

The Southeast Wing

The history, curriculum, and personnel of the Department of Veterinary Physiology and Pharmacology

Wm. L. Munson, '42

ALMOST a century ago, the eminent French physiologist, Claude Bernard, to whom many early physiological discoveries are attributed, described medicine as the science of sickness. Physiology, he stated, is the science of life; therefore, it should be the scientific basis of medicine.

In the organization of veterinary and medical colleges, it is commonly the plan for the two major subjects of physiology and pharmacology to be combined for administrative and educational purposes in one department. Such is the case in the Division of Veterinary Medicine at Iowa State College. One of the several vine-covered buildings making up the attractive Veterinary Quadrangle is entirely given over to the Department of Physiology and Pharmacology. The building was planned for the investigation and teaching of physiological and pharmacological subjects, and is well arranged and equipped for the pursuance of general and research work.

The close relationship between these major fields of medical science is evident. The purpose of the work in physiology is a detailed study of the normal functions or activities of the cells, tissues, organs and systems of the animal body. Pharmacology is the study of drugs, including the changes in organ functions that may be produced by their actions. Such information enables the practice of rational therapeutics in clinical medicine.

Over one-half the time of second-year students of Veterinary Medicine at Iowa

State College is given to the study of physiology and pharmacology. Of the fifty-two quarter credit hours required in that year, twenty-seven are devoted to these subjects. Certain special work in advanced therapeutics is also offered to senior veterinary students.

Graduate Work

In addition to the teaching of physiology and pharmacology to undergraduate veterinary students, the department offers both major and minor graduate work in physiology and also service courses to animal husbandry, dairy husbandry and poultry husbandry students.

While both physiology and pharmacology have been taught as an integral part of the curriculum ever since the first organized course in veterinary medicine was offered at Iowa State College, it was not until 1911-12 that a department specifically responsible for teaching these subjects was established. This came with the construction of the present group of veterinary buildings wherein facilities for the various major departments were provided. Dr. H. D. Bergman (I. S. C. '10) was given the responsibility of organizing and developing the new Department of Physiology and Pharmacology. In 1916, he was accorded the rank of full professor and appointed head of the department. He has continued in that capacity ever since.

Among former graduate fellows or assistants associated with the department who have continued in veterinary educa-

tion or research may be mentioned the following: Dr. H. H. Dukes (I. S. C. '18) at Cornell University; Dr. H. W. Orr (I. S. C. '18) Oklahoma A. & M. College; Dr. L. H. Schwarte (I. S. C. '28) Iowa State College; Dr. W. T. Oglesby (I. S. C. '31) Louisiana State University; Dr. R. P. Link (I. S. C. '34) Kansas State College; and Dr. C. F. Cairy (I. S. C. '36) Michigan State College. Following graduation in 1918, after a brief period of service at Clemson College, S. C., Dr. H. H. Dukes returned to Iowa State in 1921 where he served as assistant professor of veterinary physiology until 1929 when he was transferred to the Veterinary Research staff. Dr. Dukes resigned in 1932 to accept the position as head of the department of physiology in the veterinary college at Cornell University. He was succeeded in the department at Iowa State in 1929 by Dr. E. A. Hewitt (I.S.C. '18), at that time on the faculty of the University of Minnesota.

Credits

Being responsible for the teaching of both the major subjects of physiology and pharmacology in the veterinary curriculum, likewise offering considerable work in physiology to other than veterinary students, the time of the staff members is largely occupied with classes and laboratories. From a small beginning many years ago, the teaching work of the department now includes eighteen quarter hour credits in physiology and nine quarter hour credits in pharmacology for sophomore veterinary students and three quarter hour credits in therapeutics for seniors. In addition, fifteen quarter hour credits in physiology are taken by graduate students outside the veterinary college and six quarter credits by similar undergraduate students. Active interest in research, however, has always been maintained and over a period of years productive research has been conducted in the fields of digestion, blood physiology, gastro-intestinal motility and phases of pharmacology. Numerous papers have been published by the various staff members.

The Staff

The present members of the staff of the Department of Physiology and Pharmacology are:

- Dr. H. D. Bergman, professor and head of department.
- Dr. E. A. Hewitt, associate professor.
- Dr. L. M. Jones, assistant professor.

Dr. Henry Dale Bergman

Dr. H. D. Bergman is a native Iowan, having been born at Newton, Iowa. He was graduated from Iowa State College



Dr. H. D. Bergman

in 1910 with the degree of doctor of veterinary medicine. In addition, his educational preparation included graduate study in the University of Chicago during the summers, 1911-14. Following graduation, he spent one year in general practice returning to Iowa State in the fall of 1911, where in 1912 with the rank of assistant professor, he was assigned the task of organizing the new department of veterinary physiology and pharmacology. He was advanced to associate professor in 1913, and in 1916 was made full professor and head of the department.

Dr. Bergman teaches in both the fields of physiology and pharmacology, including therapeutics as a part of the latter. In addition to institutional responsibilities, he has always been active in various organizations working for the advancement of the veterinary profession. He is a past secretary (1918-23) and president (1924-25) of the Iowa Veterinary Medical

Association, and in 1938-39 was president of the American Veterinary Medical Association. He has also served the latter organization in several other important capacities, including the chairmanship of the Committee on Education. At the present time he is permanent chairman of the A. V. M. A. committee representing veterinary medicine in the current revision of the National Formulary, 7th Edition, official in 1946.

Dr. Earl Albon Hewitt

Dr. E. A. Hewitt, associate professor of physiology has the distinction of holding five degrees: an A. B. degree from Des Moines College; B. S. and D. V. M. from Iowa State College; and an M. S. and Ph. D. from the University of Minnesota. He has served as a fellow in the anatomy department of Iowa State College, and as instructor and assistant professor of medicine at the University of Minnesota. His present position is associate professor of physiology, since 1929. Dr. He-



Dr. E. A. Hewitt

witt conducted a private practice for a time after receiving his D. V. M. degree. He has also served on Tuberculosis Eradication with the Minnesota Livestock Sanitary Board and on Bang's Disease Control with the United States Bureau of Animal Industry.

Dr. Leo Meyer Jones

Dr. L. M. Jones, is assistant professor of physiology. He came to Iowa State College in 1935 as a graduate from De

Pauw University with an A. B. degree, and enrolled in the Division of Veterinary Medicine. During his course of study he was employed in the physiology laboratory as a graduate assistant. Dr. Jones received his D. V. M. and M. S. degrees from Iowa State College in 1939. He serv-



Dr. L. M. Jones

ed one year in the physiology department as instructor; and was then advanced to assistant professor which rank he now holds.

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 The isolation of a luteinizing hormone (a pure protein) from the anterior pituitary, by Drs. Rothea and Shedovsky, of the Rockefeller Institute, and Drs. Grup, Van Dyke, and Chow, of the Squibb Research Institute, was announced in Science for Aug. 23, 1940. As yet, sufficient quantities of this pure hormone for clinical tests have not been prepared, but tests on rats prove its potency. Since a follicle-stimulating hormone (also a protein) in nearly pure form, has previously been isolated, we now know that the anterior pituitary produces at least two distinct gonadotropic hormones.

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 Many a valuable calf, weak at birth, may be saved by the subcutaneous injection of from 200 to 300 cc of dam's blood twice daily, supplemented with from 10 to 15 drops of aromatic spirit of ammonia in from 1½ to 2 ounces of milk given per os every two hours.