facility is a one-story, seven room building with three pen areas for growing and mature birds. Because the poultry will be raised in an SPF environment, access to the building is carefully restricted and all personnel must shower and change streetwear upon entering the building. Positive air pressure, gradually decreasing from pen areas to peripheral storage and equipment areas, controls the filtered

air flow. The facility is under the direction of the Department of Avian & Aquatic Medicine at the College and was funded in part by a National Institutes of Health grant.

Cancer research in the Department of Avian & Aquatic Animal Medicine has been supported by the National Cancer Institute of the National Institutes of Health for twenty years. Work has been concerned with several transmissible neoplasms, but particularly with Marek's disease, the most prevalent form of cancer which occurs in chickens. That disease was an economically serious threat to the poultry industry until the development of the world's first practical and effective cancer vaccine in 1970. Work at Cornell has resulted in the development of improved Marek's disease vaccines, including a freeze-dried form and a new nononcogenic Marek's disease virus type now being tested as an alternative to current

vaccines.

Present studies will tell researchers more about the mechanism of protection by the vaccines which is still not fully understood even though vaccines were first developed nearly fifteen years ago. Other studies involve further unravelling of the pathogenesis of the disease and the significant immunological features of resistance to infection and/or tumors. SPF poultry, raised free of all known cancer-related viruses as well as other disease agents, are essential to this work. Such on-going research not only benefits the poultry industry by reducing losses from Marek's disease, it is also important to comparative medicine. Certain human herpesviruses are either known to cause cancer in man or have been implicated as probable cancer inducing agents. Marek's disease is considered by many to be the premier model for herpesvirus oncology.



Avian Clinic Update

Peregrine falcons are the fastest creatures on the face of the earth, capable of attaining speeds up to 200 mph. Unfortunately, they are also listed as an endangered species in North America. A pair of these magnificent raptors have been referred to the Avian Clinic of the New York State College of Veterinary Medicine for treatment of non-healing wing fractures. Both birds are being evaluated for their suitability for a newly developed electro-stimulation technique that encourages bone healing.

Drs. Douglas MacCoy and Michael Collier, Assistant Professors of Surgery currently are working to develop this technique for use in birds' bones. Dr. Collier is conducting extensive research on application of this technique to horses. In their studies, they have placed an electrode in the fracture creating an electrical current across the fracture gap in the bone. This electrical field in turn stimulates new bone growth. Although still in the experimental phase, this new technique may provide hope for a variety of injured birds with chronic non-healing fractures.

— by Chris Murphy, '83

On Good Behavior

The heartbeat of a stroke victim slows as he pets his Labrador retriever. A young mother hesitates to give away the highly destructive dog her adopted daughter loves. A horsebreeder can't stop his prized stallion from pulling out large patches of hair. A sheep farmer loses lambs in cases of multiple births because the ewes will only accept one lamb. Whether we like it or not, the animals we raise, breed, and love affect us by their behavior. Recognizing normal and abnormal animal behavior, and knowing how to control or utilize it can make a significant economic, medical and psychological difference to man.

In the Physiology Annex close by the Large Animal Clinic, the offices of Dr. Katherine Albright Houpt are a hodge-podge of test tubes, blackboards and books. Among the titles on her bookshelves are Dr. Daniel Tortora's "Help! This Animal Is Driving Me Crazy", Denny's "Comparative Psychology", and Ehrman's & Parson's "The Genetics of Behavior". The piles of magazines, *American Horseman*, *Today's Animal Health* and *Canine & Equine Practice* include her articles on the cribbing and pawing horse, equine language, canine obesity, and maternal behavior and its aberrations.

Dr. Katherine Houpt's area of expertise over the last 15 years has been animal behavior and the examples opening this article are part of the science called ethology. Dr. Houpt's interest in animal behavior began in her pre-vet days at the University of Maryland when she first heard of work being done in turkey behavior. In preparation for work in the field, she received her V.M.D. from Pennsylvania State University in 1963, then went on for her Ph.D. in feeding behavior at the University of Pennsylvania. By 1973, she was at Cornell University, first as a lecturer in the Women's Studies Program, then as a NIH Special Fellow and Courtesy Post Doctoral Associate, Department of Physiology, Biochemistry and Pharmacology, NYS College of Veterinary Medicine. Now an Associate Professor, Department of Physiology, her work is broadly based on the fundamental reasons why animals eat and drink, the chemical and hormonal controls of this behavior and also the sexual, maternal and learning behavior of animals. She has conducted research on the comparative aspects of the ontogeny of taste, stimulation of food intake, the controls of food intake, the role of olfaction in food preferences, sucrose preference, food palatability and taste aversion. The answers her studies have revealed may tell farmers how, when and what to feed their animals to produce more food for man.

Other studies deal directly with an

The Compass in the Library

Whether researching a scientific article, finding the latest course of therapy for a disease, or simply keeping up with modern veterinary medicine, literature searches can be frustrating and time-consuming ventures. And if you're a veterinarian in need of some fast answers, what do you do?

The answer could be as simple as asking the COMPASS in the Flower Library. COMPASS, (COMputer Assisted Search Service) is the computer-based information retrieval service offered to students, faculty, staff, practicing veterinarians and alumni by the Library. The service was begun with help from the Alumni Group for Unrestricted Funds. Now, by contacting COMPASS, anyone can have a search made in one or more available data bases, and receive a computer print-out of authors, titles, volumes, sources, related subjects, even complete abstracts.

Using COMPASS is easy. First it is necessary and extremely important to define the topic as clearly as possible. Consultation with a search librarian will assist in refining the request and in selecting the most appropriate subject headings which will be traced in the computer. This can be done over the phone, or by mail

using a special Literature Search Request Form when definite information needs are known. Then, the terms are entered and combined at a terminal. For example, a request for information on FOREIGN BODIES will result in 539 citations or listings dealing with FOREIGN BODIES. However, when the request is further defined and FOREIGN BODIES and CATTLE are entered, the number of citations drops to nine. While fewer in number, the second listing of citations will contain that information more closely tailored to the user's needs. Searches can be limited to information published over a particular time period, from a single month to several years. Language restrictions imposed by the user can also limit citations to only English and German or any other language. When appropriate articles have been identified by title, abstracts can be provided by COMPASS.

COMPASS's primary usefulness lies in its ability to do a comprehensive or selective topic search in less time than a manual search. COMPASS can remember to print monthly updates on any topic, and keep a user current with the most recent developments in a field. It can compile lists of experts on a topic, or gather material for a talk, and it's especially useful for preparing grant, research and thesis proposals.

The files of significance to veterinary medicine available through COMPASS

include MEDLINE, covering biomedicine and indexing approximately 60 veterinary journals back to 1966; CAB ABSTRACTS which includes *Index Veterinarius* since 1972, and provides the most comprehensive access to the veterinary literature; BIOSIS, reporting science literature found in *Biological Abstracts* from 1969; and AGRICOLA, containing the file of the *Bibliography of Agriculture* from 1970.

To use COMPASS off-campus, contact the Flower Library at the New York State College of Veterinary Medicine by phone (607-256-2083) or mail. Library hours are from 8-5, Monday through Friday. Searches will be conducted immediately. However, it may take several days for some lengthy printouts to be received from the various computer centers. The success of online search depends upon how well the search request is described and adequately reflects the user's information needs or questions. A clear narrative statement of the topic with synonyms and related terms and definitions is crucial to formulating an effective search strategy and locating meaningful and useful citations. Language preferences should be noted and an upper price limit indicated. Typical costs range from \$10-\$50 depending on the topic and data base used. Estimates can be provided.



animal's behavior as it affects the people in its environment. The true example of the destructive dog cared for by the adopted daughter is one case where the decision to give the adopted pet away might create the impression on the daugh-

ter that she too could be given away if her behavior was unacceptable. It is Dr. Houpt's view that this dog, like many other pets demonstrating "abnormal" behavior, can be taught behavior more in line with the pet owner's desires. How-

ever, she also feels that any dog an owner can not control because it is violent, should be put down. "Getting rid" of the dog, which is usually an euphemism for placing the animal in a rural area, is no solution. These dogs continue to be vio-

lent and Dr. Houpt points to statistics that say "pet" dogs kill over 1,500 sheep in New York State every year.

"Bad" dogs could also endanger the status of animals as needed companions to the elderly or handicapped if inappropriate animal behavior is not controlled. Even now, few public housing developments will accept pets. Prolonged barking, elimination, snapping at or biting tenants or service personnel, and destructive behavior within the home/apartment all contribute to the "NO PETS" rule.

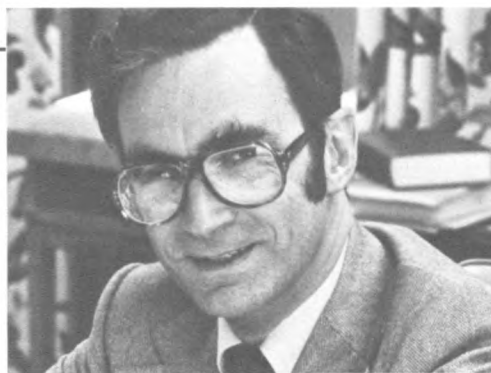
For those clients who would like to control the behavior of their pets, Dr. Houpt has prepared a short questionnaire, a Behavioral History Form for Dogs, Cats and Horses. The detailed history may discover if the problem is medical or behavioral. Cats, for example, may eliminate outside the litter box because of cystitis (a medical problem) or because another cat is using the same box (a behavior problem) or because the kitty litter is too dirty (your problem). It is important for the veterinarian to treat these problems because any given symptom may have a behavioral or physical origin.

With warmer weather, Dr. Houpt's work in animal behavior shifts from the laboratory to field behavior. Her graduate students will be out in the field studying how much time animals spend at an activity. Dr. Houpt suspects that colic in horses may be directly related to their lack of normal grazing activity. She has also found that cribbing, pawing and self-mutilation, like that of the hair-pulling stallion, can be due to lack of activity or boredom.

Dr. Houpt teaches an elective in veterinary animal behavior at the College, examining the behavior of the different species a practicing veterinarian frequently encounters: dogs, cats, horses, cows, pigs and sheep. The course emphasizes practical knowledge from helping students identify aggressive behavior before the animal attacks to understanding why the best pet puppies are those familiarized with both man and dog during their "socialization period".

Reproductive problems of cattle are considered from the physiological basis of sexual behavior and students learn that the process of establishing dominance hierarchies in a herd may stress individuals enough for an outbreak of "shipping fever".

Animal behavior signals good health, illness, competition, play, aggression, sexual availability, the nurturing of young. Understanding the normal and abnormal of animal behavior, as Dr. Houpt's work will continue to do, aids in better management practices, the diagnosis of disease and the furthering of the human/animal companion bond.



Douglas D. McGregor, M.D., D. Phil.



George C. Poppensiek, VMD

A Cambridge Congregation

Surrounded by the centuries-old traditions of a solemn Cambridge Congregation, Dr. Alan Dobson, of the College of Corpus Christi and the Blessed Virgin Mary, knelt to accept the highest earned degree awarded to scientists by the University of Cambridge, the Doctor of Science.

Back in his office in the Physiology wing of the NYS College of Veterinary Medicine, Professor Dobson has put away the robes and ceremony. His diplomas, a B.A., M.A. and now a Sc.D from Cambridge, and a Ph.D from Aberdeen University, Scotland, are rolled up and tucked away in a desk cubbyhole. "An office is afterall, a place to work," says Dr. Dobson, "and who has time to sit and look at diplomas on the wall?" Nearly all of his time is divided between work at Cambridge and Cornell. A month's visit to England usually reaps a year's worth of research data to analyse and time at Cornell is equally divided between teaching and continuing research on absorption in the ruminant stomach.

The published results of this labor earned him the prestigious Cambridge degree. To qualify for the Sc.D, a candidate must submit "original contributions to the advancement of Science and Learning" and published works are the only acceptable evidence. The submitted papers are thoroughly reviewed by at least two appointed referees and consideration of an application often takes as long as a year, and sometimes longer. After submitting this application fourteen months ago, it was a happy coincidence that found Dr. Dobson visiting Cambridge when the announcement of degree awards was made. The lucky timing also meant Dr. Dobson's elderly mother, his wife Marjorie, and two of their children were able to attend the Congregation (graduation ceremony) at which the degree was awarded, before the Dobsons flew back to the U.S.



Alan Dobson, Ph.D., Sc.D.

McGregor Recognition

Douglas D. McGregor, M.D., D. Phil., Director of the James A. Baker Institute for Animal Health, has been selected by the Secretary of Health & Human Services to serve on the National Institutes of Health (NIH) Advisory Committee to the Director. The appointment to the 16-member committee is for a four-year term.

The Nation Institutes of Health is responsible for the development of biomedical and behavioral research, medical science, and biomedical communications

in the U.S. The Advisory Committee to the Director, NIH, advises the Secretary, the Assistant Secretary for Health, and the Director, NIH, on policy matters pertinent to the Institutes' mission responsibilities while providing a framework for review, evaluation and policy development on specific or general aspects of NIH activities. The Committee also supplies an increasingly valuable public and scientific forum for discussion of such general topics as research needs and opportunities, appropriate allocation of research funds, and complex relationships between Federal funding agencies and universities that receive funds.

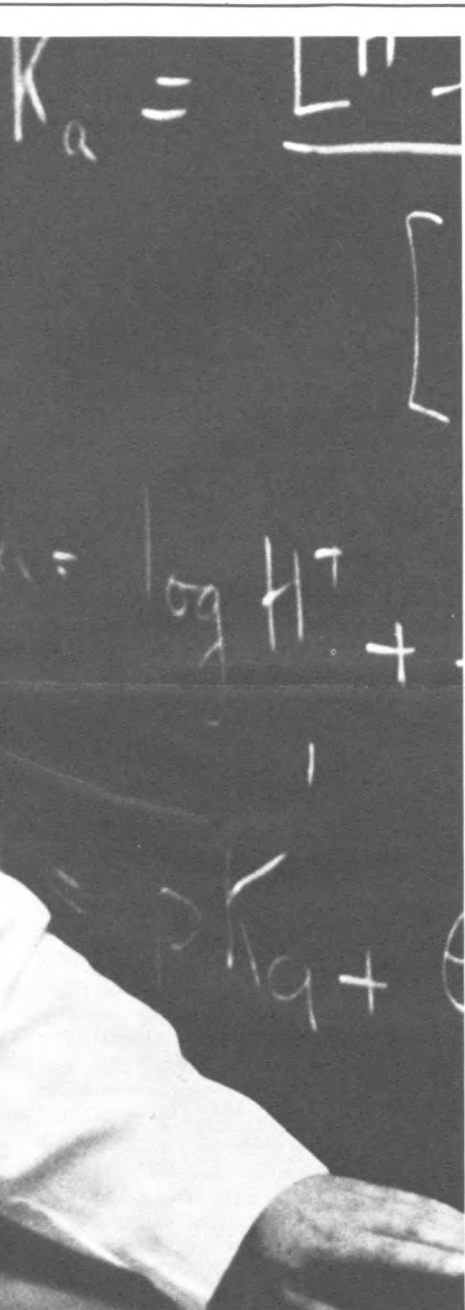
The Committee members are chosen to reflect a diversity of viewpoints from the biomedical and behavioral research community, academia, the medical profession, private sector research and the general public. Dr. McGregor's appointment recognizes his expertise in the areas of comparative medicine, biomedical research and academia. He received his M.D. from the University of Western Ontario, London, Ontario, and the Doctor of Philosophy degree in Pathology from the Sir William Dunn School of Pathology, Oxford, England. He was appointed Director of the James A. Baker Institute for Animal Health, Cornell University in 1976.

First North American Veterinarian Elected to Argentine Academy

George C. Poppensiek, VMD, James Law Professor of Comparative Medicine at the College, has been inducted into the National Academy of Agronomy & Veterinary Medicine, Republic of Argentina, Buenos Aires. He is the first veterinarian in North America to receive this honor.

Membership in the Academy recognizes Dr. Poppensiek's collaboration with Ar-

FOOTNOTES



gentine scientists over a span of two decades, especially in matters relating to foot-and-mouth disease, academic veterinary medicine, teaching and research.

Dr. Poppensiek, Dean of the College of Veterinary Medicine at Cornell for 15 years, a Fellow Diplomat of the American Academy of Microbiology and the American College of Veterinary Microbiologists, was also the first American veterinarian to be elected to the Polish Society for Veterinary Medicine, a unit of the Polish Academy of Sciences. He received the honor because of his involvement in the post-graduate education of Polish scientists.

Pharmacology Grant

A major grant from the family of a Cornell graduate will aid the Department of Pharmacology. The \$600,000 grant will benefit new research and teaching programs in four areas: biochemical pharmacology, clinical pharmacology, veterinary toxicology and recombinant DNA technology. New equipment, including equipment to support recombinant DNA study, will be purchased with a little over one-third of the grant money and the remaining funds will be used for special project supplies, staff support, and fieldwork.

Dr. Weiland Receives Award

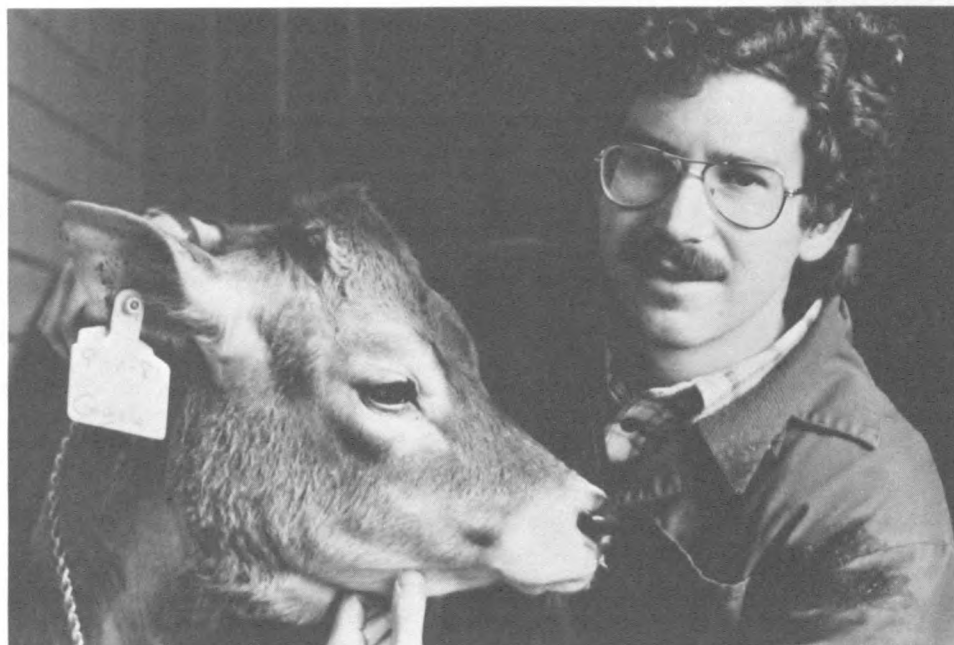
Dr. Gregory A. Weiland, Assistant Professor in the Department of Pharmacology is the recipient of a Faculty Development Award in Pharmacology from the Pharmaceutical Manufacturers Association Foundation. The grant, totalling \$50,000 over the next two years, and an additional PMA Research Starter Grant, will support research on chemical receptor sites in the central nervous system. Work will focus on interactions between nicotinic and substance P receptors in the brain.

Only two Faculty Development Awards were given nationally. Successful candidates demonstrated strength in basic pharmaceutical research, in academic training and in career development potential. Dr. Weiland received his Ph.D in Physiology and Pharmacology at the University of California. His post-doctoral research has been on the mechanism of beta-adrenergic receptor activation of adenylate cyclase.

Incoming Director

On February 1, 1982, Attorney Ralph A. Jones accepted the position of Director of Public Affairs at the College, following the retirement of Edward J. Trethaway. The new Director will carry on the fundraising activities of the office, as he works to form stronger ties with the College's friends and supporters.

Mr. Jones graduated magna cum laude from Colgate University and received his law degree from the Harvard Law School in 1957. He was Director of Development for Colgate University from 1970-78 and Vice President for Development at Hobart and William Smith Colleges from 1978 until 1981. He takes over the responsibilities of the College's Public Affairs Office after a period as Director of Major Gifts and Planned Giving at Georgetown University. No newcomer to Cornell University, Mr. Jones served as Assistant Legal Counsel in the University Counsel Office for five years, 1965 to 1970.



Peter Johnson & Friend

Pfizer Award

Peter J. Johnson, Class of '82, New York State College of Veterinary Medicine, has received the 1981-82 Pfizer Scholarship from the Agricultural Division

of Pfizer Inc. The scholarship is awarded annually to a veterinary student demonstrating good potential in the field of veterinary medicine, academic achievement and financial need.

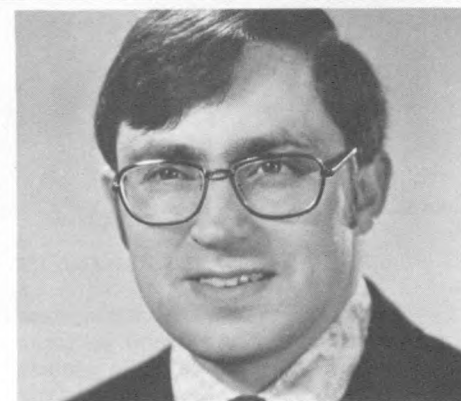
Following graduation, Pete will join a mixed practice in Clinton, New York.

Gary A. Bolton, DVM

Dr. Gary R. Bolton, 39, Associate Professor of Medicine at the New York State College of Veterinary Medicine, Ithaca, NY died February 10, 1982 after a prolonged struggle with cancer. He is survived by his wife, Jean E. Bolton; a daughter, Mickie, a son Kerry, his mother and a sister.

A graduate of the University of Wisconsin and Iowa State University, Dr. Bolton received his D.V.M. in 1967 from Iowa State University, Ames, Iowa. In 1970, following an internship, a medical residency and a residency in cardiology at the Animal Medical Center, NYC, Dr. Bolton joined the faculty of the New York State College of Veterinary Medicine as Assistant Professor of Medicine and Cardiology. He was appointed Associate Professor at the College in 1974.

Until his death, Dr. Bolton devoted long hours to his extensive teaching responsibilities, clinical duties and clinical research. He was a gifted teacher with the unique ability to pinpoint essential clinical aspects while radiating interest and enthusiasm for his subject. Winner of the Outstanding Teacher Award in 1977, and well-loved by students, he served on the



Admissions Committee and as student advisory for the Class of '81. Dr. Bolton was past-president of Phi Zeta, and faculty advisor for the student chapter of AAHA.

The author of numerous publications on heart disease and cardiology, Dr. Bolton also wrote the *Handbook of Canine Electrocardiography*, one of the leading reference texts on veterinary cardiology.

Memorial donations to establish an award in cardiology in memory of Dr. Gary Bolton may be sent to the Small Animal Clinic, NYS College of Veterinary Medicine, Ithaca, NY 14853.

Puppy Fat (Or Don't Feed That Dog At The Table)

Obesity in the pet population closely parallels that in the human population and continues to be a serious disorder affecting our pets. It is probably the most common problem small animal veterinarians see in daily practice and can occur alone or in concert with other afflictions.

Dogs become overweight in exactly the same ways as humans: they consume more calories than are burned during daily exercise. There are a few pathological conditions which cause obesity and these should be ruled out by a veterinary examination prior to managing the obese pet.

Obesity is defined as any animal weighing more than ten percent above its optimal weight. Although this sounds very precise, the actual diagnosis of obesity is much more subjective. On general inspection of your dog, if he appears overweight, he probably is. The dog's ribs should be just visible beneath his coat and you should certainly be able to feel the ribs with gentle digital pressure. The "pinch an inch" rule in people becomes "pinch a half inch" in dogs. If you can pinch greater than a half inch of flesh over the ribs, then your dog is probably overweight.

Overweight animals have many of the same medical problems as obese humans. Obesity shortens lifespan and decreases the quality of day to day living. Many of the dog's vital body systems are impaired, resulting in a slow-moving pet who tires easily. Heart and lungs function less efficiently. Digestive upsets such as flatulence and constipation increase in incidence, and susceptibility to skin infections greatly increases. Carrying excess weight also puts additional stress on the animal's skeleton and joints and can aggravate existing musculoskeletal disease. Wound healing is delayed and susceptibility to infection is increased. In general, obese animals tend to be uncomfortable and unhealthy.

Dogs have a natural tendency to be-

come overweight. In the wild, the ability to store energy as fat was a great adaptive advantage for this intermittent feeder. The dog would find food and rapidly eat his fill. Because it might be days before his next meal, he had to store the energy from this large meal for later use. In the wild, the dog also had a much higher energy requirement to maintain his more active lifestyle. As we domesticated the dog, we began providing daily meals rich in calories while drastically reducing his physical exercise. Dogs still tend to be ravenous eaters and will consume great quantities of food rapidly at each feeding. In the domesticated setting, humans are in control of the dog's nutrition and we commonly overfeed and underexercise our pets.

Obviously, the very best situation is to never let your dog become overweight. But this is not always successful as shown by the incidence of obesity in our pet population. It is interesting to observe that overweight people and the elderly tend to have overweight pets. This is probably due to a combination of lack of exercise and acceptance of the overweight condition. Reduction of food intake combined with sufficient, but not excessive, exercise during a weight reducing program yields the best results.

The reducing diet should provide only sixty percent of the calories needed to

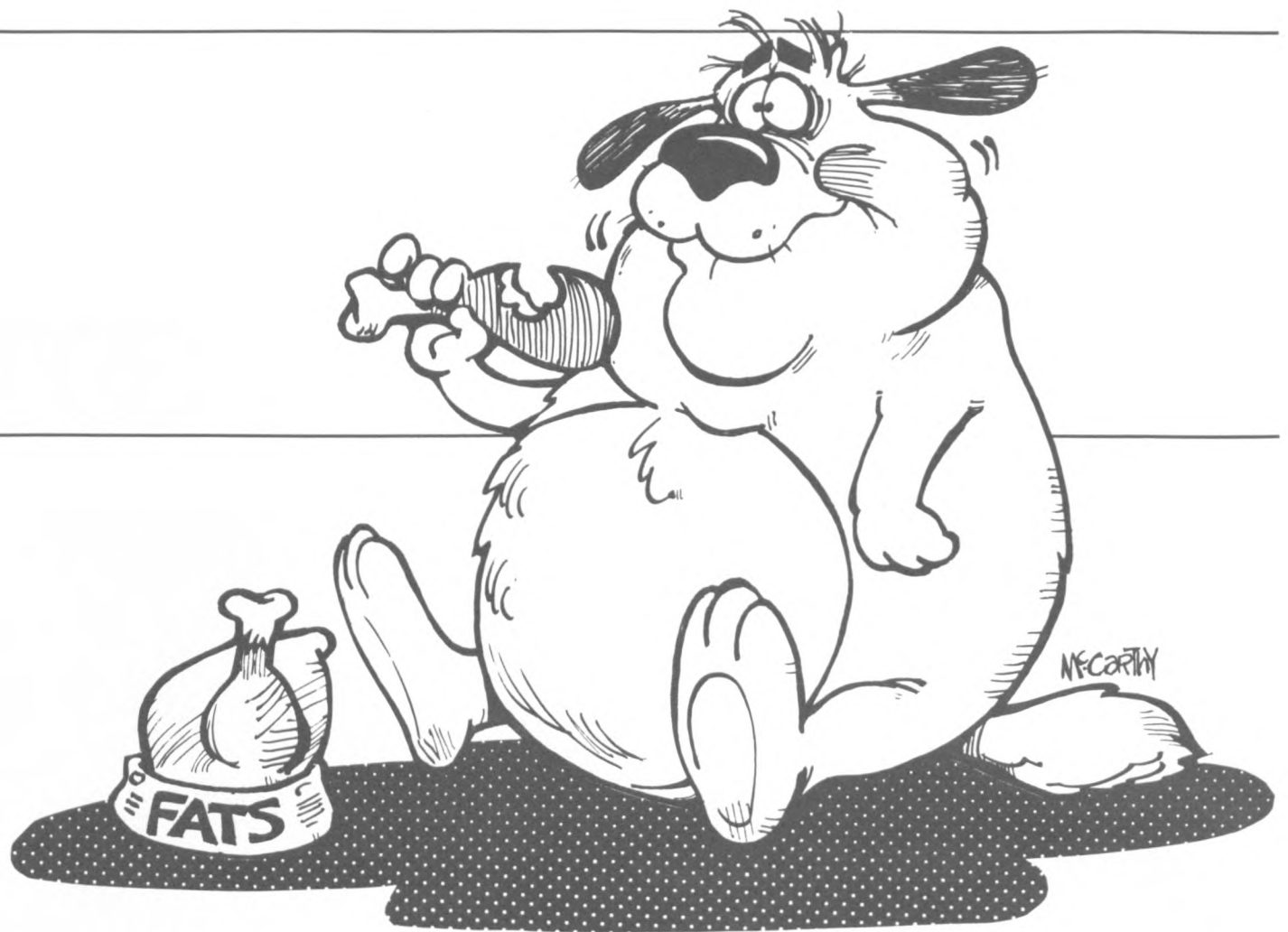
maintain optimal (target) weight. The first step is to determine what this target weight should be. A veterinarian should be consulted at this point to help determine the target weight and to rule out any pathological causes for your dog's obesity. With the veterinarian's approval, begin reducing the animal's total daily food intake by twenty-five percent. After your pet adapts to the initial 25% reduction, continue gradually reducing food intake until the diet provides 60% of the calories needed to maintain the target weight. First, eliminate any table scraps and then eliminate a portion of the commercial diet being fed until the twenty-five percent reduction is attained. To reduce appetite cravings, offer this food in three or four small portions throughout the day and have fresh clean water available at all times. Be sure to enlist the cooperation of the entire family and do not allow the neighbors to treat your dog to any snacks. Make a chart and record daily weights. At the end of each week, evaluate the reducing program and decrease food intake further if no weight loss is occurring. Once the desired level of weight loss has been achieved, the food intake can be gradually increased to 100% of that required for optimal weight.

Exercise is the other essential ingredient in an effective reducing program. Research has shown that exercise actually

reduces appetite in addition to consuming ingested calories at a faster rate. Moderation must be observed in an exercise regimen for the obese patient. Start with very simple exercises such as sitting and lying down on command. These are roughly equivalent to calisthenics. Retrieving a ball is an excellent source of conditioning. Have the dog follow you on your routine trips around the house and outside at a slow pace. As the pounds of fat are shed, more vigorous exercise can be instituted such as brisk walks and even jogging.

When your dog has reached optimal weight, your task is only partially completed. It will take a lifelong commitment from you to keep your dog in good physical condition. Maintain his healthy bodyweight by feeding a nutritionally balanced dogfood in quantities that just maintain his weight. Your veterinarian may prescribe a low-calorie dietary food such as R/D which is recommended as a nutritional aid in the dietary management of obesity in mature dogs and dogs with a tendency toward obesity. Minimize or eliminate all table scraps and continue the daily exercise. Weigh him weekly and reduce food intake at the first sign of any weight gain. Your efforts will be rewarded by a healthier and happier pet who will provide you with many more years of enjoyment.

— by Dan Simpson, '83



VETERINARY VIEWPOINTS

The New York State College of Veterinary Medicine
Cornell University
Ithaca, New York 14853