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NEW YORK STATE COLLEGE OF VETERINARY MEDICINE AT CORNELL UNIVERSITY 1976/1977 ANNUAL REPORT

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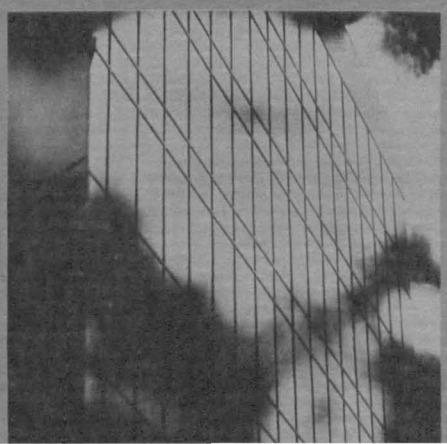


The New York State College of Veterinary Medicine at Cornell University in Ithaca, New York, is the primary health resource for the state's billion-dollar animal population. The College's mission, mandated by the citizens of New York State through their legislators, is to promulgate animal and human health through education, research, and public service.

This report is a compendium of the activities, during the 1976–77 fiscal year, of the students, faculty, and staff who worked to accomplish this mission and, thereby, to justify the public trust.

NEW YORK STATE COLLEGE OF VETERINARY MEDICINE

A Statutory College of the State University of New York
A Component College of the State University of New York Health Sciences
Cornell University, Ithaca, New York

Eightieth Annual Report July 1, 1976–June 30, 1977 Legislative document number 88

Office of the Dean
New York State College of Veterinary Medicine
A Statutory College of the State University
at Cornell University, Ithaca, New York

December 16, 1977

Dear President Rhodes:

Pursuant to the requirements of the laws of New York State, I present herewith a report of the activities and the accomplishments of the faculty and staff of the New York State College of Veterinary Medicine for the year ending June 30, 1977, this being the eightieth annual report of this College.

Respectfully submitted,

Edward C. Melby, Jr., *Dean*

Office of the President
Cornell University
Ithaca, New York

December 30, 1977

The Board of Trustees of Cornell University
The Chancellor and Board of Trustees of the State University of New York
The Governor of the State of New York

Sirs:

In accordance with the requirements of Section 5711 of Article 115 of the State Education Law, I am pleased to submit, on behalf of Cornell University, the report of the New York State College of Veterinary Medicine for the year beginning July 1, 1976, and ending June 30, 1977.

Sincerely yours,

Frank H. T. Rhodes, *President*

Office of the Chancellor
State University of New York
Albany, New York

January 30, 1978

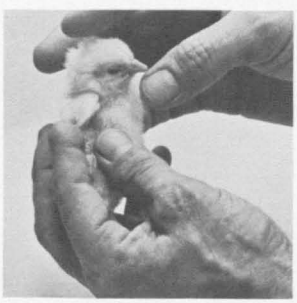
The Board of Regents, the
Governor, and the Legislature of the
State of New York

Sirs:

Pursuant to the law, the 1976–77 Annual Report of the New York State College of Veterinary Medicine at Cornell University is herewith submitted.

Very respectfully yours,

Clifton R. Wharton, Jr., *Chancellor*



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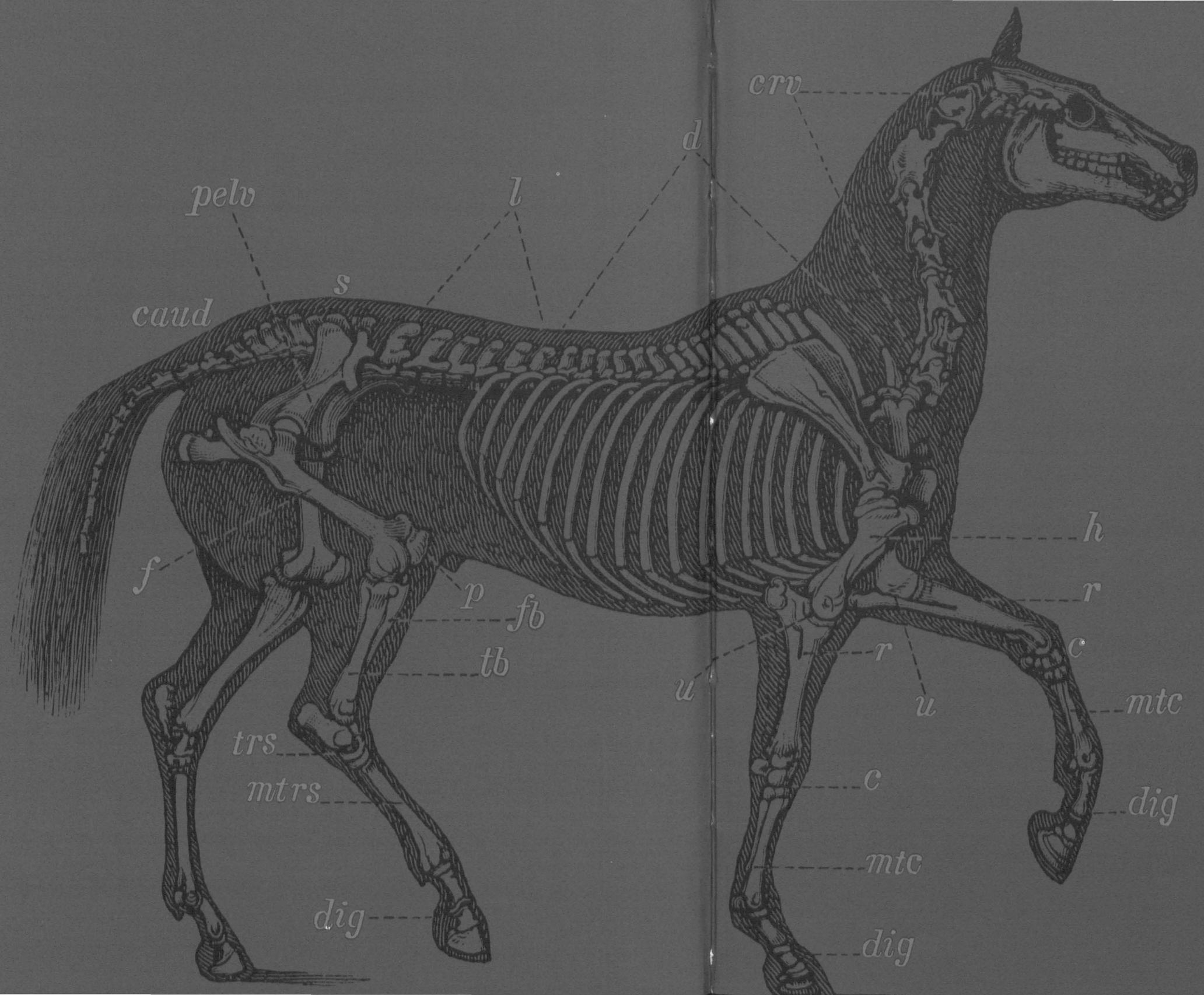


Focus

Balance for Strength

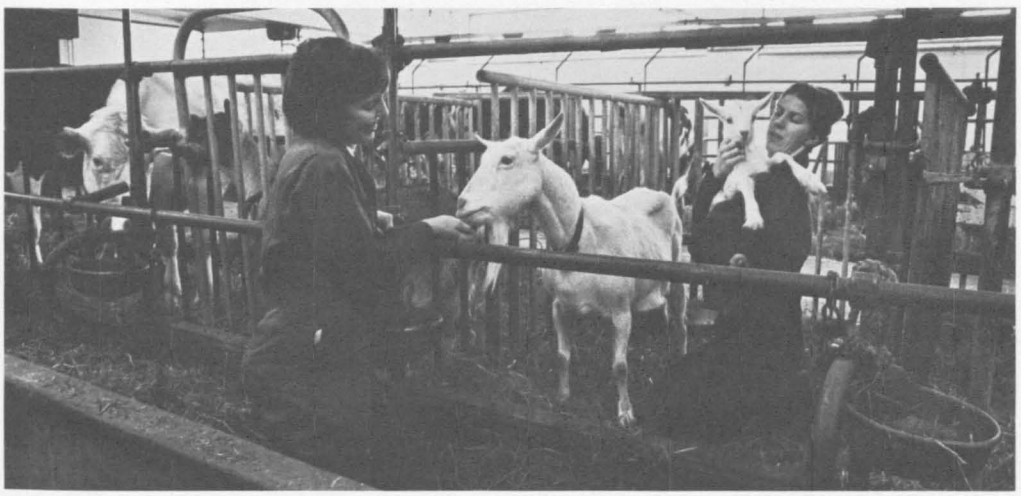
Balance is often the key to strength, and the firmest balance of all is tripodal. The strength to be gained from a simultaneous pursuit of excellence in teaching, public service, and research exceeds that which is possible from a single-minded dedication to a single goal.

Striking the proper balance is not unlike a juggling act, nor is it ever completely clear when the proper balance has been achieved. What is clear is that, no matter how impressive the accomplishments might be in one area, the effectiveness of the others will soon suffer if attention is long diverted from them. The temptation to neglect research in order to create more obvious and immediate results with limited dollars through training increased numbers of veterinarians or developing broader programs of public service is a very real one. So, also, does it appear reasonable to pour extra effort into research in order to solve critical problems quickly. At times of crisis, indeed, these may be defensible courses of action — for a limited period.

The difficulty — as well as the ultimate gain — lies in the realization that one part of the triad cannot long remain healthy if the others weaken.

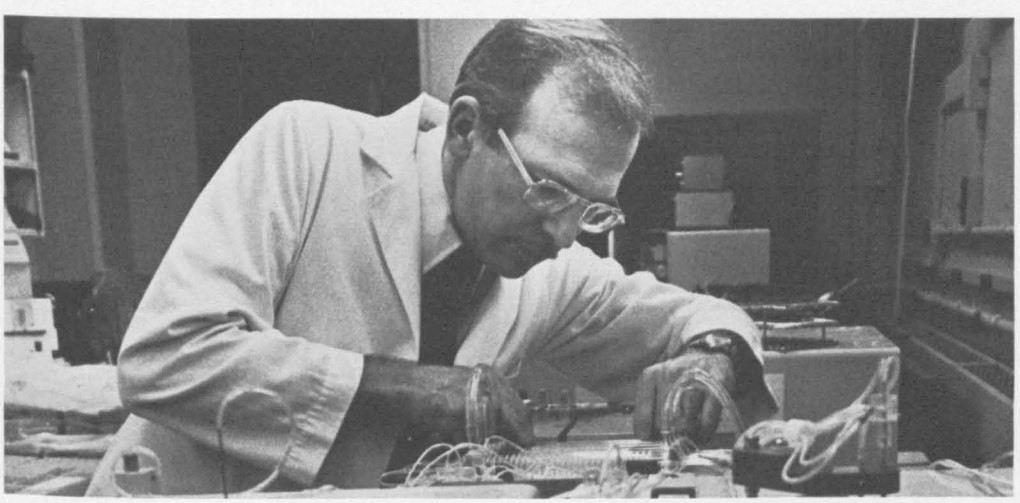
All teaching is based on research, without which there would be no information to pass on to succeeding classes of students. Public service also depends on the answers to questions and the techniques that issue from the research laboratories. But, without the stimuli that come from inquiring young minds and the very real day-to-day problems of producers and consumers, research could easily become directionless and wither.

During the year just past, steps have been taken to enhance instruction, expand service to the public, and bolster research, and particular attention has been given to finding ways to increase the interlock among the three. Only this way can resources be used to the maximum benefit of all.



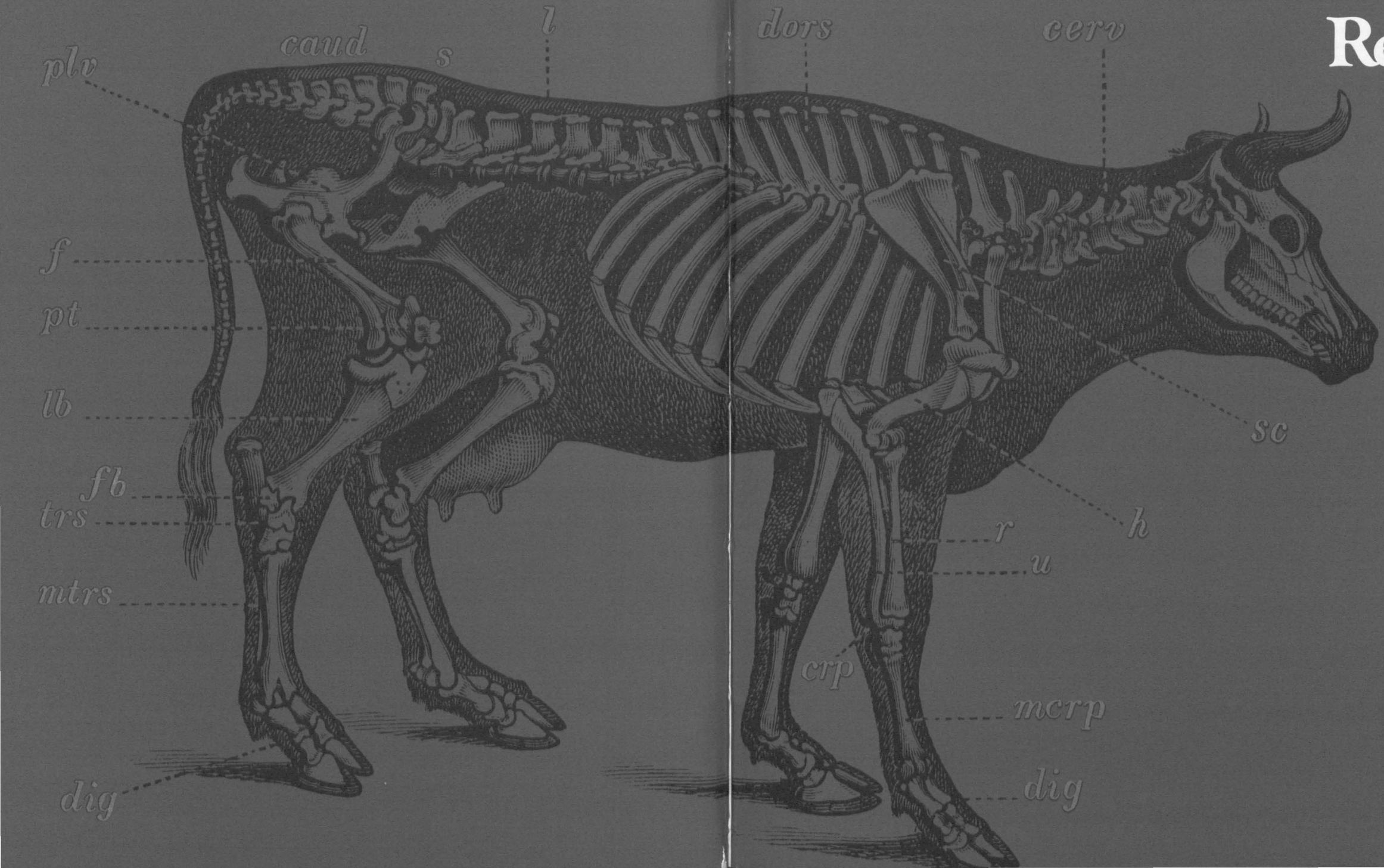
In the clinics, students combine learning with public service under the supervision of senior faculty members.

Fourth-year students gain practical experience in surgery by participating in operating-room procedures.



All advances in the teaching and practice of veterinary medicine have roots in the research laboratories.

Review



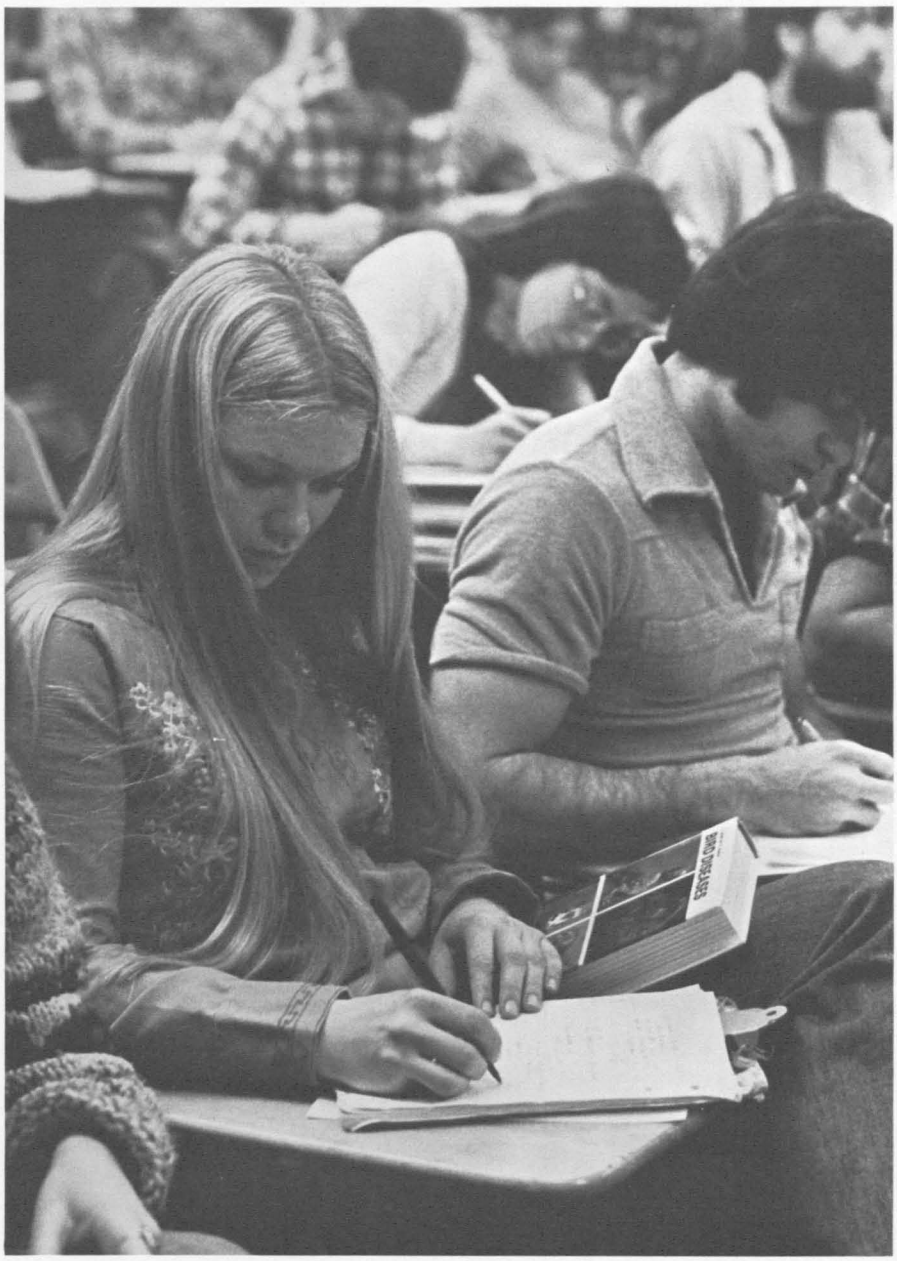
Awareness of the profound effects of admissions decisions prompted refinements of procedures.

Efforts have been intensified to attract top-level faculty, staff, and graduate students and to create conditions that will make these efforts practical. A reorganization of State University of New York (SUNY) administration in the spring of 1977 led to the reclassification of the College of Veterinary Medicine as a health science center along with the four SUNY medical schools. It is hoped this will lead to an assessment of the College's objectives, programs, and needs within the context of institutions that are more similar than are the other statutory colleges at Cornell.

Several vacancies, including such key positions as director of the Teaching Hospital and director of the Diagnostic Laboratory, were filled during the year, and some new positions were created. Expansion of the staff of the Teaching Hospital has helped ease the instructional situation there while improving service and providing additional continuing education opportunities. A new section of anesthesiology was formed and staffed with two faculty members, three nonprofessionals, one resident, and interns on rotation.

The clinical and teaching loads in small- and large-animal medicine and surgery, radiology, clinical pathology, and dermatology were eased with the filling of new and vacant faculty positions. The dermatology service in the medical section receives patients in the small-animal clinic and provides consultation throughout the hospital. Intern and residency programs in clinical work and in pathology also have been expanded, and plans are well under way to complete the reorganization of all clinical activities by combining and integrating them into one administrative unit.

Coordination and integration of both teaching and research activities across departmental lines was strengthened through increased implementation of joint appointments. Under this system, a faculty member whose first or main responsiblities are within one department may take an active role in the programs of another department where his interests and expertise are also applicable and receive recognition of his contributions in both. During the past year, ten faculty members were given joint appointments in the Department of Microbiology along with their positions in the Department of Pathology, the Diagnostic Laboratory, or one of the clinical departments. Similarly, a pathologist whose primary duties are in the Department of Avian and Aquatic Animal Medicine received a joint appointment in the Department of Pathology. The naming of associate deans



for research and for postdoctoral education has helped coordinate activities in those areas and will allow achievements as well as problems and needs to be brought into clearer focus.

Student Affairs

The appointment of a director of student administration, coming as it did during the first full year in which College admissions were handled completely independently of the University Admissions Office, made for many changes and improvements in student affairs. Establishment of a more effective faculty/student advising program, increased efforts to maintain and supplement sources of financial aid, expanded placement activities, revisions in and reaffirmation by the students of the Student Honor Code, and improved communications among students, faculty, and administration were some of the primary accomplishments of the student affairs staff.

Admissions decisions continued to present challenges. Having more than ten applicants for each available space meant the College could be assured of outstanding students. It also meant that enormous numbers of hours were required to make fair and consistent judgements in determining those who were best qualified and most promising. And it also meant that 90 percent of all applicants — and their families and friends — were destined to be disappointed.

Awareness of the profound effects of these decisions prompted further refinements in policies and procedures, all aimed at assuring that the selection process is the best it can be. More of the initial pool of applicants were given a "whole-person" analysis to allow them into the detailed review phase. More applicants were interviewed and a more relaxed interview format instituted. These changes meant that highly promising applicants had a greater chance of success although the overall ratio of applicants to matriculants remained essentially unchanged.

A few more than half of the group accepted for entrance in the fall of 1977 were women (some 46 percent of all applicants were female), but efforts to increase the number of other minority-group students have been less successful to date. The College is firmly committed to seeking new ways to attract applicants from those groups in order to achieve a balance more reflective of American society and ideals. Because there are no admissions quotas, and all applicants are judged on merit alone, the key to solving the problem lies, obviously, in interesting young minority-group members in veterinary medicine as a career so that they may become qualified applicants. To this end, several steps were taken during the year, including participation in a cooperative effort with the American Association of Veterinary Medical Colleges to deal with the problem on a national scale, the publishing of suggestions and guidelines for advisers of young people, and participation in various conferences aimed at devising methods for dealing with the imbalance.

The annual Open House, a student-implemented event to provide an opportunity for all segments of the public to become better acquainted with veterinary medicine in general and the College in particular, was well executed and received. More than 7,500 people attended, many of them young people at a crucial stage of their lives in terms of career choices.

The overall response to the contractual arrangements with the New England states and New Jersey has been one of satisfaction, and Delaware has recently joined the program.

Graduate Programs

Efforts to expand the graduate program in recent years have had some positive results. The Graduate Faculty in the Field of Veterinary Medicine increased by seven during 1976–77 with the election of ten new members and the loss of three who retired or resigned from the University. Larger numbers of graduate-student applications are being received, and the number accepted into

The new program in aquatic animal medicine was a success for students, faculty, and sponsors.

the field has steadily increased. The increase, however, has been less than is totally satisfying because expansion has included primarily students without the D.V.M. degree or with foreign veterinary degrees. Only seven of the more than fifty students in the graduate program in 1976–77 were graduates of domestic veterinary colleges as compared to the twenty-five or thirty in that category at the other major colleges of veterinary medicine in the country.

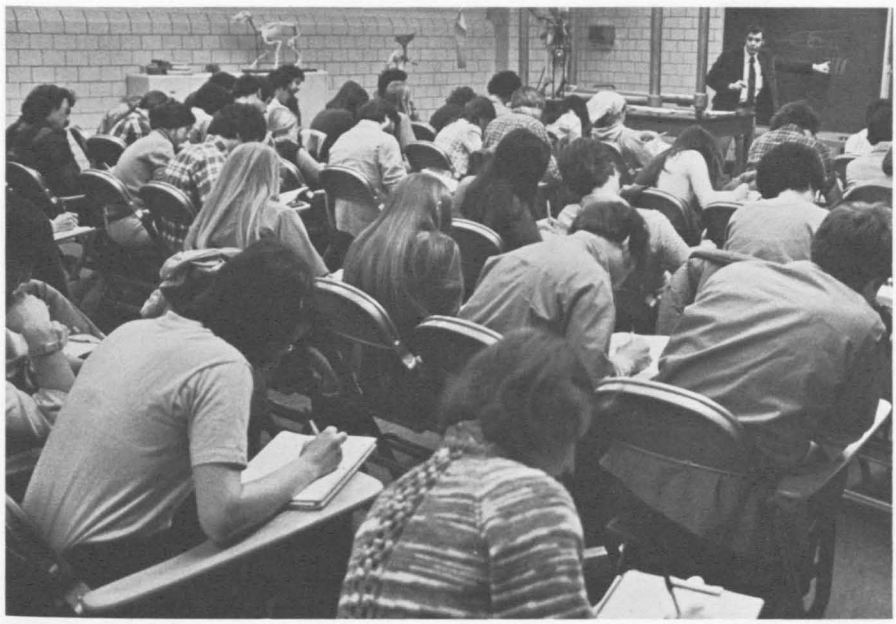
The College is superbly equipped in terms of faculty and facilities to make an outstanding contribution in providing postdoctoral research training for graduate veterinarians, and it appears quite clear that the deterrent to this effort is financial. The average salary being offered at other major institutions is currently in excess of $11,000 a year for graduate students with the D.V.M. degree, while the present stipend at Cornell is substantially less than that, being still at the level it was in 1971. Vigorous efforts are being made to correct this situation, and it is expected that some improvement will be effected in the upcoming year.

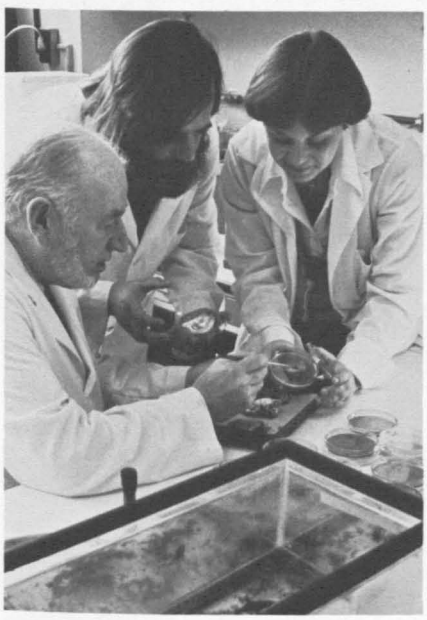
Instruction

The increased teaching load resulting from larger classes of professional-degree students was felt particularly in laboratories and clinical courses. To deal with it, additional classes have been divided into sections. One new elective course and a new seminar were offered during the year, and several underwent major revisions to improve the scope and sequence of professional-degree training. (Descriptions of these appear on page 30.)

The experimental, cooperative program in aquatic animal medicine, dubbed Aquavet and initiated in the spring and summer of 1977, was considered highly successful by participating students, faculty, and sponsors. The same five institutions will cooperate in offering a slightly revised version in 1978, again to eight students from Cornell, a like number from the University of Pennsylvania, and an undetermined number from other schools of veterinary medicine. Of the fifteen students who took the four-week course in May–June 1977, eight stayed on for another eight weeks in the summer to do research.

In spite of the heavy load of course and clinical work, students and faculty continued to make room in their schedules for a broad array of noncredit learning experiences. Regular hospital rounds four mornings a week, grand rounds one afternoon each week, and case rounds provided by the various sections of the hospital twice each day





were all attended regularly by students, house staff, and faculty. The weekly presentations of two or three cases of infectious diseases for special discussion were attended by some fifty interested faculty members, professional-degree and graduate students, residents, and interns throughout the fall and spring semesters and an average of about half that number during the summer.

Several noncredit seminars were held on a regular basis including one newly formed group that met every two weeks at the Baker Institute and provided a forum for graduate students and postdoctoral fellows to discuss their own research with colleagues. Some, such as the Microbiology and Pathology Seminars and the Antibody Club, were instrumental in bringing outside speakers on specific topics to the campus. In addition to providing enrichment of programs at all levels, these forums enhanced communication among all members of the College community and strengthened interdisciplinary understanding.

Library

Expansion of open hours was one way the library coped with continually increasing needs for services. The new schedule provides eighty-seven hours of service a week instead of the former seventy-eight. In order for the staff to handle the additional load, cataloging and book-ordering responsibilities were transferred to Mann Library on the College of Agriculture and Life Sciences campus. Space pressures are being temporarily relieved by storing more materials, with plans to move additional volumes to the new University Libraries storage facility to be built in 1978. Space is still too tight to make for efficient use with total volumes exceeding the library's capacity by more than 4,000. All library use showed an increase over the previous year, with interlibrary loans up 88 percent.

Laboratory Animals

The College's laboratory animal facilities became the third among colleges of veterinary medicine in the nation to be accredited by the American Association for the Accreditation of Laboratory Animal Care, the national professional organization responsible for making site visits, and awarding accreditation where merited, to all institutions — hospitals, medical schools, government laboratories, as well as universities and colleges of veterinary medicine — where laboratory animals are maintained for teaching and research. Accreditation by the AALAC also satisfies the requirements for laboratory animals made by the National Institutes of Health for institutions receiving its grants and contracts.

The training given to animal technicians who work in the Division of Laboratory Animal Medicine and Services and at the Baker Institute has been formalized and standardized through the adoption of the Laboratory Animal Care Training Course developed at the University of California in San Francisco. All technicians now employed in the Division and at the Institute are given the course even though they had received instruction of a less formal nature previously. All new employees are also enrolled when they are hired. The course is conducted primarily by the animal care supervisors in the two units, under the

Direct service to producers and consumers in the state was provided by College programs.

supervision and with the assistance of academic staff. The goal is to have all technicians take the American Association for Laboratory Animal Science examinations for certification upon completion of the course.

Support Facilities

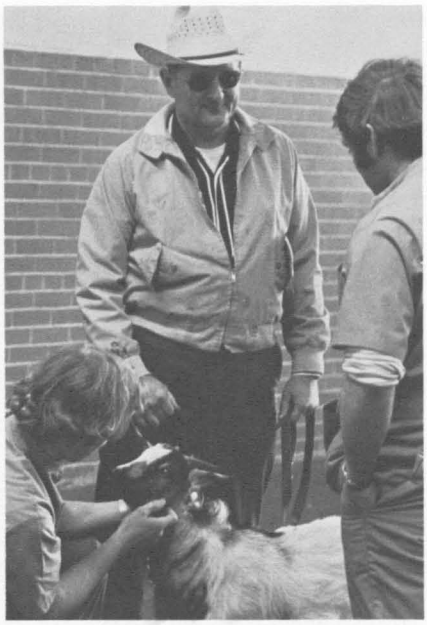
During the year, fourteen new videotapes, ranging from ten to sixty minutes in length, were produced by the staff of Biomedical Communications. There was an increase of 18 percent in overall production of autotutorial materials in the twelve-month period. This included some work — particularly processing of films and photomicrography — done on a contractual basis for other schools and colleges at Cornell.

Several new terminals were added to the computing system at the College, bringing necropsy and laboratory animal medicine services on line to the Hospital Information System and increasing the total number of terminals to thirty. This is double the number that were operative at the end of the first year of installation and approaches the capacity of the system. New equipment will be required to make further expansion possible. During the year, the College was selected as the repository for the Veterinary Medical Data Program, containing data on all patient visits at a score of veterinary colleges in the United States and Canada. In addition to storing this pool of material, (consisting of abstracts from some 2 million patient visits and increasing at the rate of around 200,000 a year) the information is made available for teaching and research purposes through the Cornell facility.

The Biomedical Electronics Service was expanded to provide assistance to nearly twice as many units of the College as it did the preceding year. Increasing emphasis was placed on the design and construction of specialized instruments and apparatus needed for research and teaching, but emergency and routine repair service was also provided.

Diagnostic Laboratory

The new building for the Diagnostic Laboratory and the necropsy-suite wing were completed and occupied in October 1976. Funding for the $2 million project was provided by the New York State Department of Agriculture and Markets. The structure provides more than 20,000 net square feet in laboratories, offices, and support spaces and houses much sophisticated



equipment including that used in the Equine Drug Testing and Research Program.

Four new professional staff members were appointed during the year — one each in serology, epidemiology, parasitology, and field services. Substantial progress was made, through the reorganization and expansion of the Laboratory's service programs, toward the goal of providing a complete program in laboratory diagnostic medicine to serve the entire region. The Laboratory received nearly 60,000 requests from practicing veterinarians for services in the twelve-month period.

The development of a group of tests to meet the animal-export needs of the area has made it possible for the Laboratory to handle almost all the testing of this kind previously done at federal laboratories and, in most cases, to complete laboratory certification for export animals within twenty-four to seventy-two hours.

For the first time, the Laboratory offered a complete program (forty-four tests) in both organic and inorganic toxicology. In addition, a wide variety of new diagnostic tests for domestic and companion animals is available.

In April the Laboratory assumed total responsibility for the federal-state brucellosis testing program, performing more than 175,000 such tests and playing a key role in controlling the epidemic that surfaced in the state during the year.

Public Service and Continuing Education

Direct and continuing service to the producers and consumers of the state is also provided by the regional poultry disease laboratories: during the year, the Long Island laboratory dispensed between 3 and 4 million doses of the three USDA-licensed products used in controlling virus diseases of ducks, and field trials using a new trivalent bacterin against *Pasteurella anatipestifer,* developed during the year, show considerable promise. The fin-fish and shellfish industries of the state received help from the diagnostic facility on the campus in dealing with aquatic animal diseases.

The Mastitis Control Program was expanded geographically with the opening of a new regional field laboratory serving eleven counties in western New York, and increased responsibilities resulted from the establishment of new features of the New York Abnormal Milk Program. Staff members of the Mastitis Control Program vigorously supported the changes, which they feel constitute an important step toward improving herd health and milk quality.

Under the new regulations, producers who market milk with somatic cell counts of more than 1 million per milliliter enroll in the Mastitis Control Program. Providing assistance to producers at this earlier stage increases the likelihood of success.

Direct service was rendered to increased numbers of citizens of the state by the various clinics of the Teaching Hospital — through caring for sick farm animals and pets and through the handling of thousands of informational calls. Extensive help was provided by the clinical staff to practitioners through consultations and referrals.

A total of 572 participants attended six workshops, short courses, and symposia provided at the College during the year by the Office of Continuing Education. Two of these were three-day events — the annual conference in January and a short course in pathology. Six issues of *Veterinary Topics*, containing news items and information on technical matters of current interest to practicing veterinarians were sent out during the year by that Office. A grant received from the New York State Veterinary Medical Society has made possible the development of a library of auto-tutorial programs that is now available to practicing veterinarians to use in their homes or offices. Support for a diverse array of programs relating to animal health, many sponsored by Cooperative Extension and various professional organizations within and

College research in cattle diseases was organized and the Bovine Health Research Center established.

beyond the state, was provided by the extension veterinarian and members of the clinical faculty.

Public Affairs

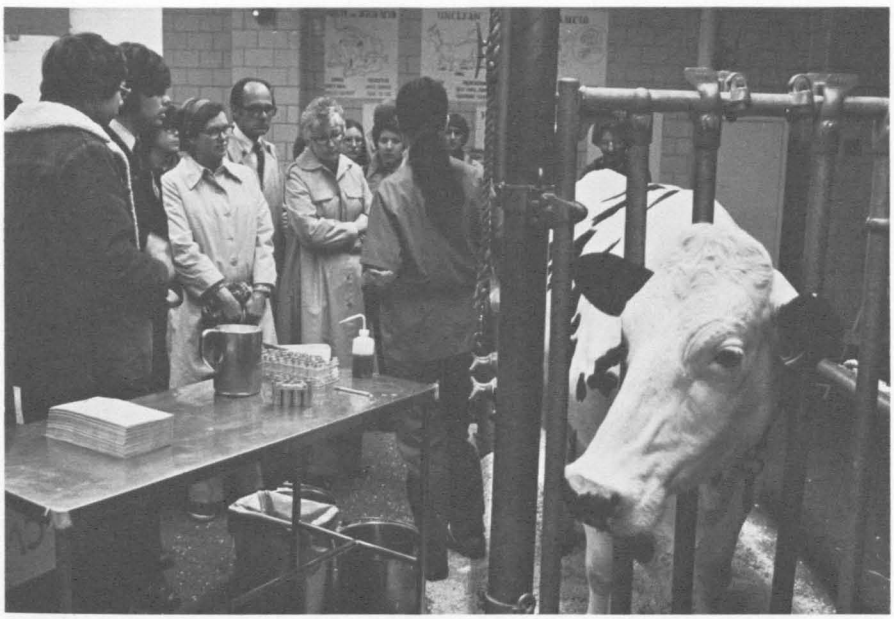
Exchange of news, needs, ideas, and other information between the College and alumni was nurtured through meetings, telephone discussions, and publications. Three issues of *Veterinery Viewpoints* were sent out during the year to about 2,600 alumni and other interested persons. A leaflet was prepared for practitioners to distribute to their clients in the interest of promoting broader understanding and support of the College's activities and goals. The thirty-minute color/sound film on equine research at the College was completed in January 1977 and shown to some twenty groups of veterinarians and horse associations. Special tours and presentations were provided at the College for the Equine Advisory Council, the New York State Horse Council, alumni attending Reunion, Cornell University Council members, veterinarians visiting from countries around the world, visiting industrial managers, and other campus guests. The dean and several members of the College faculty and administration also gave talks at alumni meetings throughout the state.

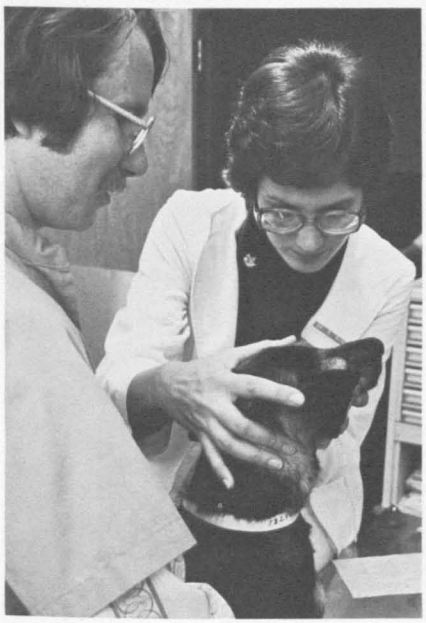
In the eight months following the beginning of the Campaign for Cornell Veterinary Medicine in November 1976, $650,000 was received in gifts and pledges from about 600 alumni. In addition to the financial boost thus provided and the other rewards inherent in such a response, the achievement also earned the College the top award in the Total Financial Support Programs category of the Council for Advancement and Support of Education. The figure of $650,000 represents an increase of $450,000 over the amount normally received by the College in a three-year period before the start of the campaign and also represents a substantial percentage of the goal.

Research

Organized research activity at the College expanded during the year. Current pressures for increased efficiency in the production of food, deriving from an expanding population, was an important factor in promoting interest in and support of research, particularly that aimed at solving health problems of food- and fiber-producing animals. Nearly half (46 percent) of all the research projects current in 1977 concerned food animals and their diseases.

Research funds received from sources





outside the College were substantially larger during 1976–77 than in other recent years. Thirty-nine new research grants were received as compared with twenty-two in 1975–76, and the total funding for research more than doubled. About the same number of grants and contracts were continued. Detailed information on sponsored programs at the College appears on pages 22–29, and publications by faculty members, primarily reflecting their research activities, are listed on pages 33–39.

Special Programs

More than thirty members of the College faculty defined and organized their interdisciplinary research interests in cattle diseases with the goal of establishing a Bovine Health Research Center. It is hoped such a center will provide a vehicle for intercollegiate collaboration in the field. A document is being prepared for publication that will describe some pressing concerns in the area of bovine health, review current and historical College strengths in dealing with bovine health research, delineate ongoing research efforts, and outline plans and needs for further work. Preliminary steps have been taken to form an advisory committee to review the research targets and assist in identifying resources for financial support.

The appointment of a pathologist specializing in avian and aquatic animal matters has given a boost to activities with those species. Shellfish disease research has also been enhanced by the completion of an environmentally controlled facility on campus for keeping mature, juvenile, and larval clams and oysters needed in studies aimed at identifying significant pathogens. Additional experimental units are needed, however, so that work with known pathogens can be pursued under well-controlled conditions of isolation. Further progress in dealing with aquatic-animal diseases has been achieved through the initiation of an annual meeting including representatives of the Long Island shellfish industry and the New York Sea Grant Institute along with College faculty. The first such meeting, held in January 1977, proved to be a useful forum for exchanging information about common problems and needs.

Several newly isolated viruses are considered candidate pathogens in pet-bird diseases, and colonies of specific-pathogen-free canaries and parakeets are being developed for research in this area.

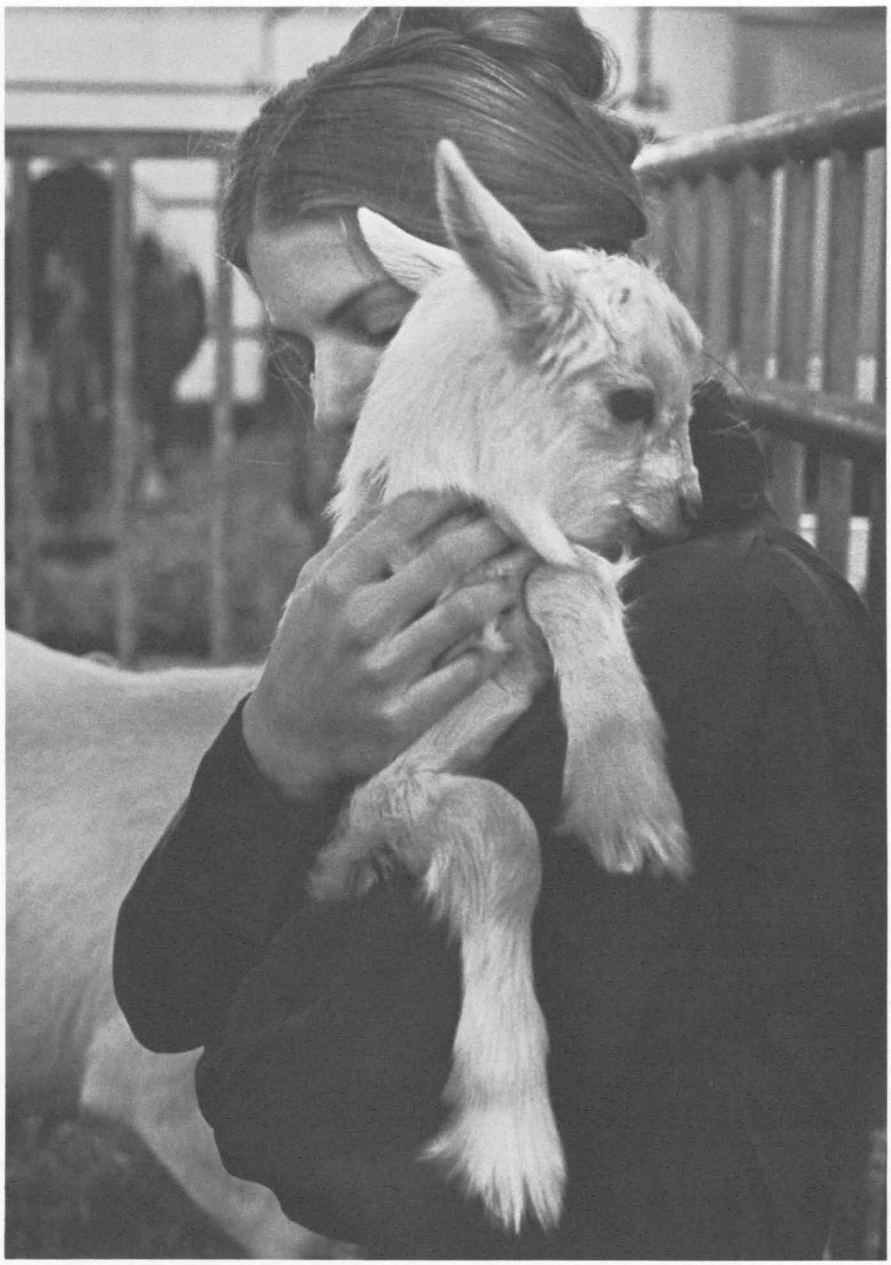
The appointment of Dr. Douglas D. MacGregor as director of the James A. Baker Institute for Animal Health in the fall of 1976 signalled the beginning of a second era in its history. The new director brings to the post a broad range of training and experience in human and animal medicine along with international acclaim as a researcher, primarily in the field of immunology. He was already acquainted with the Institute through collaborative work he had done with staff members there in recent years. An advisory council, consisting of scientists, corporate leaders, and other concerned people, is being formed to help assure that the work of the Institute and the private contributions that help support it are maintained. Two *Laboratory Reports,* one in September on canine brucellosis and one in June on hip dysplasia in dogs, were published during 1976–77 in addition to the Institute's *Annual Report,* available to interested persons upon request. (See Further Information, page 44.)

Plans and designs are under way for a large-animal sterile surgical suite and an isolation facility.

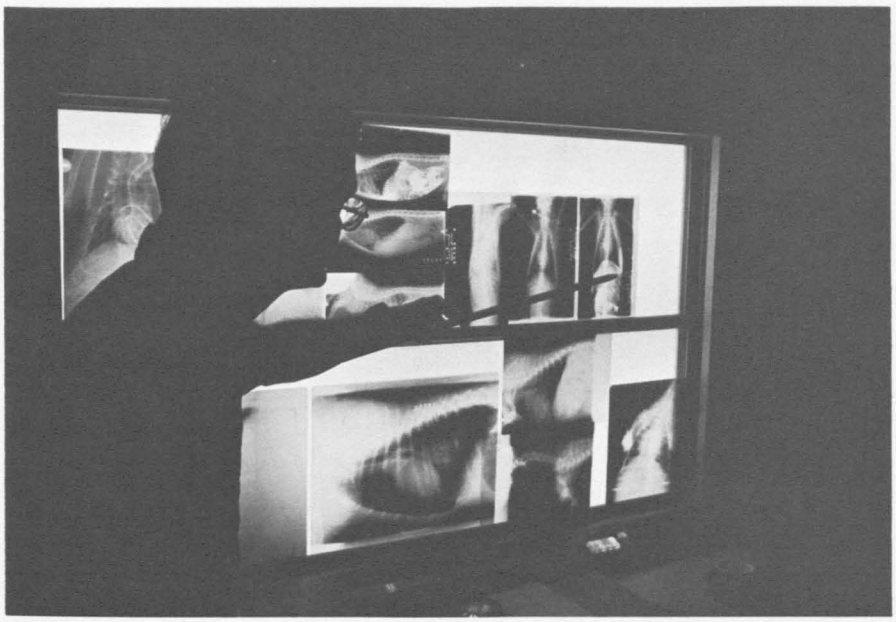
In April of 1977, the Equine Drug Testing and Research Program, previously funded by direct contracts between Cornell and New York State race tracks, became the New York State Racing and Wagering Board Drug Testing and Research Program and is funded by the State Racing and Wagering Board. The program provides prerace drug testing at seven harness tracks and postrace testing for six thoroughbred and quarterhorse tracks in the state. During the year, more than 150,000 samples were analyzed by staff of the program. Some 85,000 of those were prerace blood samples; the rest were postrace blood and urine specimens.

Research to improve race-horse drug testing included studies in analytical chemistry, drug metabolism, pharmacokinetics (excretion rates), and therapeutic efficacy (performance testing). A major breakthrough in improving the scope and specificity of drug testing was accomplished with the acquisition of a new gas chromatograph/mass spectrometer/data system. This highly sensitive instrument, which identifies drugs and metabolites by means of a computerized drug library system, lowers the detection threshold and virtually precludes mistaken identification. A new mass spectrometer, capable of detecting new, potent drugs entering the illicit market, was acquired for use in the research program as well.

Research, teaching, and continuing education on equine reproduction were given additional impetus with the expansion of the band of broodmares and stallions. Several registered standardbred and thoroughbred mares and two registered standardbred stallions were donated to the College during the year. Primary research efforts were centered on induced and natural foaling with specific studies aimed at acquiring the information needed to control and treat abnormalities in foaling and rebreeding. Added understanding of the equine infectious anemia virus and its persistance and the initiation of studies to identify the agents responsible for pneumonia in foals were major accomplishments of the equine infectious diseases program during 1976–77.



Research during the year on feline health problems included studies of dietary factors and their relationship to disease, reproductive pathology, neurological diseases, infectious peritonitis, cardiomyopathy, skin diseases, respiratory infections, and viral-induced urolithiasis. Other projects dealt with drug toxicity and antiviral therapy. Several laboratory bulletins and an annual report summarizing the year's activities at the Feline Research Laboratory were published and sent to contributors and other interested persons.



Activity and interest in the collaborative program in comparative medicine continued to expand with representatives of the Cornell Medical School attending a spring meeting on the campus of the College of Veterinary Medicine. In addition to developing individual communications, plans were laid at that time for a program under which guest lecturers from the two colleges will be exchanged, primarily in the fields of epidemiology, parasitology, and infectious diseases.

In spite of the fact that the National Institutes of Health did not renew their support of the Graduate Training Program in Comparative Gastroenterology, faculty members and trainees continued their work in that program. Four trainees are about to complete their course and research requirements.

Physical Resources

The most recent campus construction was the VanWie Farrier Shop at Equine Research Park, erected in memory of Mrs. VanWie with funds donated by family and friends. The structure will also serve as a breeding facility and examination and treatment area.

Current emphasis, however, is on maintenance and repair of existing structures, provision of appropriate personnel safety facilities, and energy conservation projects, with some renovation and remodeling as required to meet changing needs and maintain standards. An addition was made to "O" barn to provide laboratory and support space for preparation of animal specimens used for instruction in the Department of Anatomy. It was completed in June 1977. Several renovation projects were accomplished during the year. Space in the Department of Pathology suite of the Research Tower was reorganized to accommodate newly appointed faculty members. Three additional examining rooms for patients in the Small Animal Clinic were provided as was a pharmacy, centrally located to serve the entire Teaching Hospital. Special rubber surfaces were installed in the floors of the large-animal stalls of the hospital to provide a better, more comfortable environment for the patients.

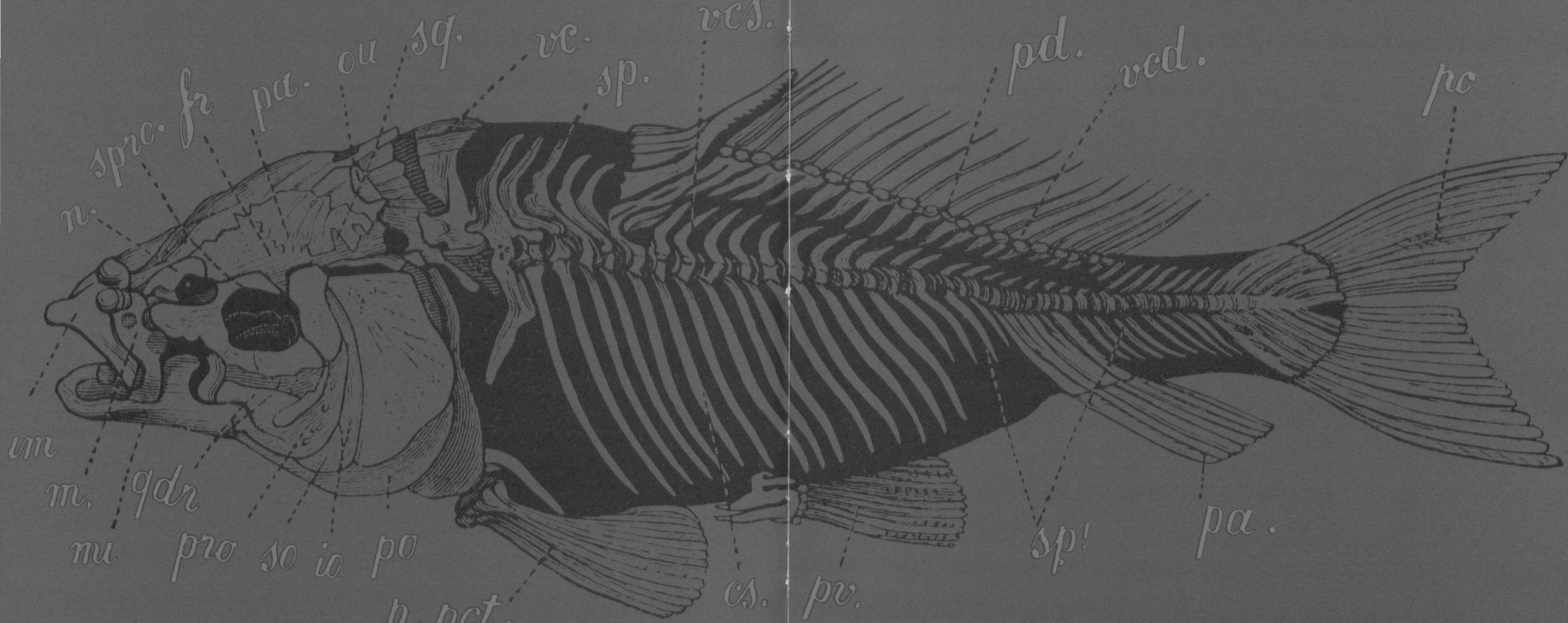
Planning and design is well under way for the construction of a large-animal sterile surgical suite to consist of more than 3,500 net square feet and include operating room, animal preparation room, recovery rooms, and other needed support spaces. Construction is scheduled to begin in 1978 and should be completed by the middle of 1979 at a cost of $572,000 plus $200,000 for equipment. Funds have also been provided by the State University to plan and design a large-animal isolation facility consisting of five stalls and appropriate support laboratories for treatment of patients with contagious diseases. The structure will consist of an addition, connected by a service corridor, to the existing poultry virus building and will be about 2,000 net square feet in size.

In order to perform studies involving a hazardous chemical carcinogen, under a federal research contract awarded to the College, it is necessary to renovate several rooms in the animal-care section of the Research Tower. The rooms will be placed under negative pressure and have a special exhaust system to the roof. The air thus expelled will be incinerated before being released. Special cages are being purchased to provide safe housing for the guinea pigs used in the studies.

Some easing of space pressures in the animal-care facility, particularly for long-term holding of certain species, was accomplished by transferring the animal facilities and caretaker personnel at the Warren Road field laboratory, formerly used by the Department of Physical Biology, to the Division of Laboratory Animal Medicine and Services. A major repair effort of the past year was replacement of the roof on the state building at the Baker Institute.

Plans and designs were also readied for extensive work to be done on the twenty-one-year-old complex of buildings and barns that makes up the main instructional campus of the College. This project, to begin early in 1978 and cost about $1.8 million, will include modernizing the heating, cooling, and ventilating systems to improve efficiency and comfort as well as making needed structural repairs.

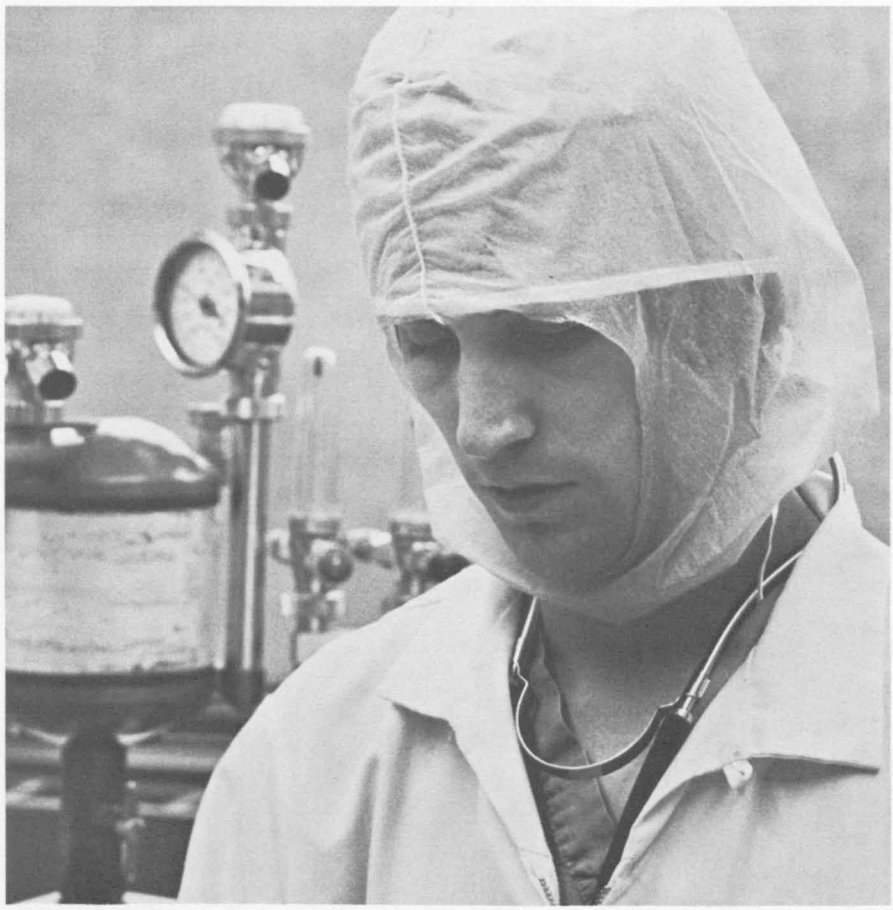
Reports and Summaries



Sponsored Programs

The processes by which research projects are begun, continued, and completed depend, largely and inevitably, on the funds that are available. Some projects are begun, and, indeed, some are completed, with funds from departmental budgets. In order to finance many of the more ambitious and far-reaching programs, however, grants must be sought from agencies outside the College. If a grant terminates before a project is completed, funds must be sought to continue the work from the same or another agency. Obtaining a new grant, therefore, does not necessarily mean that a new project is begun; the new funds may allow additional or expanded work to be undertaken or may provide the needed money to follow through on a promising study.

Brief descriptions are given below for research activities and other programs that received new financial support from sources outside the College during the year 1976–77. Following the descriptions of newly funded projects for each department are summaries of continuation grants and contracts that were awarded.



Administration

Total funding for sponsored programs, current and future years: $531,639

Total funding for sponsored programs, annual basis: $531,639

New Grants and Contracts

Aquatic Veterinary Medicine
Source of funds: New York Sea Grant Institute
Amount of grant: $59,800/one year
Program director: Charles G. Rickard
Purpose and goals: To develop a program of course work and research in aquatic veterinary medicine, in collaboration with other institutions, at Woods Hole, Massachusetts.

Biomedical Research Support
Source of funds: U.S. Department of Health, Education, and Welfare
Amount of grant: $62,500/one year
Program director: Edward C. Melby, Jr.
Purpose and goals: To provide technical support and basic instrumentation in the Electron Microscopy Laboratory.

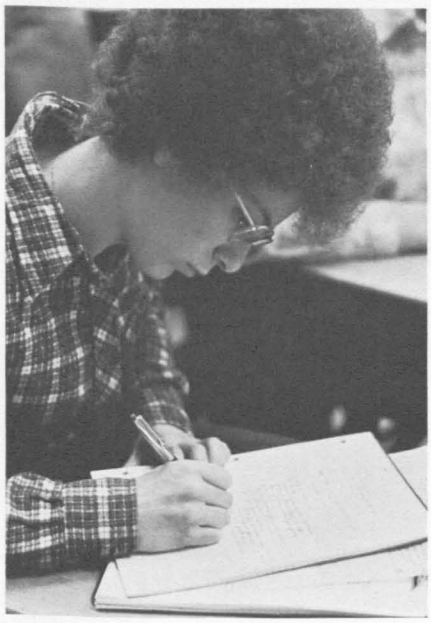
Compact Agreements
Source of funds: New England States and New Jersey
Amount of grant: $96,000/one year
Program director: Edward C. Melby, Jr.
Purpose and goals: To support the education of veterinary medical students from participating states.

Health Professions Capitation Grant
Source of funds: U.S. Department of Health, Education, and Welfare
Amount of grant: $200,115/one year
Program director: Edward C. Melby, Jr.
Purpose and goals: To support the education of veterinary medical students.

Health Professions Student Loans
Source of funds: U.S. Department of Health, Education, and Welfare
Amount of grant: $48,003/one year
Program director: John C. Thompson
Purpose and goals: To provide veterinary medical students with loans.

Continuations

Laboratory Animal Diagnostic Resource
Source: National Institutes of Health
Amount: $65,221/one year
Principal investigator: Clyde I. Boyer, Jr.



Department of Avian and Aquatic Animal Medicine

Total funding for sponsored programs, current and future years: $255,422

Total funding for sponsored programs, annual basis: $255,422

New Grants and Contracts

Avian Disease Control
Source of funds: New York State Department of Agriculture and Markets
Amount of grant: $128,791/one year
Program Director: Bruce W. Calnek
Purpose and goals: To operate poultry disease diagnostic laboratories throughout New York State.

Avian Disease Research
Source of funds: USDA, Hatch Act
Amount of grant: $9,925/one year
Principal investigator: Stephen B. Hitchner
Purpose and goals: To investigate the pathogenesis and interaction of three economically important avian diseases and determine the efficacy of control procedures.

Egg Production: Role of Infectious Diseases
Sources of funds: Babcock Poultry Farms, Incorporated, and Agway, Incorporated
Amount of grants: $5,000 and $2,000 (respectively)/one year
Principal investigator: Julius Fabricant
Purpose and goals: To evaluate the role of infectious diseases as etiological factors in reduced egg production.

Shellfish: Pathologic and Immunologic Responses
Source of funds: New York Sea Grant Institute
Amount of grant: $26,628/one year
Principal investigator: Louis Leibovitz
Purpose and goals: To prepare a monograph on bacterial flora and diseases of hatchery-reared shellfish; to observe commercial hatcheries and study normal and diseased specimens; and to further develop the capability to grow shellfish for study.

Continuations

Avian Lukosis Complex
Source: National Insitutes of Health
Amount: $83,078/one year
Principal investigator: B. W. Calnek

Diagnostic Laboratory

Total funding for sponsored programs, current and future years: $1,868,818

Total funding for sponsored programs, annual basis: $1,777,143

New Grants and Contracts

Diagnostic Laboratory Operations
Source of funds: New York State Department of Agriculture and Markets
Amount of grant: $523,753/one year
Program director: Raymond H. Cypess
Purpose and goals: To provide operating funds for the Diagnostic Laboratory in its support of the control and eradication of diseases affecting domestic animals in the state.

Equine Drug Testing and Research
Source of funds: New York State Racing and Wagering Board
Amount of grant: $1,207,552 (research, $300,000; testing, $907,552)/one year
Principal investigator: George A. Maylin
Purpose and goals: To develop methods for the detection of drugs in horses, to study their effects, and to apply the results to race-horse drug testing.

Visceral Larva Migrans: Epidemiology
Source of funds: National Institutes of Health
Amount of grant: $137,513/three years
Principal investigator: Raymond H. Cypess
Purpose and goals: To pursue investigations that will make it possible to assess the public health implications of environmental contamination with Toxocara canis in order to formulate recommendations for prevention.

Department of Large Animal Medicine, Obstetrics, and Surgery

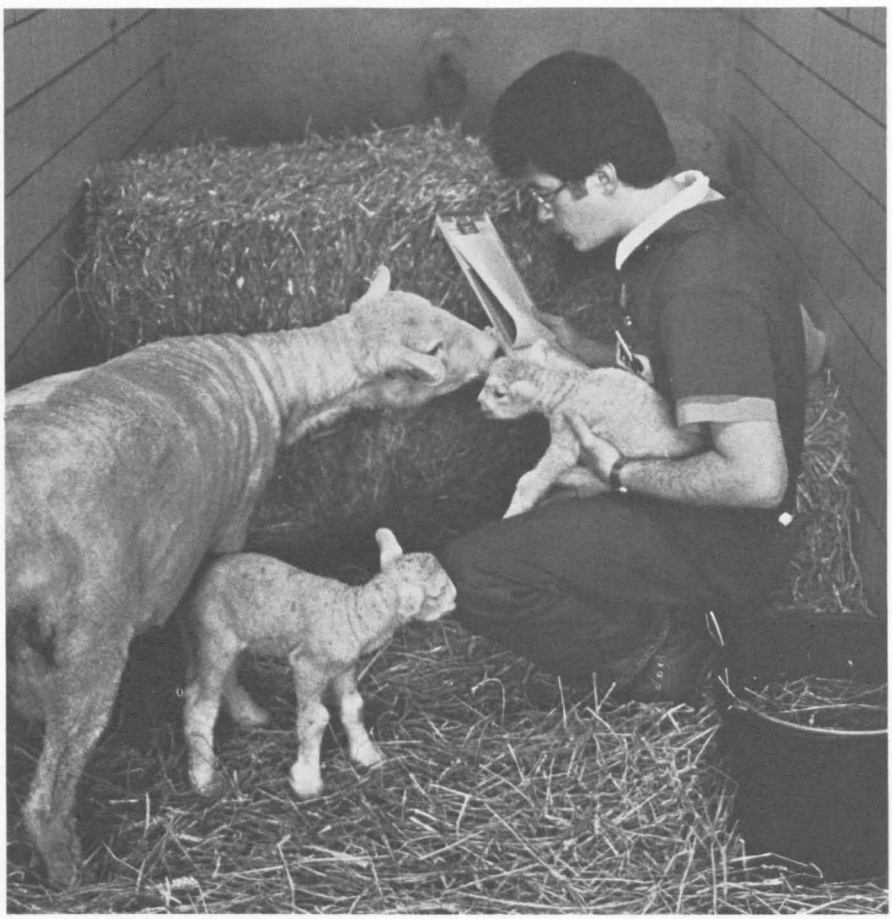
Total funding for sponsored programs, current and future years: $349,883
Total funding for sponsored programs, annual basis: $309,883

New Grants and Contracts

Bull Tissue Collection and Study
Source of funds: Eastern Artificial Insemination Cooperative
Amount of grant: $6,000/one year
Principal investigator: Kenneth McEntee
Purpose and goals: To collect and study tissues from bulls retired from the Cooperative stud.

Mastitis Control
Source of funds: New York State Department of Agriculture and Markets
Amount of grant: $242,155/one year
Program director: Leslie A. Wager
Purpose and goals: To operate the central and regional laboratories that provide assistance to New York State dairymen in the diagnosis and control of bovine mastitis.

Mastitis: Dairy Cow Resistance
Source of funds: USDA Regional Project Funds
Amount of grant: $50,000/five years
Principal investigator: Neil L. Norcross
Purpose and goals: To characterize the factors and mechanisms contributing to mammary gland resistance to infectious mastitis; to characterize the virulence factors and mechanisms of the causative organisms; and to develop the means to increase mammary gland resistance to mastitis.

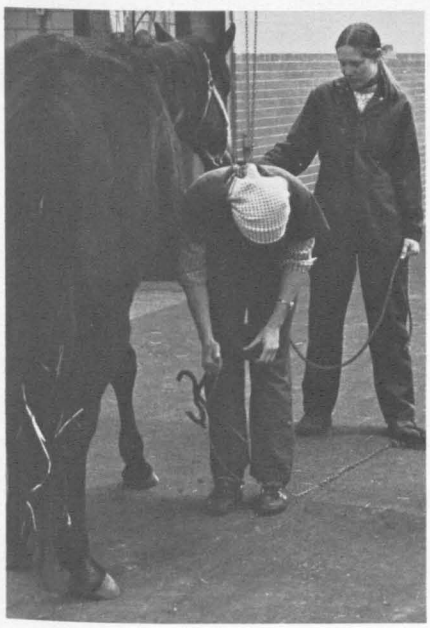


Mastitis: Immunizing Agents
Source of funds: Pitman-Moore, Incorporated
Amount of grant: $10,000/one year
Principal investigator: Neil L. Norcross
Purpose and goals: To develop immunizing agents for bovine mastitis, specifically for *Streptococcus agalactiae* and *Staphylococcus aureus*.

Mastitis Therapy: Rifamycin
Source of funds: Dow Chemical Company
Amount of grant: $6,800/one year
Principal investigator: Leslie A. Wager
Purpose and goals: To determine the efficacy of Rifamycin SV in the treatment of clinical cases of mastitis caused by commonly involved organisms.

Mastitis Therapy: Intramammary Infusion
Source of funds: G. C. Hanford Manufacturing Company
Amount of grant: $1,128/one year
Principal investigator: Gerald L. Hayes
Purpose and goals: To compare the efficacy of a two-dose and a three-dose regimen of intramammary infusion using Procaine penicillin G in a new milk-dispersable base.

Subclinical Mastitis Therapy
Source of funds: Schering Corporation
Amount of grant: $2,500/one year
Principal investigator: Leslie A. Wager
Purpose and goals: To evaluate



Mastogen™ in the treatment of subclinical mastitis caused by *Streptococcus agalactiae* and *Staphylococcus aureus*.

Udder Health: Milking Machine Effects
Sources of funds: Dairy Equipment Company and Agway, Incorporated
Amount of grant: $700 and $600 (respectively)/one year
Principal investigator: Leslie A. Wager
Purpose and goals: To study under farm conditions the effect of two different kinds of milking machine take-off units on the overall udder health of two dairy herds.

Continuations

Mastitis Control: Immunological Approach
Source: Wetterberg Foundation
Amount: $30,000
Principal investigator: N. L. Norcross

Department of Microbiology

Total funding for sponsored programs, current and future years: $896,276
Total funding for sponsored programs, annual basis: $669,280

New Grants and Contracts

Aging, Immunity, and Cancer
Source of funds: National Institutes of Health (National Cancer Institute)
Amount of grant: $193,636/two years
Principal investigator: Douglas D. McGregor
Purpose and goals: To elucidate mechanisms of immunosuppression associated with viral infection.

Antibacterial Mechanisms in Clam and Oyster Hemolymph
Source of funds: New York Sea Grant Institute
Amount of grant: $8,000/one year
Principal investigator: John F. Timoney
Purpose and goals: To increase understanding of the processes by which shellfish cleanse themselves of certain bacterial species in order to appraise intelligently the statutory depuration period of 48 hours.

Bovine Enteroviruses
Source of funds: Plum Island Animal Disease Center (USDA)
Amount of grant: $19,350/one year
Principal investigator: James H. Gillespie
Purpose and goals: To develop diagnostic procedures and reagents for the bovine enteroviruses in order to differentiate them from the foot-and-mouth disease virus and to facilitate studies on their pathogenesis in cattle.

Bovine Herpes Mammillitus: Pathogenesis
Source of funds: Plum Island Animal Disease Center (USDA)
Amount of grant: $15,000/one year
Principal investigator: Leland E. Carmichael
Purpose and goals: To investigate growth of the bovine herpes mammillitus virus in various animal tissues, to determine the effect of temperature on the virus, and to identify possible routes of transmission.

Bovine Leptospiral Vaccines: Evaluation
Source of funds: Pitman-Moore, Incorporated
Amount of grant: $5,875/one year
Principal investigator: Robert F. Kahrs
Purpose and goals: To evaluate bovine leptospiral vaccines for safety and efficacy and to determine seroconversion induced by vaccine.

Bovine Winter Dysentery
Source of funds: USDA, Hatch Act
Amount of grant: $10,820/one year
Principal investigator: Fredric W. Scott
Purpose and goals: To gain needed information to develop an effective vaccine against bovine winter dysentery.

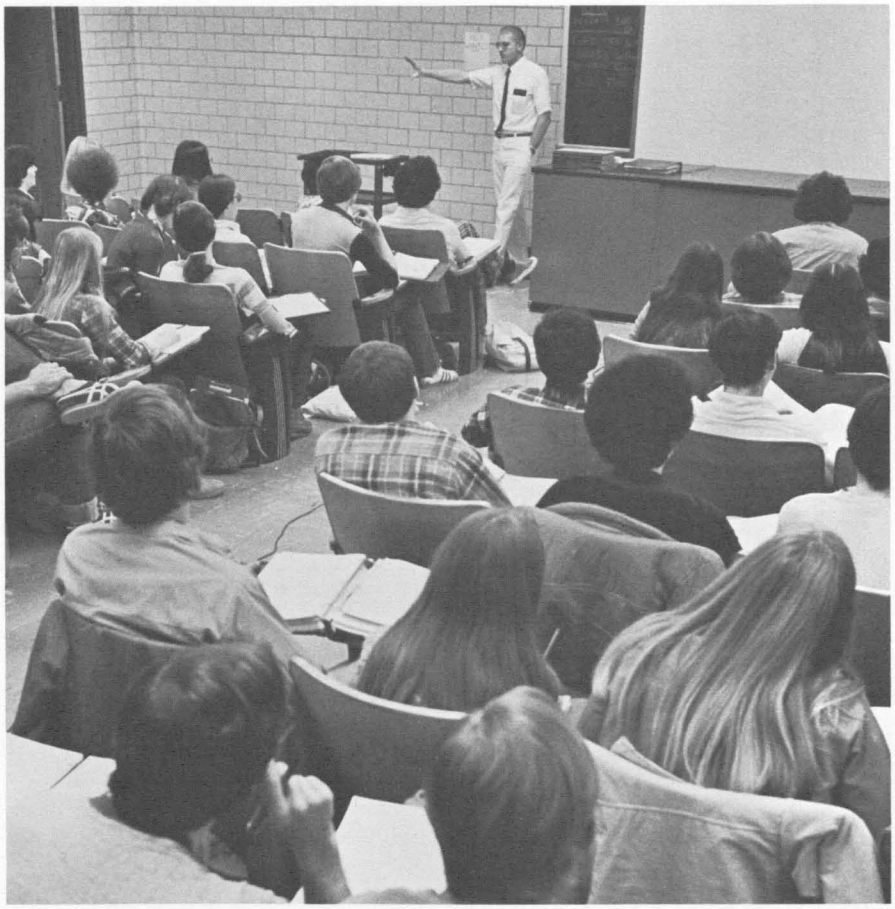
Colostrum Administration
Source of funds: USDA, Hatch Act
Amount of grant: $15,000/three years
Principal investigator: S. Gordon Campbell
Purpose and goals: To determine whether colostrum can be given safely to animals by injection and then to study the benefits of such administration in colostrum-deprived calves.

International Research Fellowship
Source of funds: U.S. Department of Health, Education, and Welfare (Fogarty International Center)
Amount of grant: $17,395/one year
Principal investigator: Robin G. Bell
Purpose and goals: To provide a research fellowship.

Lymphocytes: Immunological Activity
Source of funds: American Cancer Society
Amount of grant: $62,260/one year
Principal investigator: Douglas D. McGregor
Purpose and goals: To investigate the role of lymphocytes in tumor immunity.

Mediator of Cellular Immunity
Source of funds: National Institutes of Health
Amount of grant: $180,267/three years
Principal investigator: Douglas D. McGregor
Purpose and goals: To elucidate the control mechanisms regulating the production of effector T cells, the forces influencing their localization, and the mechanism whereby they promote the local accumulation and activation of monocyte-derived macrophages.

Viral Flora in Shellfish
Source of funds: New York Sea Grant Institute



Amount of grant: $33,668/one year
Principal investigator: James H. Gillespie
Purpose and goals: To determine the viral flora of shellfish used as human food, with principal emphasis on control and prevention of shellfish diseases of possible viral etiology.

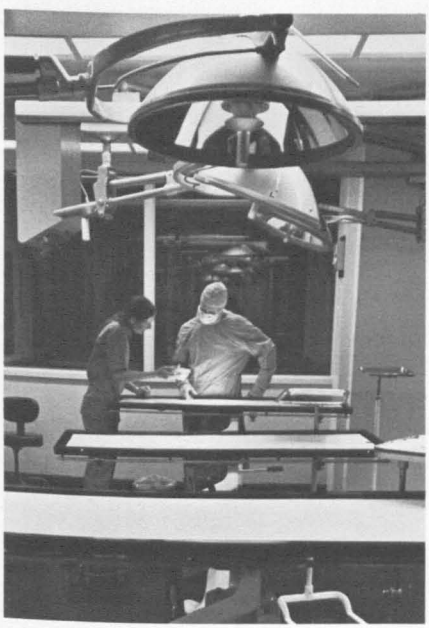
Virus Disease Laboratory: Renovations
Source of funds: Surdna Foundation
Amount of grant: $30,000/one year
Principal investigator: Douglas D. McGregor
Purpose and goals: To provide funds for renovation of the Virus Disease Laboratory of the Baker Institute.

Continuations

Antiviral Evaluation: Feline Respiratory Diseases
Source: National Institutes of Health
Amount: $104,805/one year
Principal investigator: F. W. Scott

Bacterial Resistance to Antibiotics and Heavy Metals
Source: National Oceanic and Atmospheric Administration
Amount: $42,801/one year
Principal investigator: J. F. Timoney

Hip Dysplasia
Source: Richard King Mellon Foundation
Amount: $50,000/one year
Principal investigators: L. E. Carmichael, G. Lust, and D. Miller



Viral-Induced Feline Urolithiasis
Source: Ralston Purina Company
Amount: $50,000/one year
Principal investigator: C. G. Fabricant

Viral Role in Arteriosclerosis Pathogenesis
Source: National Institutes of Health
Amount: $57,399/one year
Principal investigator: C. G. Fabricant

Department of Pathology

Total funding for sponsored programs, current and future years: $728,617
Total funding for sponsored programs, annual basis: $453,310

New Grants and Contracts

Bovine Sarcocystis: Epidemiology and Pathogenesis
Source of funds: USDA
Amount of grant: $20,000/one year
Principal investigators: Robert M. Lewis and Raymond H. Cypess
Purpose and goals: To conduct basic research on the epidemiology and pathogenesis of sarcocystosis in cattle.

Cancer Virology
Source of funds: Duke University
Amount of grant: $116,846/one year
Principal investigator: Fernando de Noronha
Purpose and goals: To study the prevention and treatment of virus-induced leukemia and sarcomas by immunological methods, with particular emphasis on immunotherapy of feline leukemia, as a model system.

Colon Tumors: Induction in Guinea Pigs
Source of funds: National Institutes of Health (National Cancer Institute)
Amount of grant: $412,961/three years
Principal investigator: Gary L. Cockerell
Purpose and goals: To compare various available therapeutic procedures against cancer of the colon induced in guinea pigs.

Equine Infectious Anemia
Source of funds: New York State Department of Agriculture and Markets
Amount of grant: $10,000
Principal investigator: Leroy Coggins
Purpose and goals: To develop methods for the diagnosis and control of equine infectious anemia.

Equine Infectious Diseases
Source of funds: United States Trotting Association
Amount of grant: $50,000
Principal investigator: Leroy Coggins
Purpose and goals: To investigate the viral diseases of the respiratory tract of horses and develop preventive measures.

Filaroides Hirthi: Control
Source of funds: National Institutes of Health
Amount of grant: $51,540/one year
Principal investigator: Jay R. Georgi
Purpose and goals: To characterize the life history and epizootiology of *Filaroides hirthi* in order that effective control measures may be devised.

Lung Development
Source of funds: National Institutes of Health
Amount of grant: $54,745/one year
Principal investigator: Ronald R. Minor
Purpose and goals: To contribute to an understanding of the factors involved in lung development, including its regulation, the role of extracellular matrices, and the effects of conditions such as hypoxia.

Hookworm Treatment
Source of funds: Jensen-Salsbery Laboratories
Amount of grant: $2,225/one year
Principal investigator: Jay R. Georgi
Purpose and goals: To study, critically, the anthelmintic efficacy of a piperazine compound against hookworm infestations.

Continuations

Toxicologic Pathology: Residency
Source: Bristol Laboratories
Amount: $10,300
Principal investigator: R. M. Lewis

Department of Physical Biology

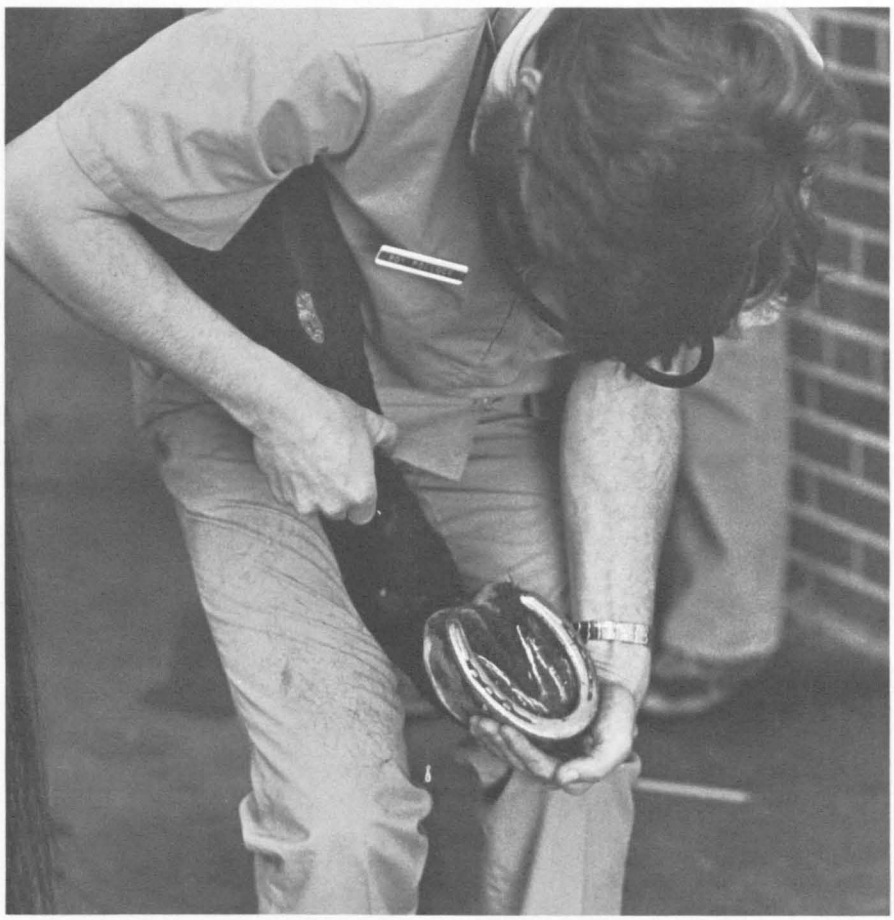
Total funding for sponsored programs, current and future years: $648,311
Total funding for sponsored programs, annual basis: $531,533

New Grants and Contracts

Calcium Absorption
Source of funds: National Dairy Council
Amount of grant: $70,235/three years
Principal investigator: Robert H. Wasserman
Purpose and goals: To understand how lactose (milk sugar) and other constituents of milk enhance the absorption of calcium and other metal ions.

Calcium Absorptive Mechanism
Source of funds: National Institutes of Health
Amount of grant: $104,932/three years
Principal investigator: Robert A. Corradino
Purpose and goals: To investigate the regulation of synthesis and physiological role(s) of the vitamin D_3-induced calcium-binding protein in the calcium absorptive mechanism.

Calcium Metabolism in Mammals
Source of funds: Ross Laboratories, Incorporated



Amount of grant: $17,762/one year
Principal investigator: Robert H. Wasserman
Purpose and goals: To investigate aspects of calcium metabolism in prenatal and postnatal pigs and guinea pigs.

Environmental Pollutants
Source of funds: Energy Research and Development Administration
Amount of grant: $50,000/one year
Principal investigators: Frederick W. Lengemenn and Robert A. Wentworth
Purpose and goals: To investigate the transfer of heavy elements into milk, with the long-range objective of developing a general theory of the accumulation of ions in milk.

Epithelial Transport of Toxic Metal Ions
Source of funds: Energy Research and Development Administration
Amount of grant: $77,000/one year
Principal investigator: Robert H. Wasserman
Purpose and goals: To investigate the molecular mechanisms of the epithelial transport of toxic metal ions, particularly mercury, cadmium, lead, arsenic, zinc, and copper.

Pharmacokinetics: Zinc Omadine
Source of funds: Food and Drug Research Laboratories, Incorporated
Amount of grant: $9,000/one year
Principal investigator: Richard A. Wentworth
Purpose and goals: To determine the pharmacokinetic properties, deposition,

and tissue distribution of 2-6-^{14}C-Zinc Omadine® after a single orally intubated dose.

Continuations

Biological Effects of Implanted Nuclear Energy Sources
Source: Energy Research and Development Administration
Amount: $135,000/one year
Principal investigator: F. A. Kallfelz

Biological Research: Physical Principles
Source: National Insitutes of Health
Amount: $28,170/one year
Principal investigator: R. H. Wasserman

Intestinal Absorption of Mineral Ions
Source: National Institutes of Health
Amount: $95,005/one year
Principal investigator: R. H. Wasserman

Organ-Cultured Duodenum: Calcium Absorptive Mechanism
Source: National Institutes of Health
Amount: $32,333/one year
Principal investigator: R. A. Corradino

Skin Sensibilities: Neural Correlates
Source: National Institutes of Health
Amount: $28,874/one year
Principal investigator: D. N. Tapper

Department of Physiology, Biochemistry, and Pharmacology

Total funding for sponsored programs, current and future years: $268,622
Total funding for sponsored programs, annual basis: $268,622

Continuations

Carbohydrate and Ketone Body Metabolism
Source: National Institutes of Health
Amount: $70,271/one year
Principal investigator: E. N. Bergman

Control of Food Intake: Glucostatic and Gastrointestinal Factors
Source: National Institutes of Health
Amount: $41,347/one year
Principal investigator: T. R. Houpt

Doppler Blood Flow Monitoring
Source: National Institutes of Health
Amount: $41,901/one year
Principal investigator: C. J. Drost

Equine Colic Model
Source: Morris Animal Foundation
Amount: $37,200/one year
Principal investigator: A. F. Sellers

Glucose 6-Phosphatase and Hepatic Glucose Production
Source: National Institutes of Health
Amount: $41,979/one year
Principal investigator: W. J. Arion

Large Intestinal Function: Comparative Studies
Source: National Institutes of Health
Amount: $35,924/one year
Principal investigator: C. E. Stevens

Table 1
Summary of Sponsored Programs

Number of Projects	*1976–77*	*1975–76*
Newly Funded: Research	39	22
Newly Funded: Other Programs	8	7
Continuations	20	19
Totals	67	48

Total Funding: Annual Basis	*1976–77*	*1975–76*
Newly Funded: Research	$1,509,055	$ 638,045
Newly Funded: Other Programs	2,206,169	1,248,949
Continuations	1,081,608	1,461,497
Totals	4,796,832	3,348,491

Total Funding: Current and Future Years	*1976–77*	*1975–76*
Newly Funded: Research	$2,259,811	$1,337,200
Newly Funded: Other Programs	2,206,169	1,248,949
Continuations	1,081,608	1,461,497
Totals	5,547,588	4,047,646

Instruction and Services

New and Revised Courses

Brief descriptions are given below of the new courses offered by the faculty of the College of Veterinary Medicine during 1976–77 and of several that underwent extensive revision or reorganization.

Seminar on Current Topics in Immunology and Microbiology

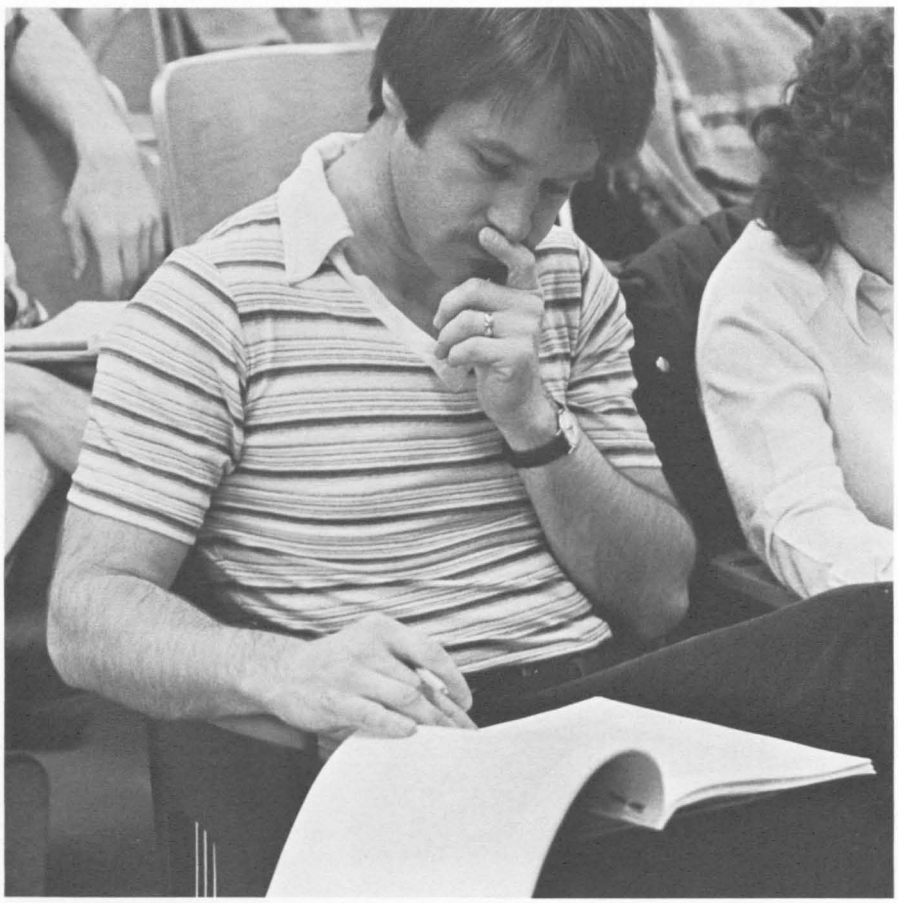
A noncredit seminar was initiated by the Department of Microbiology in the summer of 1976 to provide a forum for graduate students to discuss current journal articles and to present research proposals and results. The seminar is held weekly throughout the fall, spring, and summer.

Goats: Management and Disease

A one-credit elective course providing information on the common medical, surgical, and management problems of goats was developed and offered for the first time in the spring term (1977). The course was presented by the Department of Large Animal Medicine, Obstetrics, and Surgery to interested students in the second, third, and fourth years of the professional-degree program.

General Pathology and Special Pathology

Continued revision of the required second-year course, General Pathology, resulted in a new format, course schedule, and faculty teaching schedule. In addition, the sequel, Special Pathology, was reorganized to integrate clinical pathology with the morphologic alterations in tissues associated with specific diseases and to tie the subject matter more closely to that presented to students during the same semester in the course, General Medicine. Further revisions of these and of other courses offered entirely or in part by the Department of Pathology are anticipated in an ongoing effort to develop an integrated series emphasizing the pathophysiology of medicine.



Small Animal Medicine and Surgery

The two courses, Small Animal Medicine and Small Animal Surgery, were reorganized into one two-part course, taught in consecutive semesters to third-year students. The revised sequence totals eleven credits and incorporates instruction in ophthalmology, previously offered as a separate one-credit course.

Veterinary Parasitology

A new format for the second-year required course in parasitology was implemented in the fall term of 1976. It was reorganized into two sections, and heavy use is made of autotutorial and other self-help teaching methods.

Microscopy

The elective course in microscopy, presented jointly by Biomedical Communications and the Department of Pathology, was expanded from a one-credit to a two-credit course and includes photomicrography. Because more students apply for the course than can be given the individual attention required, plans are to offer the course in the summer session as well as in the fall and spring semesters.

Table 2
Library Use, 1976–77

On campus	36,135
Reserve books (in-library use)	13,107
Lent books (home use)	14,834
Photocopy items (in lieu of loans)	8,194
Interlibrary exchanges	1,143
Books lent	42
Photocopy items sent	577
Books borrowed (from outside)	63
Photocopy items (from outside)	461

Table 3
Library Holdings, 1976–77

Bound volumes*	64,497
At beginning of year	61,260
Acquisitions	1,446
Less withdrawals	8
Periodicals and annuals	1,159

*Special inventory correction, June 1977

Table 4
Laboratory Animals Housed and Cared for During 1976–77 by the Division of Laboratory Animal Medicine and Services

	Daily	*Annual*
Calves	20	20
Cats (SPF Colony)	194	295
Cats (other)	220	1,154
Chicks	336	2,016
Dogs	236	2,548
Fish	100	350
Frogs	20	150
Goats	16	16
Guinea pigs	699	1,576
Hamsters	6	18
Heifers	5	5
Mice	525	9,135
Nonhuman primates	11	11
Rabbits	156	374
Rats	283	3,820
Sheep	3	15
Totals	2,830	21,503

Table 5
Clinical and Diagnostic Accessions, 1976

	Sheep & Goats	*Horses*	*Cattle*	*Dogs*	*Cats*	*Swine*	*Poultry*	*Others*	*Total*
Medical and Surgical	206	1,443	556	6,676	3,009	77		140	12,107
Large Animal Outpatient	521	2,468	34,152			786			37,927
Clinical Pathology Laboratory		14,531	21,745	29,262	3,213			4,589	73,340
Radiology Service		756	99	1,633	276			79	2,843
Mastitis Control Program			164,972						164,972
Necropsy Service	131	291	953	413	222	193		200	2,403
Parasitology Laboratory	62	104	94	388	121	26		98	893
Poultry Disease Laboratories							16,632		16,632
Laboratory Animal Diagnostic Laboratory					874			1,688	2,562
Aquatic Animal Diagnostic Laboratory								5,982	5,982
Totals	920	19,593	222,571	38,372	7,715	1,082	16,632	12,776	319,661

Table 6
Continuing Education Summary, 1976–77

	Participants	*Hours*
Annual Conference	475	24
Bovine Reproduction Workshop	20	16
Clinical Anesthesiology Workshop	7	16
Equine Reproduction Workshop	15	16
Foreign Animal Disease Symposium	30	8
Pathology Short Course	33	24

Table 7
Biomedical Communications Production, 1976–77

Color slides	23,600
Radiographs reproduced	3,500
Photomicrographs (black and white and color)	3,000
Videotapes	14

Admissions and Enrollment

The varying interests, goals, and levels of proficiency that characterize the several groups of students who work side by side on the campus of the College of Veterinary Medicine serves to enrich the academic lives of all.

The following tables provide summaries of some features of the various segments of the student community.

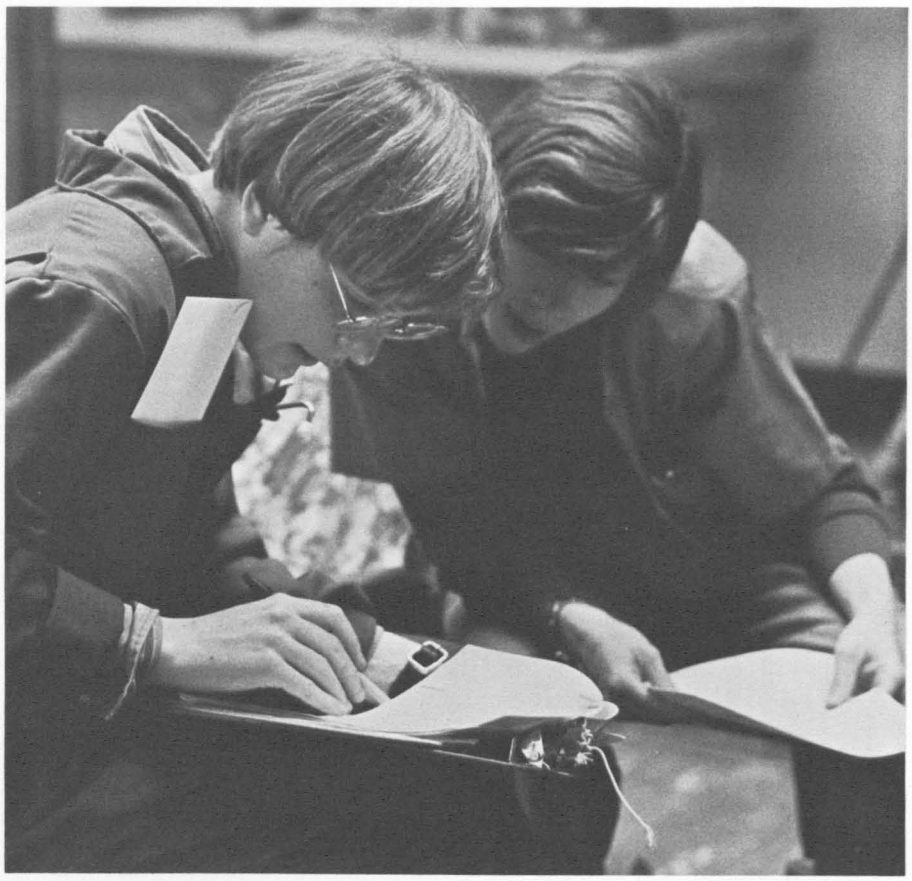


Table 8
Predoctoral Student Enrollment Summary, 1976–77

Candidates for the D.V.M. degree	282
Class of 1977	65
Class of 1978	71
Class of 1979	72
Class of 1980	74
Cornell undergraduates taking courses in the College (full-time equivalents)	79

Table 9
Geographical Distribution, According to Legal Residence, of Applicants Accepted for the Class of 1981

New York	60
Connecticut	5
Maine	2
Maryland	1
Massachusetts	3
New Hampshire	1
New Jersey	6
Rhode Island	1
Vermont	1

Table 10
Admissions Summary, Class of 1981

	Applicants	*Interviewed*	*Accepted*
New York	482	184	60
Compact States	193	55	19
Other States	163	20	1
Total	838	259	80

Table 11
Summary of Qualifications of Applicants Accepted for the Class of 1981

	percentage	*number*
Amount of preveterinary preparation:		
Fewer than four years college	15	12
Four years college	71	57
More than four years (grad-level)	14	11
Field of preparatory study:		
Animal science (or related)	38	30
Biological sciences (or related)	41	33
Preveterinary	8	6
Other	13	11
Institution previously attended:		
Cornell University	54	43
Other	46	37
Kind of preparatory animal practice:		
Large animal only	20	16
Small animal only	21	17
Both	59	47

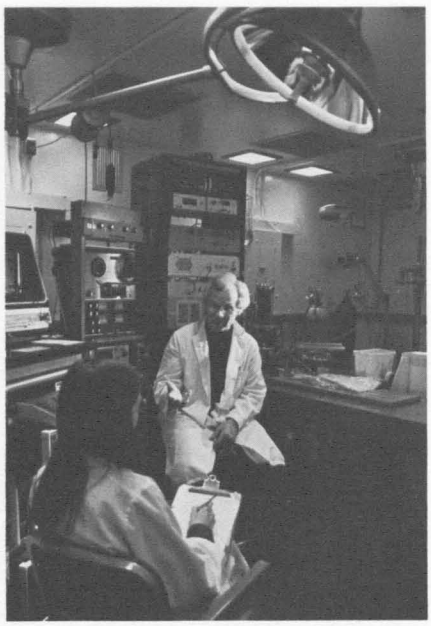
Table 12
Graduate Student Enrollment, Field of Veterinary Medicine, 1976–77

Candidates for the Ph.D. degree	32
Candidates for the M.S. degree	21
Candidates for the D.V.Sc. degree	1
Nondegree candidates	1
Professional-degree students in the combined D.V.M./M.S. program	6
Professional-degree students in the combined D.V.M./Ph.D. program	2

Table 13
Degrees Awarded, 1976–77

D.V.M. (With Distinction: 7)	65
M.S.	2
Ph.D.	8

Publications



Following is a list of the scientific and technical articles, books, and parts of books published by members of the College faculty and staff. The publications generally constitute reports on research projects under way and are grouped according to the departmental affiliation of the senior author (the first name listed) of each entry. A person interested in obtaining a reprint should communicate with the senior author of the publication in question. Letters may be addressed to the individual at the New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853.

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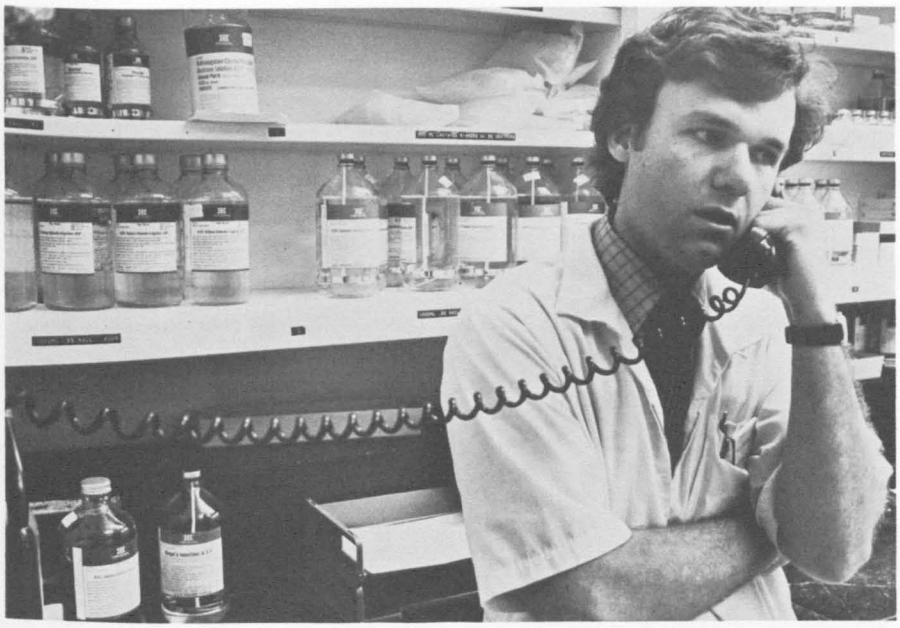

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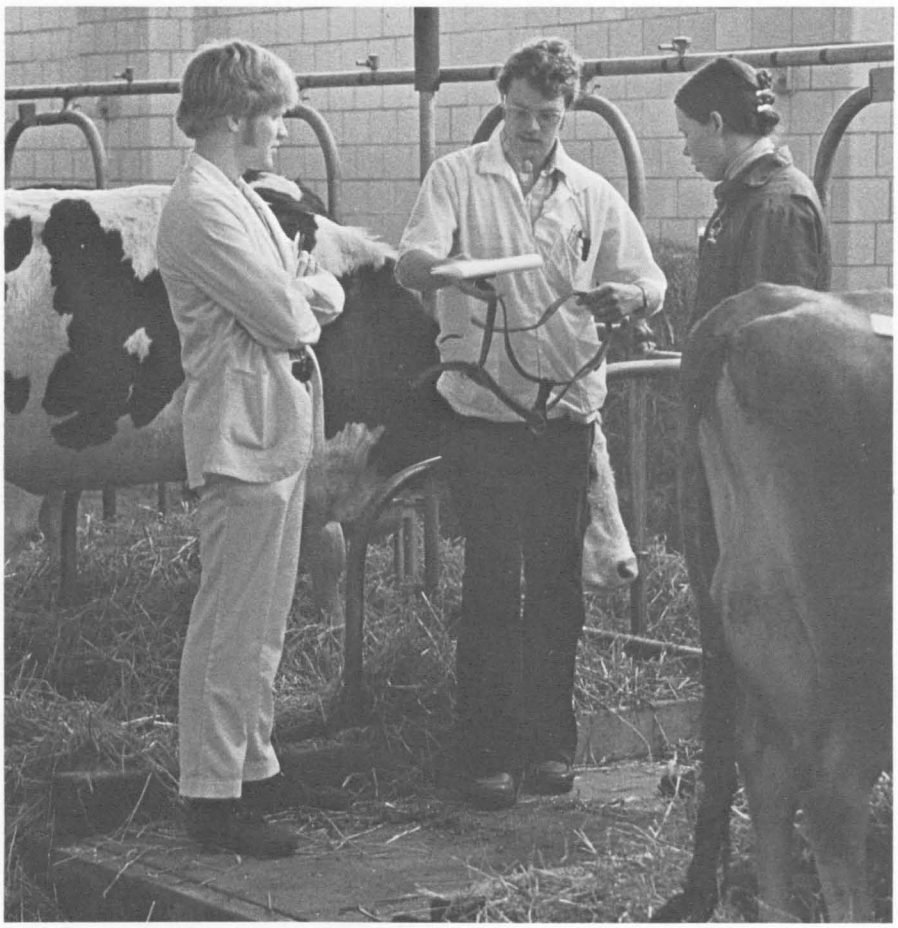

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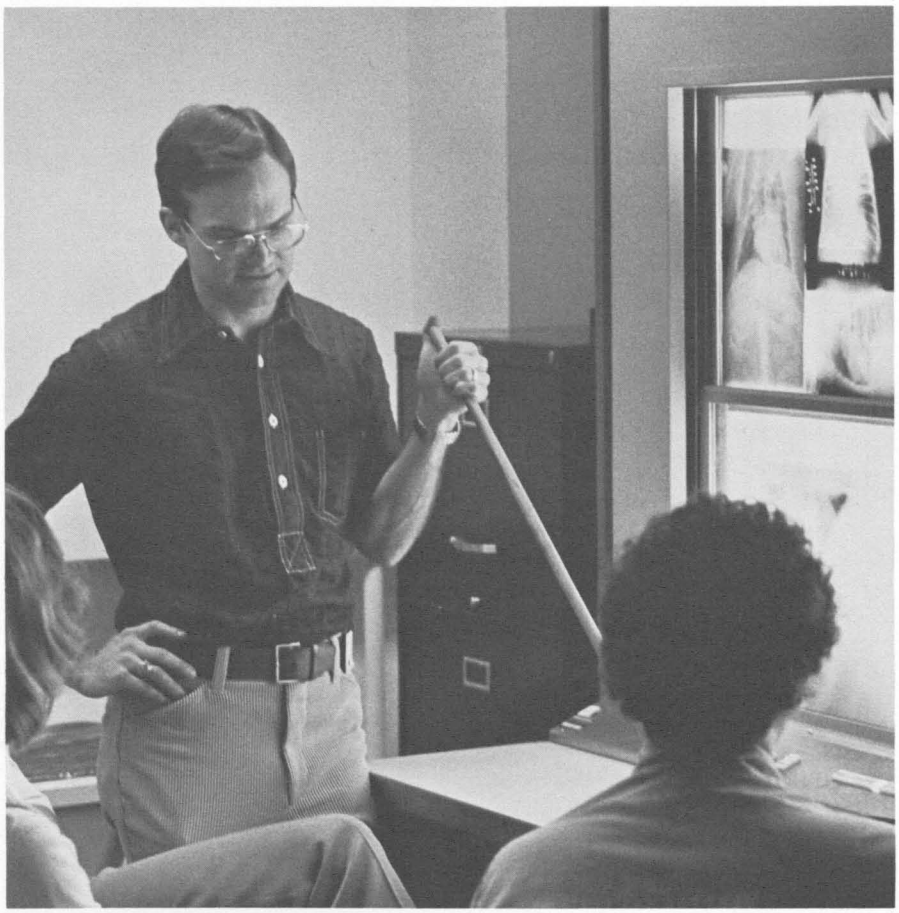

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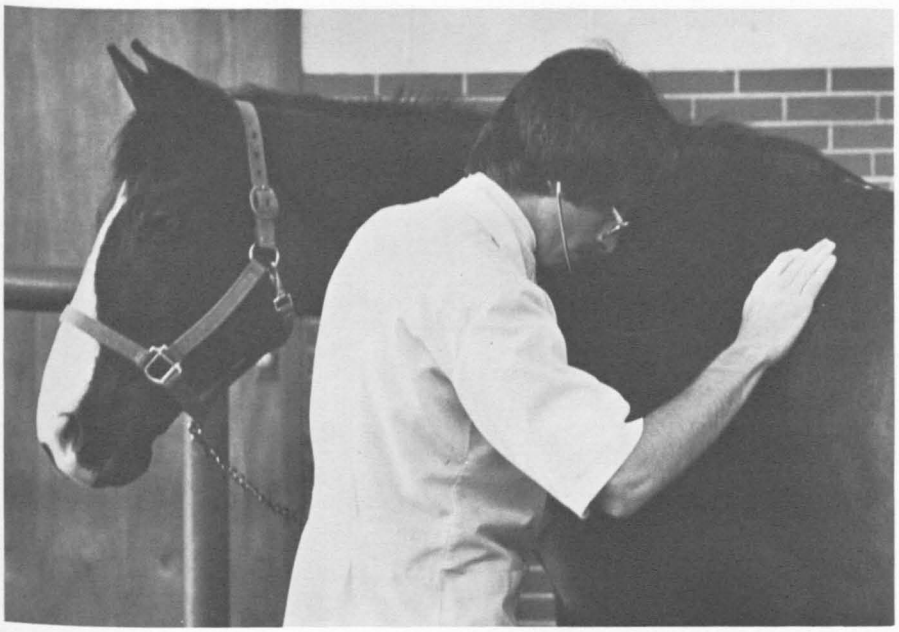

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Department of Small Animal Medicine and Surgery

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Financial Statements

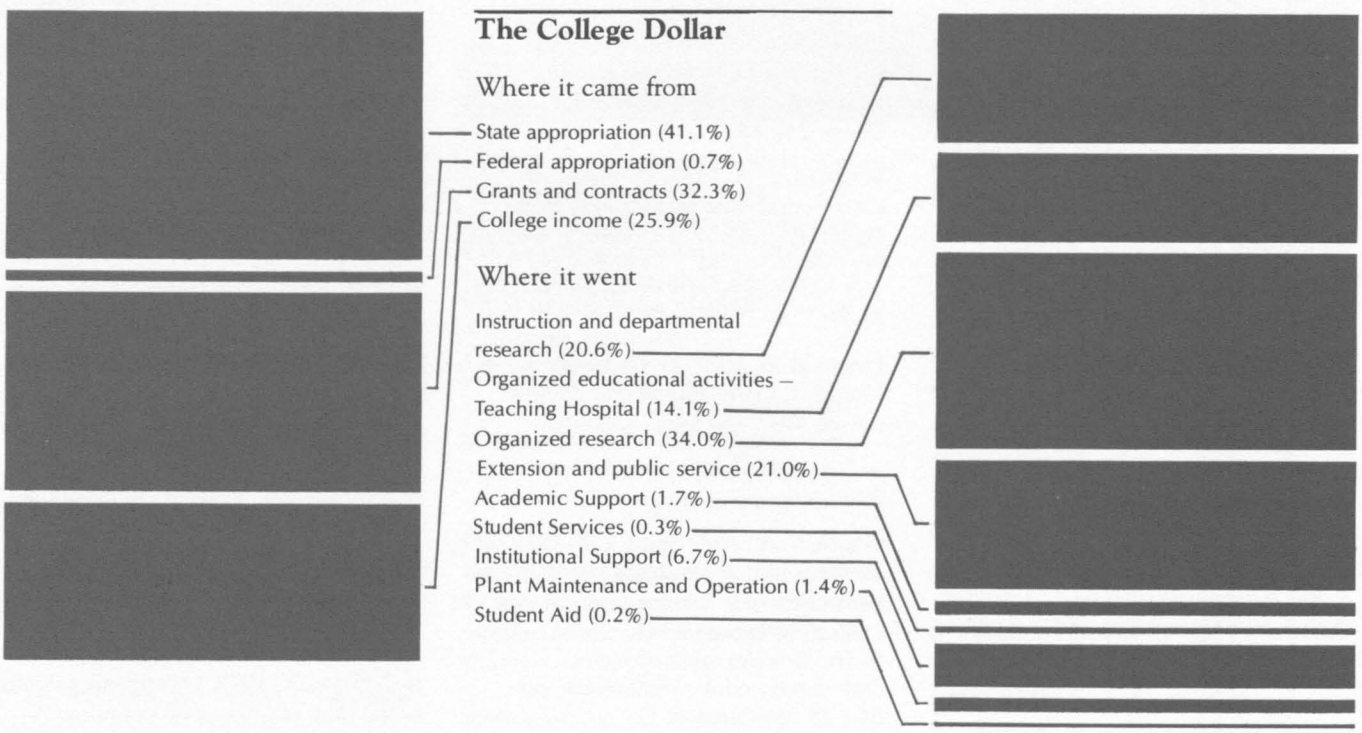
Tables 14 and 15 are summaries of the income and expenditures of the New York State College of Veterinary Medicine for the fiscal years from July 1, 1975, through June 30, 1976, and from July 1, 1976 through June 30, 1977. These figures do not include expenditures for indirect costs, estimated for 1976–77 at $1,802,665 for general support services and $2,223,167 for salary fringe benefits.

Table 14
Source of Funds

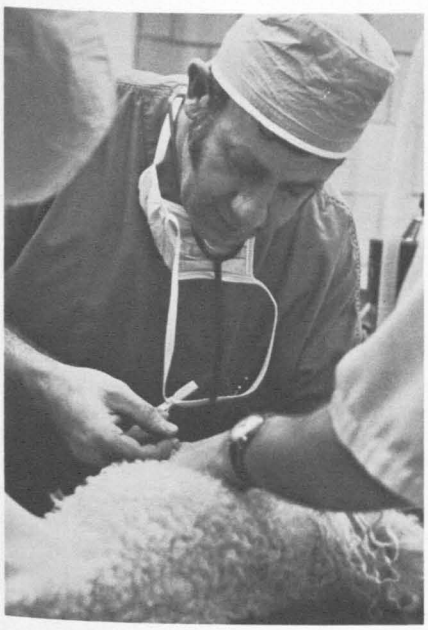
	1976–77	*1975–76*
State appropriation	$ 4,530,644	$4,748,903
Federal appropriation	77,300	46,142
Grants and contracts	3,552,572	2,620,812
College income	2,851,234	2,136,602
Total	$11,011,750	$9,552,459

Table 15
Use of Funds

	1976–77	*1975–76*
Instruction and departmental research	$ 2,272,823	$2,128,946
Organized educational activities — Teaching Hospital	1,554,888	1,427,397
Organized research	3,738,240	3,560,349
Extension and public service	2,307,813	1,482,688
Academic support	188,463	132,984
Student services	34,303	35,530
Institutional support	740,539	652,617
Plant maintenance and operation	151,845	87,910
Student aid	22,836	44,038
Total	$11,011,750	$9,552,459



Faculty and Staff



New Appointments

Robin G. Bell, *Research Associate*
Jovan Bosnakovski, *Visiting Research Fellow*
Jack Brondum, *Postdoctoral Associate*
Robert B. Brown, *Director of Student Administration*
James C. Carlisle, *Assistant Professor*
Gary L. Cockerell, *Assistant Professor*
Raymond H. Cypess, *Professor and Director of the Diagnostic Laboratory*
Ahmed H. Dardiri, *Adjunct Professor*
Elizabeth A. Dewey, *Postdoctoral Associate*
Richard P. Hackett, *Assistant Professor*
Douchka Herschel, *Research Associate*
William R. Hess, *Adjunct Professor*
William E. Hornbuckle, *Assistant Professor*
Thomas W. Jungi, *Postdoctoral Associate*
Douglas D. McGregor, *Professor and Director of the James A. Baker Institute for Animal Health*
James M. Maribei, *Postdoctoral Fellow*
Deborah J. Middleton, *Visiting Fellow*
Ronald R. Minor, *Associate Professor*
Hugh A. Poston, *Adjunct Associate Professor*
Charles B. Quick, *Assistant Professor*
William C. Rebhun, *Assistant Professor*
Victor T. Rendano, Jr., *Assistant Professor*
Michael Schoenbaum, *Visiting Professor*
Charles E. Short, *Professor*
Per Slagsvold, *Visiting Professor*
David O. Slauson, *Associate Professor*
Glen L. Spaulding, *Visiting Assistant Professor*
Ziva M. Weisman, *Research Associate*
Uriel Yarkoni, *Postdoctoral Associate*

Promotions and Title Changes

Bruce W. Calnek, *Professor and Chairman of the Department of Avian and Aquatic Animal Medicine* (from Professor)
Leland E. Carmichael, *the John M. Olin Professor and Director of the Cornell Research Laboratory for Diseases of Dogs* (from the John M. Olin Professor and Scientific Director of the James A. Baker Institute for Animal Health)
Alexander deLahunta, *Professor and Director of the Veterinary Medical Teaching Hospital* (from Professor)
J. Robert Duncan, *Associate Professor* (from Assistant Professor)
Robert M. Dyer, *Instructor* (from Resident)
Douglas E. Evans, *Instructor* (from Intern)
Robert E. Habel, *Professor* (from Professor and Chairman of the Department of Anatomy)
Nabil Hemeida, *Research Associate* (from Visiting Fellow)
Stephen B. Hitchner, *Professor* (from Professor and Chairman of the Department of Avian and Aquatic Animal Medicine)
Douglas M. MacCoy, *Assistant Professor* (from Resident)
Ronald D. Schultz, *Associate Professor* (from Assistant Professor)
Wayne S. Schwark, *Associate Professor* (from Assistant Professor)
Jeffrey S. Smith, *Visiting Lecturer* (from Visiting Instructor)
John F. Timoney, *Associate Professor* (from Assistant Professor)
Eric J. Trotter, *Associate Professor* (from Assistant Professor)
Karl K. White, *Assistant Professor* (from Senior Clinician)

Resignations

Robert A. Argenzio, *Senior Research Associate*
Clifton R. Blincoe, *Visiting Professor*
Jovan Bosnakovski, *Visiting Research Fellow*
Vernon J. F. Brightman, *Visiting Professor*
Henri P. deBoom, *Visiting Professor*
Robert W. Dellers, *Senior Research Associate*
Elizabeth A. Dewey, *Postdoctoral Associate*
John Grandage, *Visiting Professor*
Nabil A. Hemeida, *Research Associate*
Omer F. Idris, *Visiting Professor*
Ulf Lindblom, *Visiting Professor*
George J. Milanowski, *Research Associate*
Sidney R. Nusbaum, *Associate Professor and Director of the Diagnostic Laboratory*
Leon Z. Saunders, *Adjunct Professor*
John I. Taylor, *Visiting Assistant Professor*
Michael E. Villereale, *Research Associate*
Jose M. Vizcaino, *Visiting Fellow*
Zsuzsanna Wiesenfeld, *Research Associate*
Robert H. Whitlock, *Assistant Professor*

Retirements

Jack C. Geary, *Professor*
Louis L. Nangeroni, *Associate Professor*

Table 16
Residents and Interns

	1975–76	*1976–77*
Interns	13	14
Residents	7	12

Administrators and Advisers

Cornell University

Administration

Dale R. Corson, *President*
David C. Knapp, *Provost*
William G. Herbster, *Senior Vice President*
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Constance E. Cook, *Vice President for Land-Grant Affairs*
W. Donald Cooke, *Vice President for Research*
June M. Fessenden-Raden, *Vice Provost*
William D. Gurowitz, *Vice President for Campus Affairs*
Robert T. Horn, *Treasurer, Vice President, and Chief Investment Officer*
Samuel A. Lawrence, Vice *President for Financial and Planning Services*
E. Hugh Luckey, *Vice President for Medical Affairs*
Robert M. Matyas, *Vice President for Facilities and Business Operations*
Paul L. McKeegan, *Vice Provost*
Richard M. Ramin, *Vice President for Public Affairs*
Byron W. Saunders, *Dean of the University Faculty*
Neal R. Stamp, *Secretary of the Corporation and University Counsel*

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Morton Adams
Warren M. Anderson*
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Hugh L. Carey*

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Hays Clark
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Ezra Cornell
Dale R. Corson*
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David J. Culbertson
John S. Dyson*
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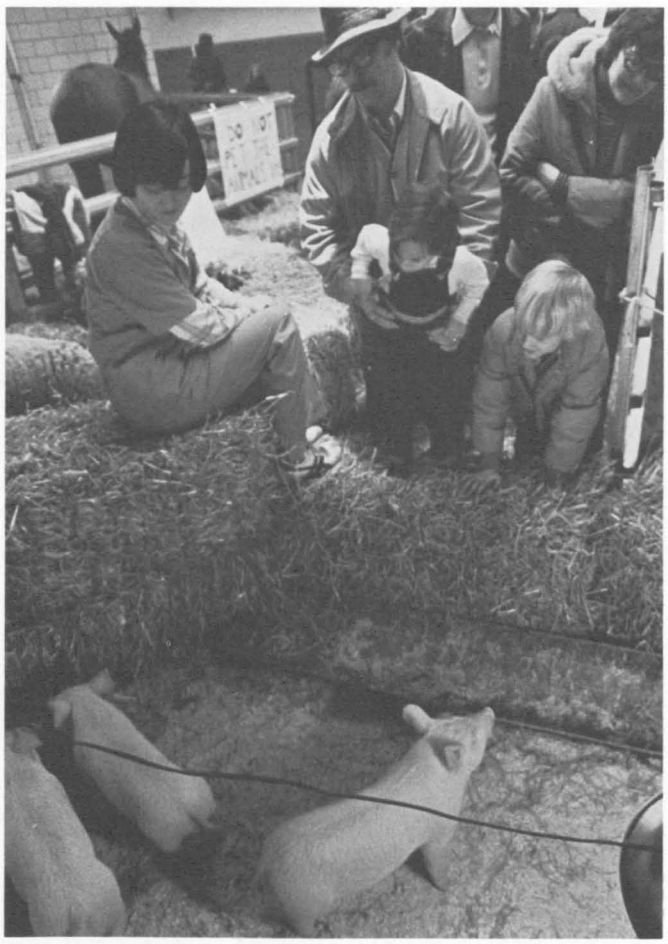
June M. Fessenden-Raden
Earl R. Flansburgh
Stephen Foley
Neil V. Getnick
Frances Giacco
William E. Gordon
Lauryn H. Guttenplan
Robert S. Hatfield
Donald F. Holcomb
G. Michael Hostage
Samuel C. Johnson
Joseph P. King
Austin H. Kiplinger
Mary Anne Krupsak*
Charles W. Lake, Jr.
Sol M. Linowitz
Robert J. McDonald
E. Howard Molisani
Ewald B. Nyquist*
Norman Penney
George Peter
Samuel R. Pierce, Jr.
David Pollak
Charles H. Riley, Jr.*
William R. Robertson
Philip Ross*



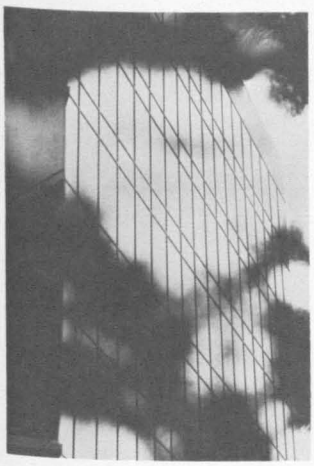
Harry E. Sampson
Nelson Schaenen, Jr.
Jean Way Schoonover
Jacob Sheinkman
Robert L. Sproull
Adrian M. Srb
Stanley Steingut*
Charles T. Stewart
Patricia Carry Stewart
Charles E. Treman, Jr.
Richard F. Tucker
Harold D. Uris
Stephen H. Weiss
Bruce Widger
Joan W. Wright
Judith T. Younger

*ex officio

State University of New York

Administration

James F. Kelly, *Acting Chancellor*
Loren Baritz, *Provost of the University*
George E. Blair, *Assistant Chancellor for Special Programs*
Murray H. Block, *Deputy to the Chancellor*
Martha J. Downey, *Secretary of the University*
Irving H. Freedman, *Assistant Vice Chancellor*
Richard E. Gillman, *Acting Vice Chancellor for University Affairs*



Herbert B. Gordon, *Deputy to the Chancellor for Govermental Relations*
Charles W. Ingler, Jr., *Associate Chancellor for Policy and Planning*
Jerome B. Komisar, *Vice Chancellor for Faculty and Staff Relations*
Oscar E. Lanford, *Vice Chancellor for Capital Facilities*
John J. Mather, *General Manager, Central Administration Services*
James E. Perdue, *Associate Chancellor for Special Projects*
James Rich, Jr., *Assistant Associate Chancellor for Health Sciences*
Walter J. Relihan, Jr., *Counsel and Vice Chancellor for Legal Affairs*
Cornelius V. Robbins, *Associate Chancellor for Community Colleges*
James S. Smoot, *Vice Chancellor for Educational Services*
Harry K. Spindler, *Vice Chancellor for Finance and Business*

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New York State College of Veterinary Medicine

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Daniel N. Tapper, *Director, Minority Affairs*
Edward J. Trethaway, *Assistant to the Dean for Public Affairs*

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Morton Adams
J. Roger Barber
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John S. Dyson
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Robert R. Marshak
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Harry M. Zweig

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Raymond H. Cypess, *Director, Diagnostic Laboratory*
Alexander deLahunta, *Director, Veterinary Medical Teaching Hospital*
Howard E. Evans, *Chairman, Department of Anatomy*
Francis H. Fox, *Chairman, Department of Large Animal Medicine, Obstetrics, and Surgery*
James H. Gillespie, *Chairman, Department of Microbiology*
Robert W. Kirk, *Chairman, Department of Small Animal Medicine and Surgery*
Lennart P. Krook, *Associate Dean for Postdoctoral Education*
Robert M. Lewis, *Chairman, Department of Pathology*
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Charles G. Rickard, *Associate Dean for Academic Programs*
Alvin F. Sellers, *Associate Dean for Research*
Charles E. Stevens,† *Chairman, Department of Physiology, Biochemistry, and Pharmacology*
Daniel N. Tapper, *Acting Chairman, Department of Physical Biology*

*Acting as Secretary of the Advisory Board

†On sabbatical leave, spring 1977; Emmett N. Bergman, Acting Chairman

Note: The preceding lists are of those persons holding office on June 30, 1977.

Further Information

Anyone interested in further information about the College or its programs is encouraged to request such information by mail or telephone. Writers should be sure to include appropriate zip codes for return mail.

General Inquiries

General inquiries should be directed to
Edward C. Melby, Dean
C-114
New York State College of Veterinary Medicine
Cornell University
Ithaca, New York 14853.

Telephone: 607/256-3201

Statistical Supplements

The following supplements, containing detailed statistical material compiled on the basis of the calendar year (1976), are available:

Report of Necropsies
Report of Parasitological Examinations
New York State Mastitis Control Program
Poultry Disease Diagnostic Laboratories

Requests for any of the above should include the name(s) of the document(s) desired and should be addressed to

Annual Report Statistical Supplements
C-114
New York State College of Veterinary Medicine
Cornell University
Ithaca, New York 14853.

Special Programs and Units

Requests for information concerning the following special programs or facilities should be directed to the appropriate persons as listed below. All addresses are at the New York State College of Veterinary Medicine, Cornell University 14853, unless otherwise indicated, and all telephone numbers are area code 607.

Admissions and Student Affairs
Mr. Robert B. Brown
C-111
Telephone: 256-7635

Aquaculture Program
Dr. James H. Gillespie
616-A Research Tower
Telephone: 256-7759

Baker Institute
Dr. Douglas D. McGregor
James A. Baker Institute for Animal Health
Telephone: 277-3044

Biomedical Communications
Mr. Robert F. Smith
L-21
Telephone: 256-7682

Biomedical Electronics
Mr. H. Donald Hinman
621 Research Tower
Telephone: 256-7670

Bovine Health Research Center
Dr. George C. Poppensiek
725 Research Tower
Telephone: 256-7676

Comparative Gastroenterology
Dr. Charles E. Stevens
D-116
Telephone: 256-2121

Comparative Medicine
Dr. George C. Poppensiek
725 Research Tower
Telephone: 256-7676

Computing Facility
Dr. Howard Moraff
826 Research Tower
Telephone: 256-7687 or 256-4525

Continuing Education
Dr. N. Bruce Haynes
427 Research Tower
Telephone: 256-7700

Development and Public Affairs
Mr. Edward J. Trethaway
G-1 Research Tower
Telephone: 256-7603

Diagnostic Laboratory
Dr. Raymond H. Cypess
207 Diagnostic Laboratory
Telephone: 256-6541

Equine Drug Testing and Research
Dr. George A. Maylin
114 Diagnostic Laboratory
Telephone: 256-6555

Equine Reproductive Studies
Dr. Donald H. Lein
M-35
Telephone: 256-7689

Equine Research Park
Dr. Jack E. Lowe
517 Research Tower
Telephone: 256-5402 or 256-7656

Equine Research Program
Dr. Herbert F. Schryver
516 Research Tower
Telephone: 256-7656

Equine Infectious Diseases, Laboratory for
Dr. Leroy Coggins
216 Research Tower
Telephone: 256-2150

Feline Research Laboratory
Dr. Fredric W. Scott
618-A Research Tower
Telephone: 256-7663

Graduate Study, Field of Veterinary Medicine
Dr. John F. Cummings
414 Research Tower
Telephone: 256-7688

Laboratory Animal Medicine and Services, Division of
Dr. Clyde I. Boyer, Jr.
220 Research Tower
Telephone: 256-7787

Library (Flower Veterinary Library)
Ms. Mia Reinap
C-201
Telephone: 256-2083

Poultry and Fish Diagnostic Laboratories
Dr. Bruce W. Calnek
E-117
Telephone: 256-5449

Teaching Hospital, Veterinary Medical
Dr. Alexander deLahunta
G-130
Telephone: 256-6545

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