



Veterinary Viewpoints

The New York State College of Veterinary Medicine at Cornell University

Number Five

Summer 1977

Dean's Message

Academic Missions: Teaching-Research-Service

From time to time, questions are raised by alumni, friends, students and faculty about the role research plays in the life of this College. Some believe it is diverting increasingly scarce resources from our "primary responsibilities" of providing sound instructional programs and high quality services in the teaching hospital, diagnostic laboratories, and extension programs. Indeed, such concerns are heightened when one views the magnificent new nine-story Research Tower, visits the Equine Research Park, learns about the Feline Research Program, the Bovine Health Research Center, the Laboratory for Diseases of Dogs at the Baker Institute, or notes our emphasis on building a comprehensive Diagnostic Laboratory where research will play a vital role. The recent difficulties with accreditation are also cited when people question the assignment of faculty effort to research, thus lessening the amount of time they have available for instructional purposes.

It is true that this College, with over a century of effort devoted to furthering the cause of veterinary medicine, has been a leader in veterinary research as well as education. Few schools or colleges have done more than the New York State College of Veterinary Medicine at Cornell University in contributing to the advancement of veterinary medicine through significant research. But, it is argued, in these times of decreasing support for higher education, we should curtail our emphasis on research and concentrate our resources on instruction and service. This is a provocative argument, and I believe it is important to explain our position.

The late Dr. Hadley Stephenson, while working to enhance support of the Baker Institute, was fond of repeating a phrase that went something like this: "Everything I know today is the result of someone else's research." Indeed, what would the situation be today were it not for the development of vaccines, tests for diseases, better understanding of pathophysiologic processes or the many books, laboratory manuals, and other teaching materials that have resulted directly from the research conducted by our faculty? Simply stated, we would be working in a far different environment, with less knowledge and significantly fewer tools to meet day-to-day problems. One may argue that were it not done at Cornell, someone somewhere else would have made these contributions. But who and where else? Can we be certain that is true?

How does the "research environment" affect the quality of our faculty? Recently, I received a letter from a member of the College Advisory Council and, with the author's permission, I would like to quote from it, for the views expressed are germane to the subject: "While I understand excellence in teaching and the provision and duties to the people of the State of New York remain a hallmark and primary goal and responsibility of the School, I am also aware of the need for excellence in faculty and a standard of quality of teaching that cannot be obtained by pure and functional means. In other words, there is no possibility, I am sure, at any state institution of competing directly with a private sector in terms of salary and benefits. What sort of person is it who comes into teaching and devotion to an institution and others? It is usually an individual who, at the same time with strong interests in post-graduate, continuing and undergraduate training, also has a curiosity on a scientific base. What I am trying to say is that we should keep in mind that research is an essential key to good teaching. One cannot be present in an environment without the other. To attempt to separate them is to polarize the two issues and to lose the benefits of both. Not to consider

Continued

both at the same time and to attempt to support them programmatically and as fiscally necessary, would be an oversight."

Sources of funding for research come from a number of segments of our society. Over the years, in recognition of the important role agriculture plays in the life and economy of New York State, significant funds have been allocated by the state to support research programs of the College. Recently, economic difficulties, driven by unprecedented inflation, have made it necessary for the state to redirect resources in order to maintain vital services, including support for education. Thus, total support for research at the College from the state decreased. At the federal level, funds allocated for animal disease research have been characteristically few, with schools of veterinary medicine receiving all too little through the mechanisms established for research funding by the U.S. Department of Agriculture. As a result, these schools have turned increasingly to human health-related research wherein faculty could compete, on an equal basis, with other health professionals for support from the National Institutes of Health, the National Science Foundation, the Food and Drug Administration and other agencies. Primarily, such research deals with problems of animals that hold relationships to human health concerns but also are of importance to animal health per se. Other support comes from industry, foundations, and private gifts.

I should also comment on the more tangible benefits of research — the funds received by the College for support of personnel, equipment, facilities, and programs. It is important to recognize just how much these affect the teaching and service missions of the College, in both direct and less obvious ways. The personnel supported through research efforts provide a critical mass of expertise that enables the College to enhance the contribution of faculty members in all spheres of activity. The sophisticated research equipment is often used in teaching and service-related work. Nearly all research grants and contracts provide funds for "overhead" costs, which are used to pay for vital support services, maintenance, and minor renovations to the physical plant. Without such funding, the College would be an entirely different place, with severely impaired educational and service capabilities.

Research has played and will continue to play a vital role at this College. What is at issue is striking the proper balance so that we can achieve designated goals of excellence in the education of our students while providing service of the highest quality to agriculture, animal owners, and the public at large. In my opinion, research is the "glue" that binds us together in achieving these goals.

Edward C. Melby, Jr., Dean

The Baker Institute: research with practical results

The James A. Baker Institute for Animal Health, formerly the Veterinary Virus Research Institute, has long been concerned with health problems of animals, particularly dogs. Practical results of research undertaken at the Institute have brought worldwide recognition to Cornell and to the College of Veterinary Medicine. Noteworthy in this connection were the identification of the organisms responsible for canine brucellosis and the development of vaccines now used by veterinarians to protect dogs against distemper, hepatitis and leptospirosis. These accomplishments are a matter of record; however, they can be fully appreciated only by colleagues who recall the days when distemper and hepatitis were rampant.

Research at the Institute continues as an effort is made to develop new and improved vaccines, better methods of diagnosis and a thorough understanding of diseases which still exact an unacceptable toll in suffering and economic loss. Canine brucellosis is a well studied example. Infection by *Brucella canis* is now recognized as an important cause of abortion and breeding failure in dogs. The disease is prevalent in commercial and institutional kennels, but it also effects strays and increasing numbers of family pets. Research centered in Dr. Carmichael's laboratory at the Institute is concerned with the development of improved methods for the diagnosis of canine brucellosis and a search for more effective measures of disease control. These problems are far more complicated than those for which



*The tube agglutination test is one of several laboratory methods that aid in the diagnosis of canine brucellosis. To determine the perimeters of reliability of this and other serological methods, dogs are purposely infected with *B. canis*. Here Dr. Ricardo Flores-Castro reads the results of the tube agglutination tests performed with sera obtained from infected subject.*

practical solutions have been devised. Thus, antibodies have little if any protective value against *B. canis*. The organism is one of many infectious agents that can survive and multiply in phagocytic cells. Meaningful progress toward the control of canine brucellosis would be facilitated by a better understanding of the immune system and the devices used by infectious agents to evade destruction. Research at the Institute is beginning to focus on these basic problems.

Hip dysplasia is another problem of great concern to veterinarians and dog fanciers. Dr. Lust and Dr. Sheffy are examining the interplay of genetic and environmental factors in the development of hip dysplasia in a colony of Labrador Retrievers. Their principal concern is to elucidate the mechanism underlying the development and progression of degenerative joint disease with a view to devising practical methods for preventing or at least reducing the severity of this disease.

To meet current challenges posed by health problems affecting dogs, a major effort is being made to improve the existing facilities at the Institute. Our plan is to build a new isolation kennel for the rearing of dogs used in infectious disease research. Quarters for the housing of small

laboratory animals also are needed, because much of the work with infectious agents can, for practical reasons, be undertaken only in rats and mice. Work has already begun in the Virus Disease Laboratory where an animal surgery, two modern laboratories and an office are being refurbished. These facilities and other improvements are expected to advance ongoing programs and open new avenues of investigation. We will keep you informed as the Institute enters this exciting phase in its development.

The Diversity of Veterinary Medicine: Open House

Nubians, Toggenburgs, Saanens and French Alpines were descriptive terms for goats new to many of the more than 7,000 visitors at the Eleventh Annual SCAVMA (Student Chapter, American Veterinary Medical Association) Open House. Veterinary students, enthused about the work on artificial insemination in goats, displayed the results of their knowledge with the doe "Dolly" and her kid "Dolomite." The distinction between keeping an animal alive through a maintenance diet and the dietary requirements for growth, pregnancy, and lactation was the basis for much of the advice given to eager goat owners.

The exotic animal exhibit featured an elegant, six foot long Indigo snake from the southern United States. Its gentle manner charmed many of the teachers and students attending the Open House. An amazing gecko fascinated children as its finely ridged foot pads enabled it to scale glass surfaces. The spider monkey proved to be an excellent example of the difficulties in keeping exotic animals as pets. The focus of this exhibit recognized that while exotic animals are intriguing, they do present unique problems for those attempting to maintain them in private homes.

Students offered advice on assessing the soundness of a horse. Techniques of examining the horse for lameness demonstrated to those interested in purchasing horses that the complexities of examinations often require professional judgment. Most of the visitors went on to tour the Equine Research Park, where they could see many mares with foals and a large herd of ponies. The grazing lands and race track have become steady attractions to visitors at the College.

The veterinary students' skills in finding interesting ways to depict the importance of man-animal interrelationships, combined with their enthusiasm for the profession, create an excellent public relations opportunity for the veterinary medical profession in New York State. Watch again next year for public service announcements on your local television stations, reminding you to come to the Annual Open House.

Profile: Department of Anatomy

Simon Henry Gage received a B.S. in Natural History from Cornell in 1877, was appointed instructor in 1878 and in 1881 Assistant Professor of Microscopy and Practical Physiology. In 1896, he was made Professor of Microscopy, Histology and Embryology and head of an independent department of Histology and Embryology at Cornell. He served in that capacity until his retirement in 1908, although he continued to work in his laboratory until 1944. A few phrases from Gage's necrology clearly state the contribution he made to microscopy and his indefatigable commitment to zoology and medical education: "He was a lover of life, and with him life and work meant the same thing. He had an infectious enthusiasm for work which age never affected. . . . His laboratory was a magnet that drew a constant stream of inquirers and those who felt the need of refreshment and inspiration."

Grant Sherman Hopkins entered Cornell in 1885 and was an undergraduate assistant to Dr. Burt G. Wilder at the Woods Hole Biological Station. As a graduate student in Zoology, Hopkins was an instructor of Embryology and Histology under Professor Gage, and received a D. Sc. in 1893 with a thesis on the digestive tract of fish. Upon the opening of the Veterinary College in 1896, Dr. Hopkins was hired to teach anatomy and anatomical methods. Shortly thereafter, Hopkins enrolled in the Veterinary College and subsequently received the D.V.M. in 1900. Dr. Hopkins continued to teach anatomy, with his well-illustrated horse guides, until his retirement in 1934. His philosophy of teaching was that a new student should receive instruction from the most experienced teacher. Every first-year student was under his tutelage. Dr. Hopkins' efforts to expose students to high standards of academic achievement early in the veterinary educational process have been an invaluable guideline to other anatomists.

Veterinary students were taught Histology and Embryology by a series of dedicated morphologists including Kingsbury, Adelman, and Wimsatt until 1959 when the program was transferred to the present Department of Anatomy. Succeeding Hopkins as Head of Anatomy were Earle Sunderville, 1934-47; Malcolm E. Miller, 1947-1960; and Robert Habel, 1960-1976. The present chairman, Dr. Howard E. Evans, guides a department consisting of five professors, three graduate assistants, a medical illustrator, and a supporting staff of eight technicians and clerical workers.

The traditional emphasis on a strong teaching program endures as the department offers six core courses and seven elective or graduate courses. One of the primary responsibilities of the department is to instruct veterinary students by supervising their dissections. The manuals and texts written by the faculty are designed for our courses and are also used in most English speaking colleges of veterinary medicine. One book has been translated into Japanese and two others into Spanish. The quality of publication that has been a hallmark of the department continues today, with guides to the dissection of many species of animals.

The department has a reputation for producing able teachers who go on to staff departments in other colleges of veterinary medicine. At present, department members direct the work of four major and eleven minor graduate students. Current graduate student research includes studies of taste bud innervation (Dr. Gregory Chibuzo, on leave as Associate Professor, Tuskegee); vertebral development (Dr. Alastair Watson, New Zealand); anatomical basis of hereditary deafness (Dr. Isak Foss, on leave as Associate Professor, Norway); and the suspensory mechanism of the lens (Mr. Roy Pollock, enrolled in the combined DVM-PhD program). Another member of the department, Dr. John F. Cummings, serves as Graduate Field Representative for Veterinary Medicine for the entire College.

The diverse interests and experience of the five faculty members allow a broad range of interactions with other departments in the College and throughout the University. One professor, Dr. deLahunta, is

GRANT S. HOPKINS · SIMON H. GAGE LABORATORY OF ANATOMY

GRANT SHERMAN HOPKINS (1865-1952)

PROFESSOR OF ANATOMY, HEAD OF THE DEPARTMENT OF ANATOMY
AT THE VETERINARY COLLEGE FOR THIRTY-EIGHT YEARS AND
MEMBER OF THE ORIGINAL VETERINARY FACULTY.

SIMON HENRY GAGE (1851-1944)

PROFESSOR OF MICROSCOPY, HISTOLOGY, AND EMBRYOLOGY,
HEAD OF THE DEPARTMENT OF HISTOLOGY AND EMBRYOLOGY
AT CORNELL UNIVERSITY, AND MEMBER OF THE ORIGINAL
VETERINARY FACULTY.

This historical marker, soon to be placed in the Anatomy wing, recalls the early involvement of two distinguished morphologists in the founding of the Veterinary College. In concert with James Law (himself an author of an anatomy text), they set high standards for the teaching of the anatomical sciences.

also Director of the Teaching Hospital. Drs. deLahunta and Cummings have worked closely on clinopathologic descriptions of animal models for the study of human neurologic diseases. Drs. Habel and Sack have enhanced the teaching program through improved dissection manuals and anatomical texts. All members of the faculty are in demand for anatomical consultations, advice on specimen preparation, and student projects.

Since its founding, the Department of Anatomy has encountered great demands for its expertise in instruction and applied anatomy, its knowledge of species, and its international approach to scientific inquiry. This year, the current chairman, Dr. Evans, demonstrated his knowledge and enthusiasm for fish and marine animals and birds by participating in the new Aquavet program at Woods Hole, sponsored by the veterinary medical colleges of Cornell and the University of Pennsylvania. The Aquavet program is an example of a multidisciplinary approach to understanding the little-explored problems of the sea. The department's steady contribution to the basic knowledge of the veterinarian, along with a lively concern for students, continue to enhance its reputation.

News of the Campaign for Cornell Veterinary Medicine

The campaign total is \$655,867 as of June 20, representing pledges by 612 alumni. Based upon previous levels of support, this means \$452,605 in new funds will be available to the College over the next three years. To date, \$152,977 has actually been received. Included in the total are four life income agreements, several bequest credits and three life insurance policy credits. Significant support has been pledged by more than 80% of the 42 alumni on the faculty and there are a few more still to reply. The balance of the faculty is now being contacted.

The record achieved in the campaign has won for the College the top award in the *Total Financial Support Program* category in the annual competition sponsored by the Council for Advancement and Support of Education. This professional organization includes representatives from all of the country's leading educational institutions who are responsible for alumni programs, fund raising, government relations, public relations, public information and publications.

Dr. Frederick Wright '41, general chairman, was pleased to learn that 69 alumni qualified for invitation to the Tower Club dinner held in the Delegate's Dining Room at the United Nations complex on May 10. He and Dean Melby headed the group of 36 alumni and wives who attended this important annual University event which brought together 400 alumni from all the various schools and colleges.

Alumni volunteers will continue to contact other alumni during the summer. The enclosed list of donors, by classes, as of June 20 will continue to grow. Dr. Wright urges everyone still to pledge or to be contacted to respond as promptly and as generously as possible. If you are not contacted for some reason and wish to receive a copy of the campaign statement, *Challenge and Excellence*, and a pledge card, please write to Ned Trethaway.

Dean Melby presents Dale R. Corson with a citation expressing the College's appreciation for his service to the University and wishing him "continuing and stimulating experiences as he pursues his public services and private interests." In keeping with Mr. Corson's background as a scientist, the citation includes a copy of a letter from Dr. Theobald Smith, expressing his philosophy on research. Dr. Smith, an alumnus of Cornell, worked with Dr. Daniel E. Salmon DVM '76 in the Bureau of Animal Industry to discover the cause of Texas Fever in cattle.





Raymond H. Cypess is the director of the new diagnostic laboratory.

Diagnostic Laboratory

For the first time, New York State has a complete diagnostic laboratory to serve the needs of the state. After eight years of conceptualization, this laboratory will be a model program in the field of diagnostic sciences.

The primary mission of the Diagnostic Laboratory is the prevention and control of diseases of food and fiber species and the zoonoses. To meet these goals, we have been actively recruiting a staff of professionals who will work together to change the image and scope of the Diagnostic Laboratory from an organization that primarily runs routine tests into a resource center concerned with epidemic investigation, development and evaluation of new diagnostic tests, preventive medicine, and continuing education functions. As a result of a vigorous recruitment program, it is our pleasure to announce the appointment of Dr. David Kradel (Cornell, 1955) to the position of Assistant Director. Dr. Kradel has a national reputation in the field of Diagnostic Sciences and will work closely with veterinarians in the state to improve and implement our service programs. He will assume responsibility for all field programs of the laboratory and consult with the Office of Continuing Education at the College.

The Diagnostic Laboratory will consist of three divisions: epidemiology, toxicology and acute and chronic diseases. Our outstanding program in equine drug testing under the direction of George Maylin (Guelph, 1965) will be augmented by the addition of another professional toxicologist to meet the growing demands for service in this area. The epidemiology division under the supervision of Dr. Lawrence Glickman (U. Penn., 1972) will focus its attention on the evaluation of our existing diagnostic tests, monitor disease prevalence in the state and work with the medical community on the problem of zoonotic diseases. The third division (acute and chronic diseases) will be the largest division in the laboratory and will include sections of parasitology, virology, bacteriology, and immunology and serology.

In order to maintain the highest level of technical performance in the laboratory and to promote a dialogue between the professional staff and the practitioner, we have formed an external advisory board composed of members from the New York State Veterinary Medical Society and the scientific community. This board currently includes Drs. McDonald Holmes (Cobleskill), Rodney Graves (Orchard Park), Arthur I. Hurvits (Animal Medical Center, N.Y.C.), Myron Essex (Harvard University) and M.W. Anders (University of Minnesota). By working closely with this board and with the representatives from the Department of Agriculture & Markets, we will ensure that the needs of the practitioner, agricultural industry, and the College are fulfilled.

STAFF ANNOUNCEMENT

Dr. Glenn L. Spaulding, Assistant Professor of Medicine, received his D.V.M. from Iowa State College of Veterinary Medicine. He received training at the Animal Medical Center in New York City as an intern and a resident in medicine and cardiology. He has been a Visiting Assistant Professor of medicine at this college for the past year and will continue to supervise a medical service in the small animal clinic and pursue research in internal medicine.

