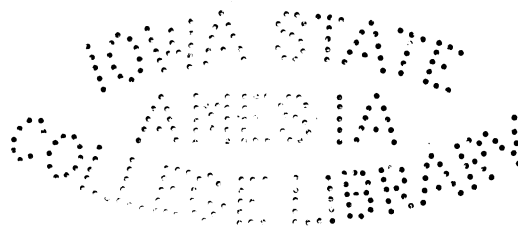


History of Veterinary Medicine at Iowa State College

by C. H. STANGE



1879--SEMI-CENTENNIAL--1929

JUNE 8, 9 and 10, 1929

Ames, Iowa

DEDICATION

To that group of men who have dedicated their lives to a service of mankind, who regard their profession as something more than a means of livelihood, who prevent unnecessary loss to the people whom they serve and needless suffering among dumb beasts: to the veterinary profession this history is dedicated.

ACKNOWLEDGMENTS

I wish to acknowledge the very kind assistance of Dr. L. H. Pammel for his preparation of the material on the lives of Drs. Detmers, Stalker, Fairchild, and Niles; Professors Bessey, Bennett, Halsted, Beal, Osborn, and Summers; of Miss Charlotte King for material concerning Dr. L. H. Pammel; and of Mrs. W. E. Harriman for material concerning Dr. W. E. Harriman.

I also want to acknowledge the assistance of Professor Blair Converse, as without his help the publication of this material would have been a very difficult task.

C. H. STANGE.

STATE AVOY
ALBANY
MAVU 303 300

I

GENERAL HISTORICAL SKETCH



EST some of the readers of this summary of historical high lights in the development of the Veterinary Division of Iowa State College to its present status, should get the impression that veterinary medicine was a new science when the Division of Veterinary Medicine was established in 1879, a few general statements of historical interest concerning the profession as a whole, may be permissible.

The first period in the development of veterinary medicine begins with our earliest recorded history and ends with the establishment of the first veterinary school in 1762. From 1762 to the present time may be regarded as the second or educational period.

Those who first attempted the "healing" of animal diseases were undoubtedly keen observers, but they were exceedingly superstitious, many of their superstitions being reflected in the early writings. Egyptian monuments bear carvings illustrating the treatment of animals.

The Greeks at an early date had considerable literature referring to the treatment of animals. The study of the anatomy of animals was founded by Aristotle (384-326 B. C.), who was probably the greatest thinker of his time. Before Alexander's death he was banished from Athens as a "heretic, a disbeliever in the gods." He finally committed suicide. Hippocrates, another Greek writer and veterinarian, lived about the fourth century. Absyrtus, another Greek who lived about the same time, was the most important writer of all on animal diseases.

One of the most prominent Roman veterinarians was Vegetell (fourth century A. D.), and among his and other Roman writings we first find the word "veterinaria." Little more was produced until the tenth century when an emperor (Constantine Porphyrogenitus) caused a compilation of all veterinary literature available at the time.

From this time until the opening of veterinary schools, grooms and herdsmen seem to have carried on treatment of animal diseases in a very empirical way. Some works appeared, however, and among them were those of Rufus (12th or 13th century), who was born of a noble family and was remarkably free from superstition. His work "De Medicine Equorum" was written in Latin.

Ruini, an Italian, published the first important printed work in 1598. It contained many illustrations.

VETERINARY SCHOOLS

France held leadership in medical sciences and culture for about half a century and it was near the beginning of the period that the first veterinary school in the world was established by Bourgelat (1712-79), who did much to break the bonds of quackery and superstition and gave science room to develop. The school was opened to students on January 2, 1762, at Lyons. On June 30, 1764, King Louis XV gave the institution the title of Royal Veterinary College. On December 27, 1765, a second school was opened at Alfort of which Bourgelat was also appointed Director. Like most men devoting their lives to science, he died poor.

In 1825 the French Government erected another school at Toulouse to give especial attention to the diseases of cattle. During the time of Napoleon I and his extension program, one of the three new schools for which plans were made was established at Turin, Italy.

Austria: An Italian (Scotti) opened a school for the treatment of diseases of the horse at Vienna in 1764. Scotti was sent by the Government to Lyons to study and on his return recommended the opening of a veterinary school, which was done on January 12, 1767.

Belgium: A Royal Veterinary School was instituted in 1832 and organized in 1835 near Brussels.

Russia: Russia had three Veterinary Institutes well supported by the old government. As to their present status I am not apprised. One was located at Kharkov, one at Dorpat and another at Kazan.

Denmark: A Royal Veterinary School was founded in 1773 by Alilgaard. It was reorganized in 1858, made a Royal Veterinary and Agricultural High School and moved to the suburbs of Copenhagen.

Sweden: Sweden founded its first veterinary school at Skara, in 1774. This school was founded by Hernquist who had studied at Lyons. One of his pupils, Norling, succeeded him in 1814 and in 1820 the Swedish Government ordered him to organize the present school at Stockholm. Norling remained Director of both schools until his death in 1855. The Skara school was a preparatory school for the one at Stockholm. In 1867 the Swedish Government ordained that a student must be a graduate in letters from the University before he could enter the Veterinary College.

Germany: A royal order establishing a veterinary school at Stuttgart was issued August 21, 1796.

At Hanover a school was established, the first movement toward which was taken April 15, 1777, Kerstuig being its organizer.

The Veterinary School at Munich was established in 1790 and until 1852 devoted itself largely to the training of "practical" men.

In 1786 a veterinary school was founded in Berlin, which was opened in 1790. Like many of the other European schools its founding was stimulated by the heavy losses resulting from the ravages of animal diseases. About 1817 there was much complaint about its graduates as it had been graduating little better than farriers and it was pro-

posed to unite it with the University, but a "horsey element" prevented the plan from being adopted. Certain benefits, however, resulted, and among others was Dr. Gurli's connection with the staff. Dr. Gurli was a thoro scientist and by some regarded as the founder of our present day veterinary anatomy. Among others who have been associated with this institution and who have added to its fame are Hertwig, Gerlach, Schutz and Diekerhoff.

While history indicates that practically all of the early veterinary colleges in Europe and the United States were either established or sponsored by persons especially interested in fine horses, no such factor is apparent in the establishment of the "School of Veterinary Science" at the Iowa Agricultural College and Farm. Practically all "new" agricultural countries where the program includes animal industry have found it necessary to provide some method and organization for controlling animal diseases before animal industry could be successful. Hog cholera was prevalent among the swine herds, Texas fever was not infrequent and anthrax and glanders were commonly reported. It is not strange therefore, that the act signed by Governor Lowe on March 22, 1858, providing for the establishment of a State Agricultural College and Farm should include "veterinary studies" among other courses to be taught.

In December, 1871, President Welch reported that "for additional instruction the seniors of the agricultural course will need a professor of practical agriculture, who, besides other important duties will give lectures on comparative anatomy and physiology and veterinary science." Veterinary science and practice was included at that time in the second semester of the senior year in agriculture.

The first class to graduate from the College was the Class of '72 and this class received instruction in veterinary science. Dr. E. W. Stanton and O. H. Cessna were among the graduates, and Dr. Cessna still has his "notes" on veterinary science taken during the lectures given by Dr. H. J. Detmers, the first professor of veterinary science at Iowa State College. As an illustration, on Tuesday, September 17, 1872, Dr. Detmers in discussing glanders before the class said as regards cause and origin: "Infection most frequent if not the cause." (Loeffler and Schutz did not discover the *Bacillus mallei* until 1882.)

The catalog included comparative anatomy, physiology, pathology, veterinary science and practice. I find no record of a veterinarian on the staff during 1873. It was in that year that M. Stalker graduated, having taken some lectures under Dr. Detmers. There was no veterinarian on the staff, according to available records, from 1872 to 1877 at which time Dr. Stalker received his degree V.S. from the Ontario Veterinary College.

These were pioneer days in many ways. The teaching was not so highly specialized as it is today. Much of the information we now possess was then still unknown. It is not strange, therefore, that Dr. M. Stalker should be elected as Professor of Agriculture and Veterinary Science in November, 1876. Unfortunately, then as

now, no generally understood or accepted nomenclature in colleges prevailed, for we find in May, 1877, an appropriation of \$50.00 being made to the "Department of Veterinary Science."

It was during this year that Dr. Stalker had taken work at the New York College of Veterinary Surgeons and the Toronto Veterinary College and received his degree of Veterinary Surgeon. It is apparent that he was practicing veterinary medicine and using "cases" for instructional purposes, as in December, 1877, the Board of Trustees adopted an order regulating the diseased animals being brought to the Veterinary Department. There was some development of the work during 1878, which acted as a sort of preparation for the developments of 1879. It was during 1878 that Dr. Stalker conceived the idea of starting a veterinary school. On May 23, 1879, the Board of Trustees adopted the word "schools" in place of the word "departments."

At this time the combined course in agriculture and veterinary science was a four-year course. The sophomore year was largely stock judging and the last year was devoted to veterinary "science." the catalog statement was as follows: "The study and practice of Veterinary Science occupy 5 days a week during the senior year. Lectures are given on veterinary anatomy, physiology, materia medica, pathology, disease and treatment, surgery, sanitary science and practice. Free clinics are held one afternoon each week, where the students have an opportunity of seeing an extensive practice and acting as assistants in surgical operations. Animals taken into the hospital for treatment are placed under the care of some members of the class who treat them under the direction of the professor in charge. Students take this work in rotation, so that all become familiar with actual practice. The means of illustration in the classroom include skeletons, preparations of the various organs, plates, surgical instruments, collections of parasites and pathological specimens. Each student is required to dissect one subject."

The action on May 23, 1879, is recorded as follows: "Ordered that the course in the Veterinary School be extended one year; that Professor Stalker and the President of the College be authorized to arrange the proper studies therefor, and that the Board hereafter on recommendation of the faculty will confer a suitable diploma on such students as shall complete such extended course." Thus was the birth of the Veterinary Division ("School") 50 years ago. Since that time its existence has been uninterrupted. This marks the founding of the first veterinary school in the west. Also, it makes the Iowa State College Division of Veterinary Medicine the oldest state veterinary college in existence.

How inadequate those facilities seem today. How well those men did with the limited facilities and knowledge available at that time. Dr. Fairchild, organizer with Dr. Stalker of the "Veterinary School," gives us some conception of conditions in the following words:

"In those days we knew nothing about oil immersion lenses or sub-

stage attachments and our entire work in pathology, so far as the microscope was concerned, was pathological histology. . . . As our work became generally known, several medical schools offered our students advanced standing in medical classes. Among them was Rush Medical College in Chicago. . . . The relation of bacteriology to medicine was but little known. Pasteur was in the midst of his investigations and Lister was slowly bringing to the profession a knowledge of the relation of pathogenic bacteria to inflammation and their influence in wound healing. . . . The course of instruction was two years, that is, two years of nine months each. At that time a regular medical course was two years of lectures of from 16 to 24 weeks each. Our course was a graded course while in medical colleges the course was not graded, and all students listened to the same lectures without distinction as to class or grade, altho a few medical schools were making some experiments in the direction of grading their classes."

The course of study in the beginning was as follows: Junior year—1st term: botany, chemistry, zoology, anatomy, dissection, clinics; 2nd term: botany, materia medica, comparative anatomy, chemistry, anatomy of domestic animals, dissection, clinics. Senior year—1st term: medicine, surgery, organic chemistry and toxicology, materia medica, histology and physiology, therapeutics, dissection, clinics; 2nd term: medicine, surgery, comparative pathology, therapeutics, heredity and inherited diseases, dissection, clinics.

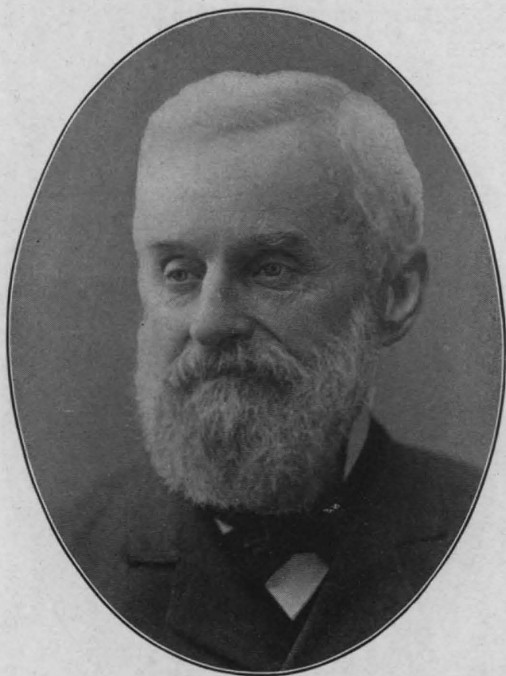
It is of interest to note that at about this same time the studies included in the course of some of the best European schools were physics, chemistry, zoology, botany, histology, physiology, anatomy, medicine, pharmacology, pathology, surgery, clinics, dietetics, obstetrics, veterinary police. These European schools in most cases were a century or more old when the Veterinary "School" was established at Iowa State College, yet its organizers and early teachers had the vision and, in spite of the advantages of age and prestige possessed by European schools and the greater development of the east (N. Y.), laid a sound foundation at a small college near a practically unknown village surrounded by the prairies of the middle west. This is the foundation on which the present Veterinary Division was built, and all honor is due these pioneers. The people of the state to whom they must look for support were pioneers themselves, and not all were convinced that the college authorities were doing things as they should be done. Criticism came especially on agriculture, and as Veterinary "Science" was combined with agriculture in the early days, Dr. Fairchild's statement on this is interesting:

"At that time there was a great cry among agricultural editors and agricultural politicians that the college was drifting away from the original intent of the founders and was becoming a scientific and literary institution. President A. S. Welch was held responsible for this apparent failure of the agricultural department. It was not understood at that time, apparently, that each department must stand on its own feet, but this one in particular must be forced in some

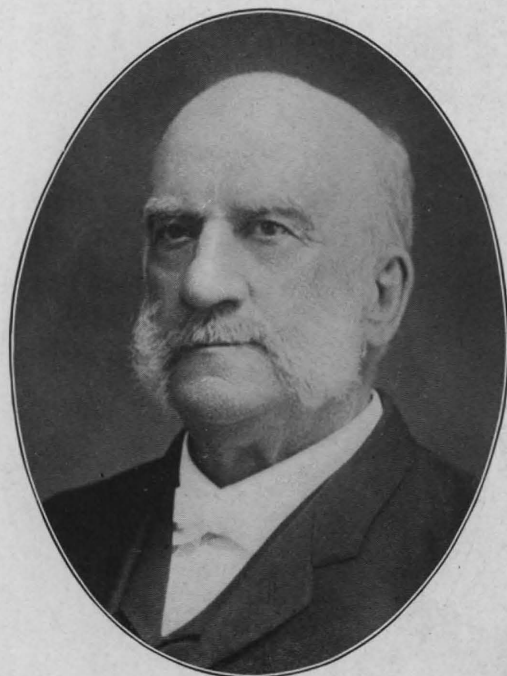
artificial manner. There was no serious attempt on the part of agricultural writers to show why students did not classify in agriculture and therefore tried to make it appear that agriculture was discouraged by men high in authority. From an intimate knowledge of the work and the sentiments of the responsible members of the faculty we know that this was not true. The real cause of the small number enrolled in agriculture was the fact that farmers did not send their sons to college to learn agriculture, which they believed could be better taught at home on the farm, but to secure for their boys a liberal education to fit them for any profession or employment they might desire to take up, and the young men from the farm who were working to secure an education felt that same way. But few had faith in scientific agriculture, which was then believed to be purely a manual employment, and there was no career for a college bred agriculturist. Those were bitter days for President Welch and his associates who were in every way endeavoring to lay a broad foundation for the future interests of agriculture. They had a broad vision of the future which is today fully recognized. After many years, in view of the enormous growth of the 'Iowa State College' (which it would have been heresy to have thus named in 1879), we feel slow to forgive certain agricultural editors and politicians, and many others for attacks on the good faith of the real builders of the College. We remember with gratitude the good offices of Governor Gue, "Father" Clarkson, J. S. Clarkson, Governor Carpenter, Governor Kirkwood, Dr. Warden and others in supporting the administration.

"For many years we looked forward with apprehension to the annual meeting of the Board of Trustees, who had from year to year warned the faculty to keep their satchels packed for sudden removal; when faculty salaries ranged from \$1,400 to \$1,600 per year."

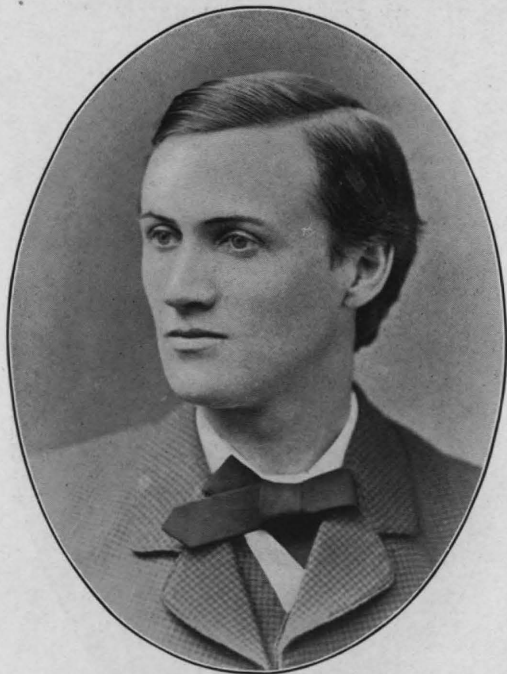
Born in such environment as has been pictured, the new School of Veterinary Science had many more difficulties to survive before it could be assured of a fixed position in the organization of the college. President Welch in his report (1878-79) says: "It has opened with great promise, and enjoys in the highest degree the public favor. It is, moreover, well supplied with other equipment, but how can it meet a great public want without a local habitation?" The "local habitation" problem was solved by giving the "Veterinary School" "quarters" in the "President's Old House," together with the department of Botany. This building is also known as South Hall and later as Music Hall. The "President's House" had just been vacated because President Welch had built himself a new home known as "The Gables." Dr. Fairchild recalls, "a small bedroom with one window which could be used as a laboratory (it was the best we could find). For larger classes we were permitted to use the front parlor when Professor Bessey did not need it for botany classes. We had three or four Beck student microscopes left over from Professor Bessey's laboratory, and a larger microscope, a Schrouer belonging to the writer, with 1/4 and 1/6 Hartnachs lenses. With this



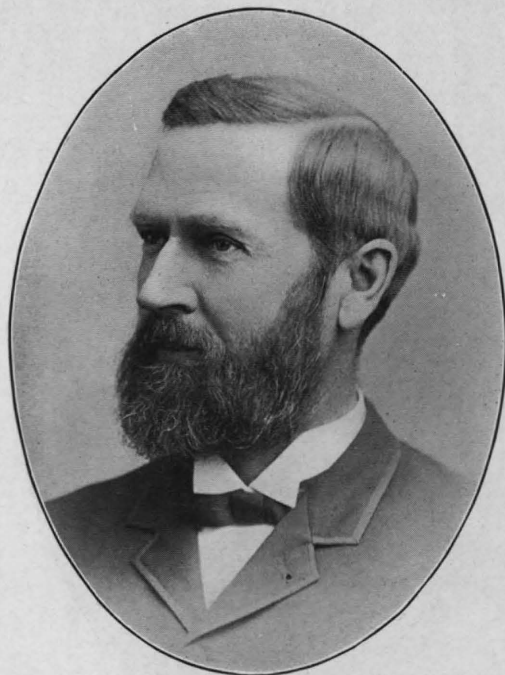
ADONIJAH S. WELCH
President 1868-1883



SEAMAN A. KNAPP
President 1883-1885



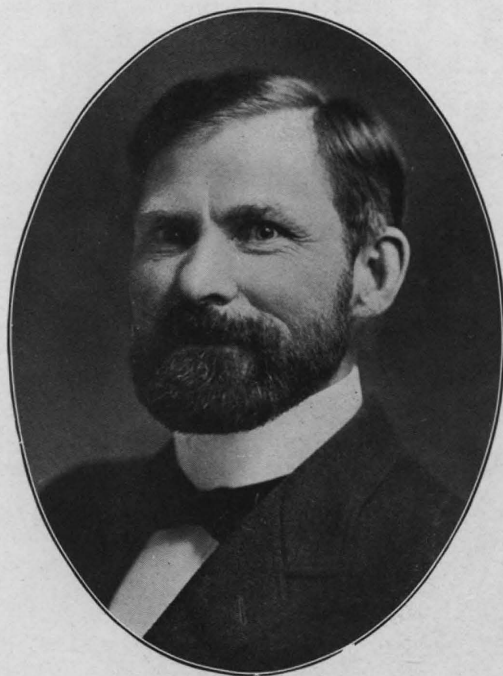
LEIGH S. J. HUNT
President 1885-1886



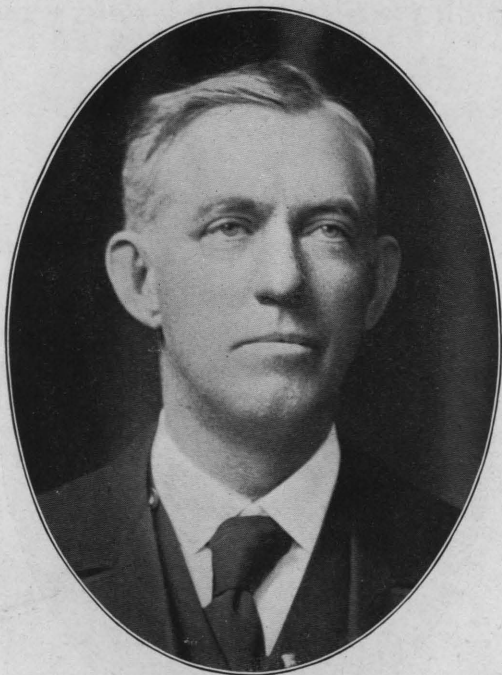
WILLIAM I. CHAMBERLAIN
President 1886-1890



EDGAR W. STANTON
Acting President 1890-1891; 1902-1903; 1911-1912



WILLIAM M. BEARDSHEAR
President 1891-1902



ALBERT B. STORMS
President 1903-1911



RAYMOND A. PEARSON
President 1912-1926

equipment and with specimens of tissues from the butcher shop, a few staining fluids and reagents, we were in position to study specimens of blood, connective tissue, muscle, etc. We were now (March 1879) waiting for the classification of students with some anxiety. Would any young men classify as veterinary students?

"To provide for the clinical and practical side of the veterinary work in the early days a barn located west of the Horticulture Department was renovated and called the Veterinary Hospital for the use of Professor Stalker. This was an exceedingly unpretentious building, only a barn at best, and a poor one at that, but here the first classes received their clinical training."

The first clinics were held in the "president's barn," which was located on the side hill back of the "president's house" referred to by Dr. Fairchild. This, however, was used for only a few years when more room was needed. The comment by Dr. Fairchild describes the condition of the building.

It was not clear whether that was the same barn referred to in the Board of Trustees meeting of March 28, 1882, when the Board refused to pay Dr. Stalker \$225.61 for a "barn" he had purchased for the use of the Veterinary School. Dr. Stalker evidently felt as the faculty would now that the college should provide its own buildings, for on May 5, 1882, Dr. Stalker offered to give the "barn" and \$40.00 to the College in exchange for 40 acres of land in Boone County, which offer was accepted.

It was apparent from the records that the principal part of the faculty from a medical viewpoint consisted of Dr. M. Stalker and Dr. David S. Fairchild. Dr. Stalker, as already noted, had been on the faculty since 1873, and Dr. Fairchild was serving as college physician. On December 4, 1879, he was elected as Professor of Histology, Pathology, Therapeutics in the "Veterinary School" and \$50.00 was appropriated. In addition, President Welch and Dr. Stalker were to collect a moderate fee from the students for his lectures. On May 24, 1880, however, we find that he was voted a salary of \$400.00 to begin March 1, 1880.

The faculty consisted of: M. Stalker, B. S., V. S., Professor of Veterinary Science; D. S. Fairchild, M. D., Professor of Pathology, Histology, Therapeutics and Comparative Anatomy; T. E. Pope, Professor of Chemistry; C. E. Bessey, Professor of Botany; Herbert Osborn, B. S., Professor of Entomology.

The college catalogue of 1879 announced that, "The course occupies two years. Sessions begin in March and continue till the latter part of November, with a vacation of two weeks in July. At the close of each term examinations will be given on the subjects taught during the term. These examinations will be final, with the exception of the following subjects: viz., anatomy, materia medica, therapeutics, and veterinary medicine and surgery. On the last named branches the student must pass an examination at the end of his course. The method of examination will largely be under the con-

trol of the Professor in charge, but in every case will be such as to give ample proof of the efficiency of the candidate."

The entrance requirements of the first announcement were stated as follows: "Candidates for admission must be at least sixteen years of age. Before entering the classes they must pass an examination in reading, orthography, geography, grammar, and arithmetic. Candidates for graduation must be eighteen years of age or over; must have completed the entire course of study, and attained a standing of seventy-five per cent in all the studies pursued; and finally shall present an acceptable thesis upon some subject approved by the faculty. A graduation fee of five dollars will be required."

The degree, Doctor of Veterinary Medicine, which has since become the standard of all the veterinary colleges of the United States, was conferred in the beginning only on those with some advanced standing, as indicated by the following from the first announcement: "Students having completed the two years' course of study and fulfilled all the requirements for graduation, will be entitled to the diploma of the College, with the degree of Bachelor of Veterinary Medicine, B. V. M. Students who have graduated from any of the courses of the Agricultural College with the degree of B. S., or who may have completed an equivalent course of study in any well recognized College or University, and who shall subsequently complete the course of study in the School of Veterinary Medicine, will be entitled to the degree of Doctor of Veterinary Medicine, D. V. M."

In 1880 President Welch reported that "a course of study has been adopted that is in no way inferior to those of the best English or American colleges. The most important want is a building that should cost not less than \$4,000.00 or \$5,000.00 to be used as a hospital and provided with pharmacy office, operating room, and the proper appliances for instruction and experimentation."

The need for a building to house the "Veterinary College" was evidently not the only need the institution had as on May 26, 1880, the Board of Trustees appropriated \$5,752.00 for a building for "Veterinary, Agriculture and Botany." Apparently the plans were somewhat too elaborate as on December 10, 1880, it was reported that the building had cost \$6,000.00. This building was what was later known as "North Hall." Hospital facilities were still lacking as it seemed necessary for the Board to pass an order on November 5, 1881, that stock under treatment must be kept separate from the farm stock. This led Dr. Stalker to purchase a barn for a hospital and we have already referred to his difficulty in being reimbursed. The temporary relief led President Welch to report, "The Veterinary School which occupies spacious rooms in the new "North Hall" is supplied with abundant facilities for doing its peculiar work thoroughly. Its arrangements for doing regular clinical instruction are complete, its courses of study are full and comprehensive and the faculty is composed of able and accomplished men. We believe that this School, the only one in the west, meets an urgent public necessity, and as

soon as the advantages it offers are fully known its halls will be crowded with students. It has already several graduates." Dr. Stalker, however, asks at this same time for accommodations for clinical cases and adds, "with these additions to our present facilities, we can offer advantages to the student of Veterinary Medicine superior to those of any other school in America."

At this time Veterinary Medicine was listed as one of the three "Special Schools" maintained in the College.

In 1884 President Welch asked for \$10,000.00 for a Veterinary Hospital. Dr. Stalker reported that facilities had been added to by the erection of a small building to be used as an infirmary, but it was inadequate for hospital work. The extent of the clinic during the year was "about 50 boarding patients received for treatment and 300 patients presented at clinics." No case receiving treatment at the hospital during the year proved fatal. A clinic was held every afternoon at the hospital at which attendance was required. Dr. Stalker suggests a \$10,000 appropriation for "a convenient building to be used as an infirmary." Dr. Stalker, who was also acting as state veterinarian, was called, according to reports, "to one-half the counties of the State on account of contagious diseases." Ergotism, glanders and cerebro-spinal meningitis (probably what we now call forage poisoning) are especially mentioned.

On November 6, 1882, the Board of Trustees approved a contract for a hospital building. Records indicate that the contract was for \$500.00. Two days later \$1,000.00 was appropriated for a "model of a horse." As one looks back now this seems rather disproportionate, but the care and treatment of hospital cases was not developed as it is now. Also clinics consisted of comparatively few animals, as the livestock industry was not developed in the neighborhood of the college as it is at present. There is the additional fact that in those days anatomy was considered the most important branch of veterinary medicine and dissections were made of fresh material instead of carefully preserved specimens as is the case today.

At this time (November 24, 1882) we find that Dr. Fairchild received a 60 percent increase in salary (\$500 to \$800) and anatomy was added to the list of studies he was to teach.

Expenditures of the "Veterinary Department" were reported to be \$225.60, which amount probably purchased several times the quantity of material the same amount would today. This is illustrated by the charges which we find "fixed" for the school year 1884 as follows: board per week, \$2.25, fires and lights per week, 40 cents, incidentals per week, 21 cents, room rent per term, \$1.50 - \$3.00. The same report records the graduation from the Veterinary Division in '83 of Wm. B. Welch, son of President Welch, the other member of the class being Chas. H. Flynn.

As a sidelight on student life, it is of interest to note that on November 24, 1882, "dancing on the College grounds is forbidden" by action of the Board of Trustees.

President Welch had struggled with the new institution and as now had endured much undeserved criticism thoughtlessly aimed at college presidents by politicians, etc. He was retired on November 27, 1883, and succeeded by S. A. Knapp, father of our present business manager, Herman Knapp, and of the President of the Alabama Polytechnic Institute, Bradford Knapp.

There had been considerable development in the interest in the "Veterinary School" during the first five years of its existence. The growth of the other work (botany and horticulture) with which it was housed in "North Hall," together with the increasing needs presented by Dr. Stalker to the President and Board of Trustees, led the Board on January 14, 1884, to "order" Dr. Stalker to visit Boston to study plans of a veterinary hospital located there. Five months later (June 18, 1884) the Board of Trustees appropriated \$10,000 for two buildings for the "Veterinary Department" and let a contract to V. Tomlinson for the construction of a "Veterinary Hospital" for the consideration of \$5950; also, \$150 for a well, pump and sewers for the veterinary buildings. We find, however, that this fund was overdrawn \$600.76 as reported January 13, 1885. Dr. Stalker reports later that "two additional buildings have been erected, one for the theoretical branch of the work, the other for an infirmary. The hospital is a substantial brick building 45x50 feet two stories high. From a sanitary point of view this is one of the best, if not the best infirmary in the United States." This building was opened June 1, 1885, and was used by the Veterinary Division until 1912 and removed in 1926 to make room for the new Memorial Union.

Dr. Stalker also reported at the same time that, "The building devoted to the theoretical branch of the work is situated about 15 rods from the hospital." This became known also as the "Sanitary Building," later as the college hospital and finally as Music Hall. It was torn down at the same time as the "Old Veterinary Hospital" and is the second building once occupied by the Veterinary Division to become a music hall as its last stage of usefulness.

Drs. Stalker and Fairchild remained the nucleus of the veterinary faculty, but were occasionally assisted by others with medical training. Funds would not permit of their regular employment, as we find that on January 13, 1885, Dr. E. S. Bullis was elected to give lectures on *materia medica* "provided he shall not now nor at any time in the future receive compensation for the same."

At about this time (December, 1884) President Knapp asked to be relieved of the presidency and on January 14, 1885, Leigh Hunt was elected to the position.

Students were not so numerous during those years and Dr. Fairchild writes: "Some three or four young men classified. The second year there were 12 students classified." While there were only 305 students in college in 1886, Dr. Stalker reported that, "Twenty-one students classified in this course for the year 1885 and six graduated."

"Our graduates are taking a high rank in the profession. . . .

With the support from the state its importance demands there is no reason why this school may not be made the equal of any institution of its kind among English speaking people."

Records indicate another 25 percent increase in Dr. Fairchild's salary (\$800 - \$1,000) for 1886. About this time some of the other states were becoming interested in veterinary education. The University of Pennsylvania had established a "School of Veterinary Medicine" during the year 1884—this still is one of our leading schools. Harvard University had established one in 1882, which however, is no longer in existence.

During all these years Dr. Stalker was acting in the dual capacity of head of the School of Veterinary Medicine and state veterinarian. President Chamberlain said (Nov. 11, 1886) in this connection, "Dr. Stalker's work gives general satisfaction to the students and to the people of the state. . . . His work as state veterinarian helps bring reputation and students to the college. . . . I regard him as a most valuable man whom it would be a great loss to lose." President Chamberlain had been elected on May 13, 1886, as President Hunt had resigned on account of ill health after 14 months of service.

Dr. Stalker reported at this time (1887) that "as a faculty we have decided that two years does not afford sufficient time to acquire the thorough scholarship that is demanded by the progressive state of Veterinary Science. This has led to the adoption of three years." At that time the Veterinary Department had but one class room while there were "two and sometimes three classes in progress at the same time."

Kerosene lights were still in common use, but Dr. Stalker was asking for the installation of electric lights. Clinics were increasing as it was reported that 250 patients had been admitted to the hospital (1887).

Evidently it was considered a privilege and honor to be associated with a college in those days as Drs. Schooler and Cruttenden of Des Moines and Dr. W. B. Niles of Webster City gave gratuitous lectures during the year (1887).

Financial support continued meagre and salaries remained more or less stationary. Two hundred dollars for a house surgeon and about four hundred dollars for current expenses seemed an established rule. President Chamberlain evidently took considerable interest in veterinary medicine as in the Thirteenth Biennial Report he includes among other things the following statements: "A veterinary physician and surgeon is in some just sense a 'professional' man. . . . It will be readily conceded that in no way could this college more effectively promote the agricultural wealth and welfare of Iowa than by sending forth each year a band of thoroughly equipped scientific veterinarians to supplant quacks and save life, prevent contagion, and promote health among our domestic animals."

At this same time (1889) Dr. Stalker reports the three year course as successful. He does not think that it will reduce the number of students "in the end." At the same time he renews his request made

two years before for more room. Expenditures reported average about \$650.00 per year. Salaries remain the same.

During the next year (Nov. 13, 1890) President Chamberlain resigned and E. W. Stanton was elected as acting president. Dr. Stalker is now asking that "a well trained veterinarian should be added to the present corps of instructors." This was approved with the understanding that he devote a part of his time to Experiment Station work. This was combined with house surgeon and \$1,600 appropriated for the position. At this same time (Nov. 14, 1890) the Agricultural Experiment Station was divided into sections and one of the sections was "Veterinary." Professor James Wilson, who had been elected professor of agriculture on the same day (January 9, 1891) that Wm. Beardshear was elected to the presidency, reported for the Experiment Station, mentioning corn stalk disease, hydrophobia of cattle and enzootic abortion in mares and cows.

The experiment station work concerning animal diseases was turned over to Dr. W. B. Niles (of the University of South Carolina) who was elected assistant professor of Veterinary Science on January 9, 1891, services to begin March 1 (salary \$1700).

In President Beardshear's first report (1891) he gives the attendance (college) as 425. With reference to veterinary medicine he said, "The department of Veterinary Medicine has outgrown its present limits" (sanitary building), "and there would be a necessity for a new building in order to give facilities for instruction and dissection room to meet the large demands upon the department. Our present Veterinary Hospital is outgrown. . . . It is imperative that a Veterinary Hospital be secured the coming year." He asked \$7,000.00 for this purpose and \$50,000.00 for a new building for agriculture, horticulture and veterinary science. (This building is now known as Old Agricultural Hall). Dr. Stalker reports thirty-seven students (1891) and expenditures of \$699.73, Drs. Stalker and Fairchild still receiving \$1600.00 and \$1000.00 respectively.

At this period in the development of the "Veterinary Department" (June 17, 1891) we find the first reference to a bacteriology laboratory in connection with the action of the Board of Trustees when they decided that a bacteriological laboratory should be arranged in "North Hall" for "Veterinary and Botany as soon as Professor Osborn vacates." A few weeks later, July 7, 1891, a committee of the Board of Trustees recommended that the legislature be asked for "additional veterinary buildings." The legislature approved the asking for an appropriation for Agricultural Hall, but the \$7,000.00 for an addition to the Veterinary Hospital was not secured.

Apparently the students in those days felt free to communicate with the Board of Trustees as we find reference to a communication (June 1, 1892) from the veterinary students being returned "with the suggestion that it be sent to the President."

New Agricultural Hall (now Old Agricultural Hall) was in process of construction during 1892 and President Beardshear reported in

1893 that the building had been completed, \$35,000.00 having been appropriated." Also, "On the third floor are the offices of Drs. Stalker and Niles . . . bacteriology laboratories and two recitation rooms." (These were used by the Veterinary Division until 1912, when the present group of veterinary buildings was completed.)

Dr. Stalker evidently had considerable persistence, as he renewed his request for "additional operating and dissecting rooms." (This additional room was not secured until twenty years later).

It is interesting to note that the veterinary section had in preparation "some mallein" (1893) and stated that "tuberculin has also given promise of becoming a valuable diagnostic agent. We wish to assist in settling this point by trying the agent in this state, if opportunity offers." It is probably in connection with this work that Dr. Stalker asked for a "building for communicable diseases" (June 29, 1892). It was refused. (It was 35 years before such a building became available.)

There was some discussion about this time (Dec. 1, 1892) as to whether men under 21 should be graduated in veterinary medicine and a committee of the Board of Trustees recommended against "granting diplomas to students in the veterinary course until 21 years of age." This was referred to the faculty, but final action is not recorded.

Dr. Fairchild, who with Dr. Stalker had been largely responsible for the teaching work in the Veterinary Department, resigned on July 25, 1893, to become division surgeon for the Chicago & Northwestern Railway. A committee (president of board, President Beardshear and Dr. Stalker) were authorized to select a successor. Dr. I. W. Smith of Charles City was elected (July 26, 1893) to fill the vacancy. This vacancy included college physician as well as professor of histology, pathology and therapeutics. Dr. Smith (husband of Sallie Stalker Smith) urged the finishing of the top floor of "New Agricultural Hall" in order to relieve cramped quarters.

The teaching work in the Veterinary Department was handicapped by lack of teaching force and it was necessary to use non-resident lecturers. Drs. Amos and Morse of Des Moines gave lectures in 1894. There were other needs developing and on December 13, 1894, requests were made for an appropriation of \$350.00 for a museum, \$100.00 for specimens, jars and alcohol for laboratory work, and \$30.00 for repair of microscope. These were granted with the exception of the \$350.00, which was applied to current expenses.

Salaries were small in those days. The president did not receive more than one-half the salary commanded by some of our better paid heads of departments today. Undoubtedly their wants were small as compared to ours and values entirely different. The regular budget carried (December 14, 1894): Stalker, \$1,600.00, I. W. Smith, \$1,500.00, Niles, \$1,700.00. Dr. Smith, however, resigned on May 15, 1895, and on July 17, Dr. W. E. Harriman was elected to fill the vacancy.

The development of some of the basic sciences (bacteriology, etc.)

made it necessary to provide greater laboratory facilities. This was urged by a committee of the Board of Trustees on November 15, 1895. As a result, \$100.00 was appropriated for the "Pathology Department." Additional buildings to the extent of \$5,000.00 are still being requested.

Drs. Stalker and Niles reported for the Veterinary Section of the Experiment Station that, "During the past two years the work has consisted principally of investigations concerning bovine tuberculosis. Tuberculin as an aid in diagnosis has proven of great value." Tuberculosis in the state "has been shown to be much more prevalent than was supposed." "Knowing that this affection . . . can be communicated from cattle to human beings by the use of milk and flesh from affected animals the importance of this work cannot be overestimated . . . and enables veterinarians and stock owners . . . to eradicate the disease after it appears in the herd." "Some attention had been given to the treatment of hog cholera."

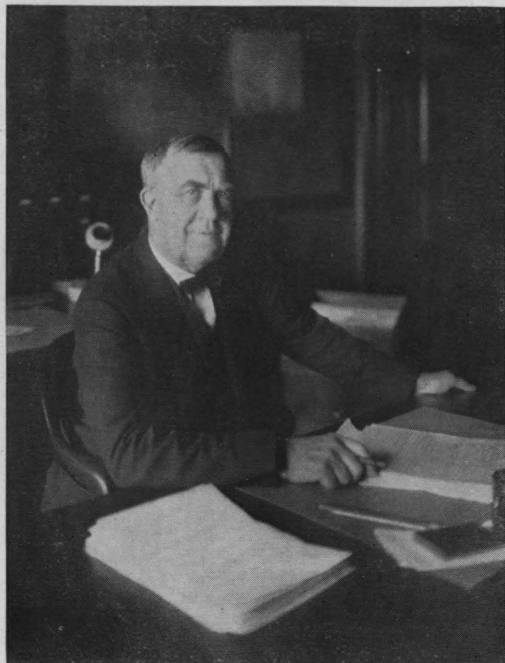
Buildings were not the only things difficult to get in those days (as now), as on January 21, Dr. Harriman asked for a microscope and reported that he could buy one worth \$200.00 from Mrs. I. W. Smith for \$125.00. As a result of this request, the board appropriated \$15.00 to rent the microscope for one year with the privilege of buying it and applying same on purchase price. The purchase was accomplished on May 15, 1896, when \$110.00 was appropriated.

In his report to the Board of Trustees on June 30, 1897, President Beardshear submitted among other things "a large number of communications in regard to the Veterinary Department and its work." Records do not reveal the nature of these communications.

More modern conveniences, such as a college water supply, were now being supplied. Action on November 18, '97, "provided that the Veterinary Hospital be connected with this supply and that the windmill be taken down."

For the veterinary section, Drs. Stalker and Niles reported "that Texas fever is no longer dangerous" (as the Federal quarantine line had been established). "Glanders among horses practically exterminated. . . . No adequate remedy for hog cholera. It is not rational to expect a remedy . . . for the cure of the disease. There is nothing in medical science to justify such expectation."

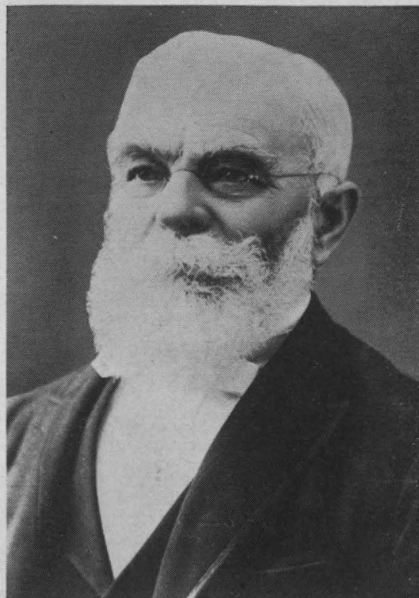
In the Veterinary Department report (1897) the following from Dr. Stalker is of special interest. "When Congress provided for the establishment of Agricultural Colleges . . . up to this time no branch of industrial education had suffered more from neglect, or was in a more hopeless state of empiricism than Veterinary Science. At the time of the passage of this act there was not in the United States a single institution that was entitled to the claim of being a Veterinary College measured by the standard of judging such organizations at the present time. The Iowa Agricultural College was one of the first to take steps in this direction and finally adopt a course of study and invite students to its privileges. . . ."



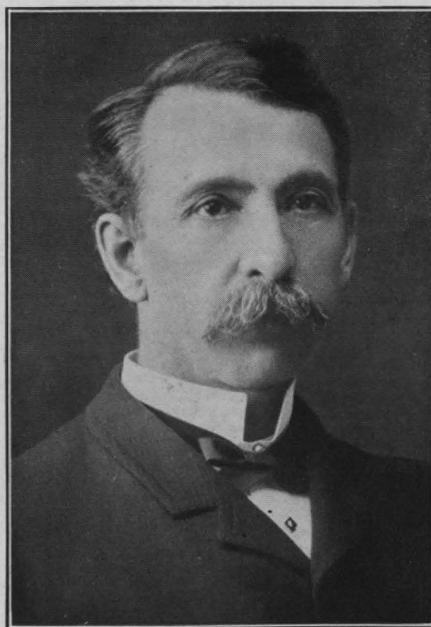
HERMAN KNAPP
Acting President 1926-1927



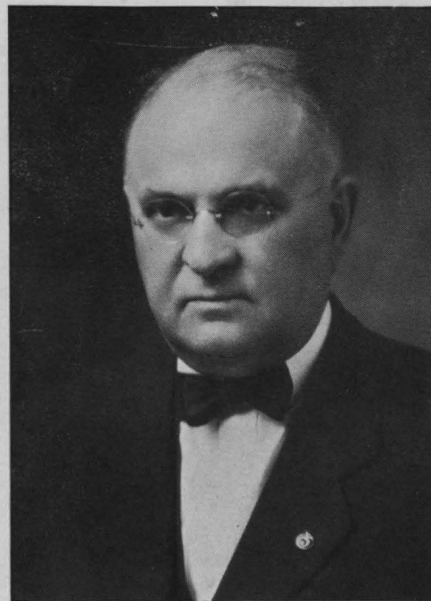
RAYMOND M. HUGHES
President 1927 to date



H. J. DETMERS
Professor of Veterinary Science
1872



MILLIKEN STALKER
Professor and Dean 1879-1900



J. H. MCNEIL
Professor and Dean 1900-1908

The next year (1898) brought with it the beginning of the organization of the Veterinary Department. Dr. W. B. Niles retired from the faculty on June 30. On June 15, Dr. Stalker had appeared before the Board of Trustees and discussed reorganization. The interest in reorganization was not confined to the faculty and Board of Trustees, as on July 13, 1898, Dr. J. I. Gibson appeared before the Board of Trustees "and presented his views regarding the reorganization of the Veterinary Department, also submitted communications from Drs. Brown and Johnson of the State Veterinary Association." On the same day "a petition and resolution of certain veterinary students relating to reorganization of the Veterinary Department was presented." These matters were referred to the faculty committee. In the report of this committee we find reference to "the necessity of greater activity in this department," and on the part of president, "active stimulation of the department with the ends in view as follows: 1. More pupils, 2. More interest, 3. More class work, enthusiasm and industry." At the same meeting the Veterinary Department was voted the following budget: Stalker, \$1,800.00; W. E. Harriman, \$1,000.00; house surgeon, \$200.00; assistant, \$400.00; for veterinary experiments, \$390.00. This is rather a small budget to carry out the program laid out for the Veterinary Department. Later in the same year (November 16, 1898) Dr. Stalker was relieved of "station work" and Dr. Harriman of therapeutics, and it was voted that "a strong man be procured for a salary not exceeding \$1,400.00." At the next meeting (December 9, 1898), Dr. J. J. Repp was elected as professor of therapeutics, pathology and assistant station veterinarian, at a salary of \$1,200.00. One hundred fifty dollars was set aside "for the purchase of such apparatus, supplies," etc. as Dr. Repp may need.

During the year 1899 the president reported that laboratories for pathology and histology had been fitted up in Agricultural Hall and important additions had been made to the courses in agriculture and veterinary science. "In the division of Veterinary Medicine the College has reached a period when a substantial enlargement is imperative. . . . Quite a number of strong Veterinary Colleges have been established in recent years." A hospital, laboratories, etc., are asked for and "In addition to all this, it will be necessary to have the corresponding equipment of men and apparatus. An estimate of \$75,000.00 is in moderation."

Fifty veterinary students were in attendance at this time.

Funds for the support of the college were still very difficult to secure as reflected by the budget for 1899-1900, which was as follows: Stalker, \$1,600.00; Harriman, \$700.00; Repp, \$1,200.00; house surgeon, \$200.00; current expenses, \$350.00; pathology, \$50.00; histology, \$50.00.

The reason for the feeling that there was further need for reorganization is not apparent, but on January 25, 1900, the Board of Trustees referred the reorganization of the Veterinary Department

to a committee of Robinson, Barrett, Hungerford and President Beardshear with request that they arrange a course of study. On April 11, 1900, a resolution adopted by the Iowa State Veterinary Association at its January meeting was referred to a committee. This resolution asked that the faculty be increased. The faculty committee reported on May 24, 1900, "That on reorganization of the Veterinary Department the head of the department receive \$1,800.00 per annum; that Professor Stalker be retained as resident lecturer at a salary of \$600.00; that the salary of the house surgeon be fixed at \$200.00; and that Professor Repp's salary be fixed at \$1,300.00 per annum. . . . That no person be presented for graduation in this department who has not shown proficiency in scholastic studies by passing such tests or examinations as the President of the College shall require."

Such developments bring with them needs of another kind so the president on September 19, 1900, found it necessary to ask for office rooms "for new assistants in Veterinary Science;" repairs for Veterinary Hospital to accomodate pharmacy "and additional current expense funds."

At this same meeting action was taken which was probably of the greatest significance thus far of any with the exception of the founding of the "School of Veterinary Science" on May 23, 1879. President Beardshear was made Dean of the Veterinary Division and was authorized to secure J. H. McNeil and L. A. Klein as members of the staff. The president reported the next day that Dr. J. H. McNeil would be professor of anatomy and principles and practice of surgery; Dr. L. A. Klein, professor of theory and practice of medicine and sanitary science.

College was closed now in summer instead of during winter months. Apparently up to this time the hospital had been closed during the summer, for on June 11, 1901, the Board of Trustees "ordered that the veterinary hospital be kept open during the summer."

Additional assistance with the instructional work was necessary with other developments and an additional instructor was authorized on July 18, 1901, "at not to exceed \$600.00." This new position was filled on September 5, 1901 by securing Carl W. Gay of Syracuse, N. Y.

During these years other things were happening at Iowa State College which were of interest to all students and faculty. There were now about 1000 students in college. Enrollment was increasing rapidly when "Old Main" building burned (December, 1900). The experimental barns were lost by fire about the same time.

President Beardshear reported to the Board of Trustees that "In Veterinary Science the experimental station part of the work had been hung up practically during the last biennial period (1900-01) for lack of teaching force in the veterinary faculty, so that all the force had to do the instruction and no one was left to do the original investigation of the laboratory." He asks in this report for \$2,500.00 "for conducting investigations in Veterinary Science. The whole

realm of disease having to do with domestic animals opens now with urgent demands upon the Experiment Station."

This report carries the most significant recommendations contained in any report made thus far. President Beardshear was Dean of the Veterinary Division and had undoubtedly given considerable thought to its work and future development. He had brought in new men like McNeil, Klein, Gay, Repp. The president's report refers to these developments in the following words, "The teaching force is greatly strengthened. The course of study has been revised and largely augmented. The standard of admission of scholarship is measurably elevated. The hospital work has been greatly improved. . . . This Division of the College will need very substantial appropriations. . . . Laboratories must be provided on a scale not hitherto approached. A hundred thousand dollars could be spent in this division for improvements the next biennial period without any element of exaggeration or extravagance."

This was the best indication we have that a comprehensive program had been outlined for the Veterinary Division by President Beardshear and his veterinary staff. Fate, however, was not kind to the Veterinary Division at this time as needs due to the burning of the north wing of Old Main Building (December, 1900) and the experimental barns created a shortage of funds, which made additions to the Veterinary Division impossible. This was, however, not the greatest blow to the execution of the program outlined by President Beardshear, for he was spared to the college for less than a year after this program was presented in a report to the legislature.

The faculty now (1901) consisted of J. H. McNeil, L. A. Klein, J. J. Repp and C. W. Gay. Dr. Klein resigned, effective February 1, 1902, and Dr. Gay was promoted to fill the vacancy. Dr. Repp was doing experiment station work part time and therefore was released July 18, 1902, from all work in the Veterinary Division except pathology and histology. At the same meeting Dr. Walter Stuhr, who had been graduated in the class of 1902, was elected house surgeon and assistant at a salary of \$800.00. The faculty now (1902-1903) consisted of McNeil, Gay, Repp and Stuhr.

The remainder of Old Main building burned this year (August 14, 1902). President Beardshear had just died, August 5, 1902, at his home on the campus—"The Knoll."

Dr. E. W. Stanton, who gave a whole life of wonderful service to the entire college, was appointed acting-president. The Veterinary Division had lost a dean and the college a president to whose wonderful qualities of personality and leadership any tribute attempted by the writer would be utterly inadequate. Such a tribute was beautifully given by Dr. A. B. Storms in his first report to the Board of Trustees in the following words:

"To the statesmanlike planning, the unselfish devotion, the rare executive ability, and the indomitable energy of the lamented Dr. Beardshear, the present vigorous and healthy condition of the Iowa

State College is very largely due. The impress of his ideals and the impetus of his spirit are deeply and enduringly felt. His tomb is appropriately upon the college campus, but his living memorial is the college itself. As one stands within the beautiful and spacious campus grounds, and hears the chiming of the bells and thinks of Dr. Beardshear, who so loved the trees and the sky, and as one feels the eager, thrilling currents of youthful ambition and enthusiasm and gladness, and breathes the atmosphere of this college of the people, his thought drifts almost unconsciously into the words of the poet Sill, that were often upon Dr. Beardshear's lips:

'Forenoon and afternoon and night. Forenoon,
And afternoon, and night,
Forenoon and —what!

The empty song repeats itself. No more?
Yea, that is Life; make this forenoon sublime,
This afternoon a psalm, this night a prayer,
And Time is conquered, and thy crown is won.'

"On every hand are the marked evidences also of the thoroughly faithful and intelligent administration of the affairs of the college in the interim since Dr. Beardshear's death."

Dr. McNeill, who had been a very close friend of President Beardshear and his chief advisor, continued under acting-president Stanton. Dr. McNeill, who always stood for thoroughness in all branches of veterinary work, was urging extension of the course of study to four years. Permission to prepare such a course was asked of the Board of Trustees on December 31, 1902.

For about eight months (August 5, 1902 to April 7, 1903) the Veterinary Division was without a dean, but the veterinary profession in the state had become interested and urged that a veterinarian be appointed dean. (This was done on April 7, 1903, when Dr. J. H. McNeill was elected, being the second veterinarian to hold that position. The division was now nearing the quarter century mark and with a well established veterinary profession in the state and a rapidly growing livestock industry the responsibilities and duties of the person at the head of the Division of Veterinary Medicine multiplied rapidly.

Development in other lines was also rapid at this time. Agriculture was outgrowing its quarters; Central Building was in the process of construction; the Dairy Building was no longer adequate; a new heating plant was needed; students were coming faster than they could be comfortably accommodated. The college had in fact become "embarrassed by prosperity," or, as President Storms stated, "the college has grown much more rapidly than its resources If the support fund of the college had grown relatively with the expansion and growth of the institution, that fund would now be considerably more than double what it is."

Such was the situation facing Dr. J. H. McNeill when he was made Dean on April 7, 1903, and Dr. A. B. Storms when he was elected President on July 2 of the same year.

The budget adopted on July 16, 1903, included J. H. McNeil, C. W. Gay, W. A. Stuhr and a vacant position in medicine and sanitary science. Dr. J. J. Repp withdrew from the college during the summer months (1903) and on August 21, Dr. M. Jacob was elected to fill the vacancy. This year (1903) also marks the introduction of the first four-year course to be adopted by any veterinary college in this country. There were 30 freshmen entered that fall, and President Storms reported later that, "the experiment of making the course in Veterinary Medicine four years in length has proven successful . . . It would appear . . . that in veterinary medicine as in human medicine, the school that seeks to furnish the most thoro and scientific education to its students is appreciated by the better class of young men, who are expecting to qualify themselves for a creditable professional career."

Dr. McNeil reported that, "the requirements for admission have also been raised . . . We now have, both as to quality and numbers, a much higher and more satisfactory condition than ever before in the department."

The value of buildings, of equipment and the expenses of the Veterinary Division in 1903 were given as "Veterinary Hospital, \$8,000.00, Equipment Veterinary Section Experiment Station, \$926.75; Equipment Veterinary Department, \$2,757.30; current expense appropriations averaged about \$500.00 per year; salaries, \$800 to \$1500.00." How the staff carried on the work in Veterinary Medicine in such a satisfactory way (there never have been many "failures" among the graduates of Iowa State College) is difficult to understand. Naturally with such a limited staff even with the enormous energy put into the work by each one, only the most essential things could be taught.

In his report the President refers to this situation in the following way: "Owing to the meagre salaries paid the professors and instructors in Veterinary Science, we have been unable to retain our faculty from year to year as would have been desired." In further reference to the "Veterinary School" President Storms said, "Its work is of high character and its graduates obtain immediate professional recognition . . . A new building, furnishing hospital facilities, laboratories and lecture rooms, and office accommodations, together with very much fuller equipment is necessary."

Dr. McNeil's desire for high standards is also reflected in his first report, as dean, to the president. It contained the following words: "I sincerely hope that the last barrier to the maintenance of a high standard has been swept away forever, and that the candidate for admission will be measured by the same rule that governs the admission to the other divisions of the college." The budget, however, which was adopted for 1904 showed but slight "symptoms" of improvement. Salaries ranged from \$1200.00 to \$1700.00 with \$550.00 for current expenses and \$600.00 for experimental work in veterinary medicine. The clinics had grown to over 1000 cases and to relieve this situation \$175.00 and some lumber from the old creamery building were used to build

some "sheds" to house the hospital cases. Dr. McNeil had asked, as President Beardshear had done before him, for a new building. He recommended one "costing not less than \$150,000.00."

There was but little encouragement to an ambitious faculty and Dr. Jacob resigned, effective September 1, 1904. Dr. C. W. Gay, who had been taking animal husbandry work, transferred to the animal husbandry department. Dr. F. R. Ahlers, who had been graduated in 1902, and Dr. L. M. Hurt, who had been graduated in 1904, were elected to fill the vacancies. After serving one year Dr. Ahlers resigned, and the vacancy was filled by the election of Dr. R. R. Dykstra, who had been graduated in June. If the faculty is the "heart" of an educational institution, 25 to 50 per cent of the "heart" was lost each year because of lack of sufficient funds for faculty support. Dr. McNeil, however, kept up the morale and interest of the students and faculty, largely by his own tireless efforts and personality, and the budget for 1905-1906 showed salaries \$1200.00 to \$1800.00, current expenses \$842.00, and veterinary experiments, \$400.00.

The student enrollment was increasing and the clinics were becoming larger, in fact, had far outgrown the facilities provided.

During the past few years the college, in order to meet the needs in some other divisions which were also suffering from "growing pains," had purchased the dairy farm of 170 acres; had added 140 acres to the main farm, 10 acres to the dairy farm and had purchased 20 acres for a poultry farm. New Agricultural Hall was under construction (cost, \$340,000). The forge shop and machine shop were erected and a central heating plant costing \$165,000 was being started. The veterinary budget for 1906-1907, therefore, showed little changes (salaries \$1300 to \$2000, current expenses, \$600.00 and \$600.00 for experiments). The funds for experimental work were little used as the faculty of four veterinarians was not able to do the teaching as thoroly as it desired, not to mention conducting "experiments." An additional item found in the budget this year as follows, "\$330.00 for stenographic help for the dean."

In 1906 Dean McNeil reported to President Storms that "the division of Veterinary Medicine never received young men so well qualified to take up their work. . . . At the close of the last school year there were graduated from the Veterinary Division the first men from a school in America maintaining a graded four year course of study in Veterinary Medicine." Regarding new buildings, Dean McNeil states, "the great State of Iowa with her extensive agricultural and kindred interests can ill afford to be behind in appropriating funds for her Veterinary School, when in other lines she is so far in advance of other states. . . . One hundred and fifty thousand dollars could be used for this purpose and not one cent squandered, and I most respectfully urge that some effort be directed towards securing such an appropriation."

In reporting to the Board of Trustees, President Storms states, "I would commend for especially earnest consideration, the plea of Dean

McNeill, for the erection at the earliest practicable moment of a veterinary building in which to house this growing and important division of our work."

No relief seemed to be in sight in spite of these pleas, so on May 23, 1907, Dr. L. M. Hurt resigned, effective at the close of the school year. On the same date the budget for the following year was adopted with salaries from \$1,400.00 to \$2,200.00, current expenses, \$1,080.00. A few weeks later (June 4, 1907), Dr. W. A. Stuhr resigned and C. H. Stange, who was being graduated, was elected, "subjects to be arranged."

The faculty now consisted of J. H. McNeill, R. R. Dykstra, C. H. Stange, W. E. Madson. Dr. McNeill still hoped for relief in the way of buildings and faculty support, but at the same time was interesting the livestock industry in disease control and eradication. With Dean Curtiss he discussed tuberculosis eradication before the Board of Trustees and the board expressed the desire that the college might be the leader in the work to eradicate tuberculosis from the state.

When the budget for 1908-1909 was adopted, salaries ranged from \$1,500.00 to \$2,300.00, current expenses, \$1,200.00.

At this time, 1908, the University of Ohio needed a surgeon in the Veterinary College, which position was offered to Dean McNeill and President Storms presented his resignation to the Board of Trustees on September 30, 1908. Concerning this, President Storms reported to the Board of Trustees that, "we have suffered a most serious loss in the resignation of the Dean of the Veterinary Division. Dr. McNeill would not have considered resigning if he could have had reasonable assurance of prompt attention to the needs of the Division in building and equipment and an adequate faculty."

A committee of the Board of Trustees in submitting a report stated that "more adequate provision must speedily be made for this Division of our college. We should either frankly abandon the Veterinary Department or provide for creditable work. We believe that great credit is due to the Dean, Dr. McNeill, for achieving results that are so creditable with such meagre resources and facilities. . . . We ought to provide . . . more experienced men, in part at least, for our faculty. Such men cannot be secured for the salaries we are paying."

The classification of the freshman and sophomore veterinary students was now taken over entirely by the junior dean's office, which had been only partially true up to this time. The Junior College was established in 1904 by President Storms, presumably on the theory that the first two years of our college courses consist of work largely continued after graduating from high school and, therefore, difficult for the dean of a technical division to supervise. The larger part of the first two years of most of the college courses was taught in the Division of Industrial Science and would, therefore, conform to the general idea underlying the establishment of a Junior College. With the students in the Veterinary Division it was a somewhat different matter, as approximately 75 percent of the work taken by the veterinary student was given in his own division, the remainder being

divided between science and agriculture; yet it was difficult for those in authority to understand why the veterinary faculty wanted to deal with their students from the beginning. During the past two years a student adviser has been appointed from the veterinary faculty whose duty it is to advise with freshmen and sophomores under the supervision of the dean of the Junior College.

President Storms renewed his request for additional support for veterinary buildings and faculty, a \$3,400.00 increase, or a total of \$9,800.00 for faculty support, being asked. He stated further that "plans and specifications have been prepared for a building that will cost approximately \$150,000.00. . . . The great State of Iowa can ill afford to be behind in appropriating funds for her Veterinary School. . . . One hundred and fifty thousand dollars could be used for this purpose and not one cent squandered."

An inventory at this time (Fall, 1908) showed:

Buildings, hospital	\$10,000.00
Equipment of veterinary section Experiment Station	804.33
Equipment of division	4,449.82
Expenditures, fees, 1907-1908	977.00
Support, 1907-1908	1,377.93
Clinic receipts	1,510.70

Following Dean McNeill's resignation, President Storms acted as dean. Dr. Stange was authorized "to make purchases, audit bills, sign collections, cash reports, etc., and attend to correspondence, acting under the direction of President Storms as dean. Dr. H. E. Bemis, a graduate in the class of 1908, was elected (September 30, 1908) to the faculty. On the same date the building committee of the board was instructed to prepare plans for a "Veterinary Hospital, cost not to exceed \$150,000.00." It was also adopted "that permission of the next legislature be secured for building the same from special millage tax."

A committee consisting of Messrs. Brenton and McElroy of the Board of Trustees, who had investigated libraries and veterinary buildings in the east, stated that the "University of Pennsylvania buildings are more extensive than we need, but we should build ultimately with this idea in view."

Since Dr. McNeill's resignation on September 30, 1908, a committee of the board had been considering a successor. This committee reported to the Board of Trustees on March 17, 1909, "that C. H. Stange had been selected as dean of the Veterinary Division . . . effective February 4, 1909." C. H. Stange became thereby the third veterinary dean of the Iowa State College. Before he accepted the appointment he had the assurance that the Veterinary Division would receive the same consideration as did the other divisions of the college.

Even with this assurance there was some hesitancy in accepting the appointment, as experience in organization or administrative work, which seemed so necessary, was not possessed by the appointee at that time. In fact if there had been a full realization at that time of Dr. Stalker's experience and the difficulties encountered by Dean McNeill, it is doubtful if the appointment would have been accepted.

Youth (Dr. Stange was 28 years of age when appointed dean) and inexperience sometimes lead persons into attempting things older and more experienced heads would not attempt.

With an optimism "born of ignorance" of some of the difficulties of the past, plans for future development were outlined. It was not long before this future development, plans for which were understood by the Board of Trustees in February, seemed very uncertain, for in less than six months (July 1, 1909) by action of the legislature, which had just adjourned, the old system of government by Boards of Trustees, etc., for each of the state educational institutions was abandoned, and a new State Board of Education was appointed. Fortunately, one of the members of the "Old Board of Trustees" (Mr. C. R. Brenton) was appointed on the new Board of Education.

Not only did the governing board change, but before building plans could be perfected and a new building started, President Storms resigned (March 2, 1910), thus removing the last administrative officer (except Mr. Brenton), under whom the position of dean had been accepted the previous year.

As before and since, the faithful servant of the college, Dean Stanton, was pressed into service as acting-president, and it was during his administration that the "new Veterinary Quadrangle" was built. The Veterinary Division owes much to the helpful sympathy, suggestions, and encouragement received from Dean Stanton during that reorganization period.

The budget, 1909-1910, adopted soon after Dr. McNeil's successor had been appointed, provided for some additions to the staff. Drs. Stange, Bemis, and Dykstra remained, and two assistant professors were added (W. W. Dimock and H. S. Murphey). Salaries ranged from \$1,600.00 to \$2,000.00, current expense appropriation, \$1,000.00. With this budget and a new Board of Education "we set sail for shores unknown."

The additions to the staff (now consisting of five veterinarians) made it possible to organize the division into subject groups with a view to creating five educational departments. This was accomplished the following year and continues up to the present time.

The most important task before the new administration was the planning of the new veterinary buildings, for which the last legislature (1909), which also created the new Board of Education, appropriated \$150,000.00. By July, 1910, the plans for the new building were practically complete. They were approved by the Board of Education on July 22, 1910. The finance committee was directed to call for bids. These were opened on November 3, 1910, and the contract was let to Benson and Marxer of Des Moines for \$135,600.00, leaving some alternates to be decided later.

Some difficulties arose in connection with the location of the new buildings. It was first (April 1, 1910) decided to locate them "on the southwestern part of the campus near the new athletic field." This location seemed so "impossible" that after a strenuous protest presented personally to most of the members of the Board of Education by the dean, the former action was reconsidered (May 25, 1910) and

the buildings were "relocated on a tract north of the greenhouse." This was the first educational building to be located north of the street car line.

While all this was being done it was also necessary to outline a program which must include some definite objectives. Without these any administrative officer is ineffective. This program was outlined in the new dean's first report to the President (1910) as follows:

"Undoubtedly the primary object of establishing this division was to afford an opportunity for those who wish to study veterinary medicine and to deal with problems of livestock sanitation in this state. The former, however, is the only mission this division has attempted to fulfill. The benefits of the division should be more far-reaching than this, because we fall in our mission if we become nothing more or less than administrators of medicine to animals.

"It is our ambition and aim to develop the Division of Veterinary Medicine and, concurrently, the veterinary conditions of this state so that they will be on a par at least with those in other states, many of which have not the extensive livestock interests of Iowa, yet have a much more complete system of livestock sanitation. It is evident that Iowa should protect its interests by guarding against animal scourges, and for this reason, if for no other, the Division of Veterinary Medicine should be in closer touch with livestock interests and co-operate with these interests in questions of sanitation. The division should be in position to carry on investigations of various animal diseases, their treatment and prevention. It should be able to add to the efficiency of the veterinarian practicing his profession. It should add to the livestock man's knowledge of sanitary science, so that contagious animal diseases may be more effectively combatted. It should coöperate with the State Department of Agriculture in the matter of livestock sanitation minimizing the loss from epizootic diseases and thus enhancing the livestock valuation. It should be equipped to carry on investigations, especially of problems of comparative medicine and be of service to the public health by furnishing information regarding diseases intercommunicable between animals and man.

"In the fall of 1908 at the time of the resignation of Dr. J. H. McNeill, who, by untiring efforts, had brought the division up to its high standard, the department had but two lecture rooms, which were poorly equipped, and two offices for the four veterinarians then composing the faculty. No new quarters had been arranged for at that time. A new building was, however, immediately planned to cost \$150,000.00. This one feature marks the greatest step of progress which the division has probably ever made. This building should be supplemented by another costing between \$2,000 and \$3,000, to be used as a contagious ward, because animals affected with contagious diseases when arriving at the hospital, as well as those showing symptoms of such diseases while being treated for other ailments, must be removed to a separate building."

Thus was outlined the program which has been developing during the

past 20 years and is now in full operation. During this period (1909-1929) other matters have developed which temporarily threatened interference with or defeat of certain objectives. After considerable work, however, and some extra effort at the "rudder," the ship was again headed in the right direction. These matters will be discussed in their proper place.

With an increased staff, some attention could now be given to research and some work on hog cholera was taken up in 1911. Dr. Chas. Murray, present head of veterinary research, was associated with this work.

We now (1911) required 15 units (30 credits) of high school work for entrance. These requirements made this school the first in America with the uniform four year course requiring matriculants to be graduates of an accredited high school. President Stanton in his report to the Board of Education (May 26, 1911) referred to the Veterinary Division, saying that "the work of this division has been quite thoroly reorganized and in my opinion greatly strengthened. Iowa should have a strong veterinary school and the changes point in that direction. With its new building, its additional equipment, its revised courses of study and its strengthened faculty, it should be able to render the state a service of great value."

The new buildings were occupied in the spring of 1912. The finance committee of the Board of Education was authorized on March 6, 1912, to settle with the contractors.

It was about a month later (April 3, 1912) that a new president was elected. R. A. Pearson, who had been acting as commissioner of agriculture under Governor Charles Evans Hughes of New York, was elected. Thus with new buildings, a new organization, a new president and a new Board of Education we were ready to proceed with our program.

The budget adopted on July 16, 1912, for 1912-1913 included: C. H. Stange, W. W. Dimock, H. S. Murphey, H. E. Bemis, H. D. Bergman, Chas. Murray, N. L. Nelson and George Judisch. Seven veterinarians were now on the staff in addition to Mr. Judisch, who had been giving lectures on pharmacy to veterinary students since 1900. In addition \$500.00 was appropriated for student assistants and \$2450.00 for current expenses. Two thousand dollars was set aside in the Experiment Station for veterinary experiments.

During the year, \$27,900.00 had been spent for new equipment. This, together with the new buildings, gave encouragement to the faculty and altho student enrollment had decreased due to increased requirements we felt certain that this would be temporary, which proved to be the case. In 1910-1911 there were 100 students and in 1911-1912, 85. A veterinarian was added to the extension staff, the object being to aid farmers with problems in sanitation.

Dr. Pammel's work on poisonous plants and Dr. Buchanan's "Veterinary Bacteriology" appeared at this time, both being a contribution of immense value to veterinary literature.

Laboratory work in physiology was started at this time, specimens

for use by the anatomy department were being prepared, and the increased clinical facilities stimulated the work in surgery and medicine. Everything looked favorable for our program and our objectives seemed much easier of attainment.

The dean's report to the president (1912) contains the following: "During the two years just passed, the Division of Veterinary Medicine has to a considerable extent entered into the plans outlined in the last biennial report. Not only has every phase of instructional work been strengthened, but the division has also, as far as possible, been co-operating with the livestock interests and the State Health Commission in matters pertaining to livestock sanitation.

"In order to facilitate the work of this division and increase its proficiency, it has been divided into departments of anatomy and histology, physiology and pharmacology, pathology and bacteriology, surgery and obstetrics, and theory and practice, each having certain definite work, planned to secure maximum results. The arrangement of the new buildings makes this plan very practical and satisfactory. Each department has a responsible head with assistants. The dean, in addition to acting as head of the department of theory and practice, is also head of the veterinary section of the Experiment Station. In order that the division may be in closer touch with the sanitary conditions of the state and be in a position to render some assistance, the dean has been appointed assistant state veterinarian.

"The present organization, while it is new, has been very satisfactory thus far and is now ready to engage the problems before it. I recommend that we be allowed to continue on this basis with the extension of the work as circumstances will warrant.

"During the past year the group of new veterinary buildings planned has been completed with the exception of the Experiment Station and Diagnostic Laboratories. The group of five completed includes the Administration Building with dean's and surgeon's offices, assembly room, library, general museum and faculty room; the Pathology Building, accomodating the Department of Pathology and Bacteriology; the Anatomy Building for the Department of Anatomy and Histology; the Physiology Building in which the work of the Department of Physiology and Pharmacology is carried on; and the Hospital or Clinic Building for the use of the Departments of Surgery and Practice. Each building has the necessary offices, laboratories, store rooms and rooms for animals for laboratory purposes. Each building is adapted to the work of the department which uses it. This arrangement has proved eminently successful and is stimulating individual work in a very effective way.

"The buildings erected at a cost of \$150,000, while not elaborately finished, were planned with an idea as to their utility and have been pronounced by many authorities as the finest and best in the country and excelled by but few of the European schools. This investment cannot fail to prove a valuable one to the livestock interests of the state. I recommend that as soon as possible, the building planned for experimental and diagnostic work be completed, as it is essential

in the investigation work for which Veterinary Medicine presents a larger field than any other profession.

"The small amount of equipment of the Veterinary Division, which at the same time was poor, made it necessary to purchase new equipment for practically all of the laboratories and class rooms. In purchasing furniture and equipment, plain, substantial material has been selected with an idea as to its usefulness and durability. About \$25,000 was invested for this purpose. A medical education, along any of its several lines, is necessarily an expensive education, on account of the fact that it requires considerable apparatus for the laboratory and clinical instruction. An education that lacks the practical application of the theoretical cannot prepare the student for efficient service to his clients. It must necessarily consist largely of the sciences especially as related to biology. These cannot be taught successfully without considerable, and in some cases, expensive equipment.

"The instructing force has during the past two years been organized until it has reached the highest degree of efficiency and co-operation ever attained in the history of the institution. Dr. Dimock is head of the Department of Pathology and Bacteriology and is assisted by Dr. Murray and two senior students. Dr. Bemis is head of the Department of Surgery and Obstetrics and is assisted by Dr. Nelson. Dr. Murphey is head of Anatomy and Histology and has two senior student assistants. Dr. Bergman has charge of Physiology and Pharmacology, assisted by Mr. Judisch. The Department of Practice is under the direction of the Dean. With this faculty, organized as it is, we are able to carry on the work of the division; but in order to be able to work out many of the problems confronting us today, it will be necessary to have not more departments or heads of departments, but more assistants for those we now have in order that the heads of departments may exert their energy so as to secure maximum results. The demand for men qualified to do teaching and research work is indicated by the fact that there are at the present time a number of openings that have not been filled after months of searching.

"It is recommended therefore, that the heads of the departments be given salaries ranging from not less than \$2,200 to \$2,700, and that they be furnished with competent assistants in order that they may study the problems that come to them from time to time and attempt to work out a solution. I think it should be a duty of every teacher to do research work so far as possible without interfering with instruction work which must remain the primary and most important work of this division.

"As predicted in my report four years ago, we have a decrease in attendance as a result of enforced high entrance requirements. A school located in the middle west, surrounded by the three large private veterinary colleges which maintain very low entrance requirements and twenty-one months of college work instead of thirty-six as our course represents, must necessarily depend on quality rather than quantity to serve the state supporting it. I am pleased to report also that the

"Fifty-nine permits have been issued to commercial concerns selling serum and virus within the state. Four of these permits have been revoked on account of serum not meeting the required standard. Seven applications for permits to sell serum and virus have been refused. Very great care has been taken in connection with authorizing distribution and use of virus.

"With the aid of the Agricultural Extension Department much educational work has been done in all parts of the state. Four veterinarians are engaged constantly in this work and their efforts have been liberally supplemented from time to time.

"It is worthy of note that, owing to the limitation of the state funds and the need of getting the work started rapidly, over \$12,000 was advanced by private individuals and concerns, including several banks, so that a larger quantity of serum could be manufactured and placed in storage last winter awaiting a heavy demand which was expected to come, and did come, early in the summer season.

"Director Stange reports that altogether practically 10,000,000 cubic centimeters of serum have been produced, and that 4,714 herds have been treated, with the showing that in healthy herds only 2.8 per cent of the hogs died after treatment with serum alone, which is considered a remarkably good showing. With the simultaneous treatment, the loss was only 2.2 per cent. Elsewhere the corresponding loss has been reported as high as 8 per cent. Often the treatment is not applied until a considerable portion of the hogs are sick, but even in such cases the records show favorable results. Where serum alone was used the loss after treatment was 29 per cent, and where simultaneous treatment was used the loss in diseased herds was 11 per cent. In both cases the percentage of sick hogs in the herd was higher than the percentage of deaths after treatment. The simultaneous treatment is used in the majority of cases, and reports show that in 76 per cent of the herds having this treatment there was not a single loss.

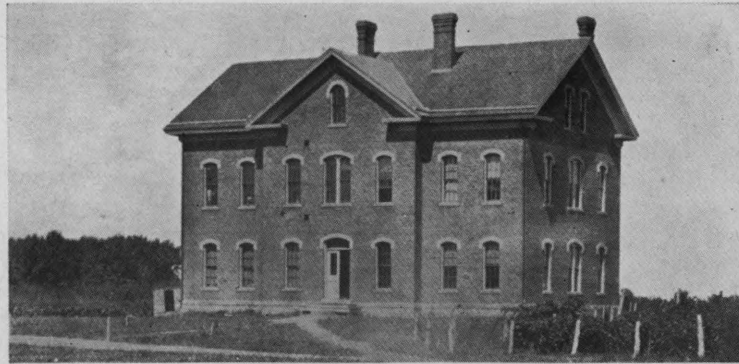
"Great care has been exercised by Director Stange in organizing this work. Dr. C. G. Cole, who had been engaged in the manufacture of serum for the United States Government, was placed in direct charge."

Attention could now be turned to the organization of a Research Department, for which an annual appropriation had been made (July 1, 1913). The vital thing in research, as in education, is the staff. After consultation with President Pearson, who had met Dr. Robert Ostertag in Germany on his trip to Europe before coming to Iowa State College, it was decided to write Dr. Ostertag. The suggestion we received was to employ Dr. Kurt Schern. After the usual correspondence this was accomplished. Later Mr. Paul Purwin, who is still with our research department, came over as an assistant. During the summer of 1914 Dr. Schern went to London to attend the International Congress and while there the European war broke out and he was unable to return.

"Dean Stange emphasized the importance of having veterinary in-



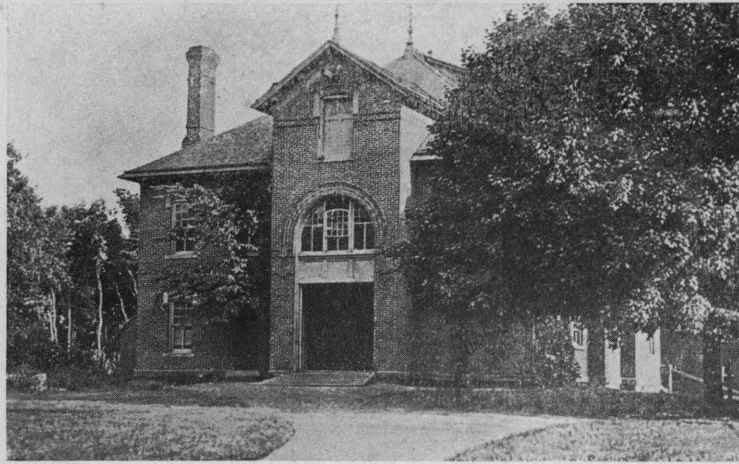
South Hall, originally the home of President Welch, where the first instruction in Veterinary Science was given



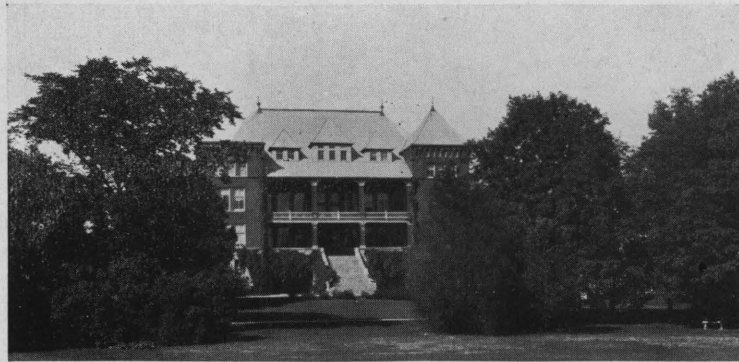
North Hall, the second building occupied by the Veterinary Division, in conjunction with the Botany Department



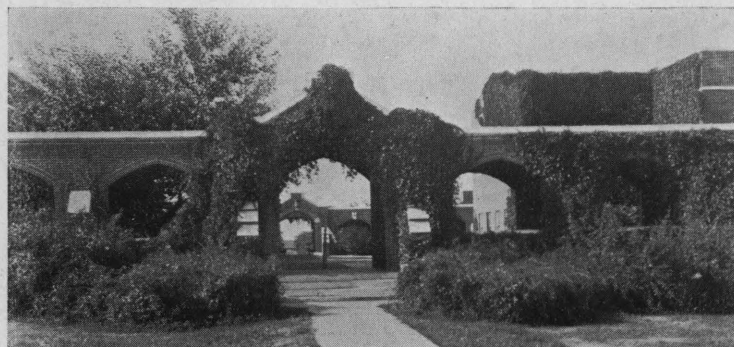
Sanitary Building, later College Hospital and Music Hall, first building erected for Veterinary Division



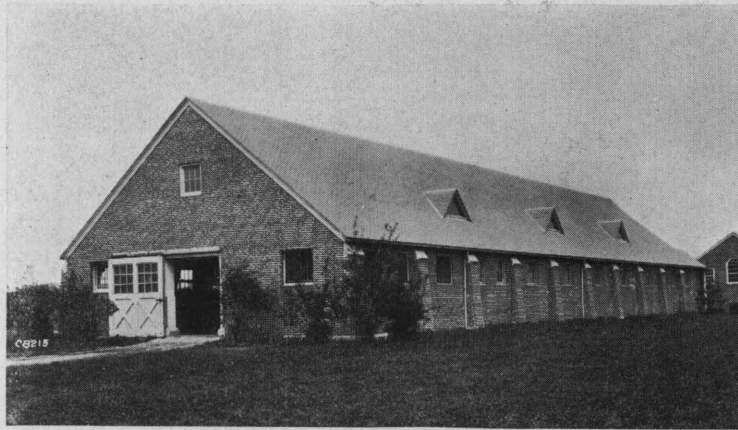
Old Veterinary Hospital, erected at the same time as the Sanitary Building



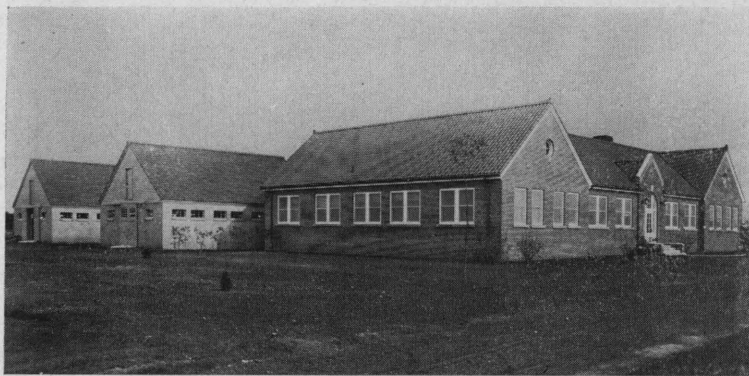
Old Agricultural Hall, Veterinary classroom and laboratory quarters, 1893-1912



Veterinary Quadrangle, home of the Veterinary Division since 1912



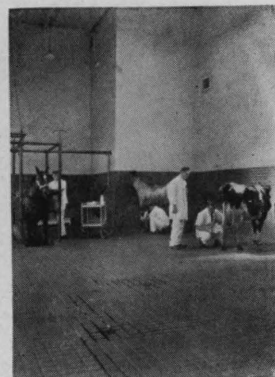
First wing of future Clinic Building



Research Laboratory at the Veterinary Farm



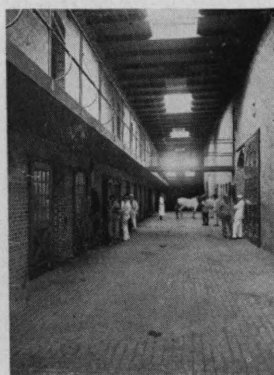
View of Veterinary Buildings from the northeast



Left—Clinic in the Old Veterinary Hospital. Right—Present Clinic



Laboratory in anatomy



Left—Corridor in the Clinic Building. Right—Physiology Laboratory

vestigations well supported and conducted by men highly trained in the science. Persons not familiar with this work seldom appreciate the difficulties surrounding it. An appropriation to provide for additional help and equipment is recommended. Especially is it pointed out that for research work some land should be available for the care of experimental animals."

The educational work for the two year period ending June 30, 1914, is best summed up in the words of President Pearson: "The work of the division is expanding and its value to the state is increasing, as would be expected of an institution newly provided with first class equipment and established by the state to service livestock interests representing hundreds of millions of dollars. It should be kept in mind that the older a state becomes the more does it develop problems relating to animal disease.

"An important innovation has been tried whereby senior students are assigned for two weeks' practice with leading veterinarians thruout the state. This is to give them a further insight into the many phases of the veterinarian's daily work. The students receive no compensation, but they do everything possible to assist the veterinarians to whom they are assigned. The experiment promises so well that the practice probably will be continued until a satisfactory ambulatory clinic can be organized.

"Another development which was made possible by a special appropriation by the last General Assembly is the Veterinary Practitioners' Course, which continued one week and was attended by about 70 veterinarians who were given lectures and demonstrations and opportunity to discuss late developments of their science. This course was received with enthusiasm by the veterinarians and a marked increase of attendance is expected when the next course is given.

"In 1910 the entrance requirements to the veterinary course were raised and made equal to the requirements for other college courses. There was a marked decrease in total attendance, but it is interesting to note that the first class which entered under the higher requirements graduated in 1914 eighty-five (85) per cent of its entering members, whereas the four preceding classes graduated respectively 41 per cent, 47 per cent, 56 per cent and 41 per cent. The second class entering under the new requirements, whose members are now juniors, is represented in college by 94 per cent of its entering members.

"In order to keep the important lines of work in the division well balanced, Dean Stange recommends special assistance during the next biennium for the departments of surgery, practice and physiology. He says that lack of funds has forced the surgery and practice departments practically to dispense with their free clinics and charge for such work done at the hospital. This reduces the calls for help and correspondingly reduces the educational training which the students should have. In 1913-14 the record shows 1,204 surgical cases treated, of which 504 were on account of internal diseases.

"Recommendation again is made for the establishment of an ambula-

tory clinic. For five years the need of this has been emphasized and now we find other and some smaller schools operating these clinics successfully.

"Better library facilities are also urgently recommended. Advanced work is handicapped by lack of scientific reference books and periodicals.

"As to new buildings, Dean Stange recommends the following:

"The completion of the southwest building of the veterinary group for the research and diagnostic laboratories to relieve the pressure in some of the other buildings;

"An additional story to the pathology and anatomy wings to relieve the pressure in these departments.

"The dean also points out the importance of his division having a farm of about 160 acres to be used especially for clinical material and for research work and serum manufacture. Such a farm would be a distinct economy to a plant carrying on veterinary work of such character and in such quantity as now obtains at this college."

The farm referred to was later acquired (1920) and is known as the Veterinary Research Farm.

At this time (1914) the European War broke out, and our work was transformed and conducted largely along the lines of food production and conservation until the United States joined with the allies. Then things of a very different nature happened. President Pearson was asked to come to Washington to serve as Assistant Secretary of Agriculture, and Dean Stanton was once more pressed into service as acting-president (April 20, 1917 to November 21, 1918). Iowa State College was turned into a training camp, as were other state institutions, and S.A.T.C. with all its complications and misunderstandings was with us until the close of the war.

Much false (as we realize now) "propaganda" was going around and people often became suspicious of one another, so conditions were anything but favorable to good educational work. With a fourth or more of the staff in the service and some of the remainder anxious to get in, the best we could do was to "keep things going," hoping the war would soon end.

There were other difficulties for those of us who were trying to carry on the institutional work with some semblance of its former nature. We did not know always to whom we were responsible, the acting president or the chief military officer. Both claimed jurisdiction, probably with justification. The fraternity and large club houses were transformed into barracks and the gymnasium was used for a mess hall to and from which students were marched in military formation. Definite study hours were set aside and the students were required to congregate in assigned rooms where a designated person "supervised" their study.

Then (1918) came the "flu" epidemic to take its toll of young and old alike. The college was ordered under quarantine by the military officer in charge and all persons going to and from the campus were required to have passes. Guards were stationed at all entrances and pa-

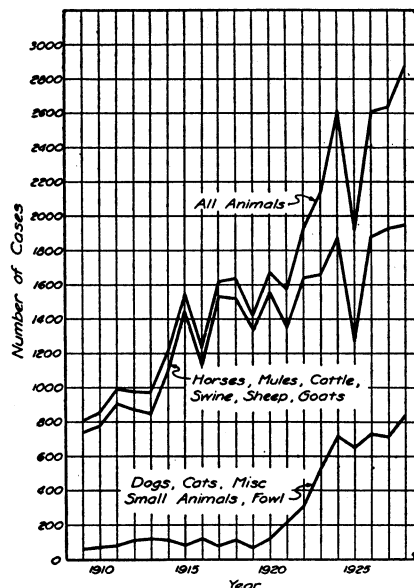
rents coming as a result of a telegram or telephone call to see a sick son or daughter (often dead when they arrived) were transported in especially designated cars.

The staff had been more or less disorganized by the enlistment of the surgery staff (Drs. Bemis and Guard), a member of the research staff (Dr. L. E. Willey), a member of the Biological Laboratory staff (Dr. Lew McElyea) and the head of the ambulatory clinic (Dr. N. L. Nelson). In order to adjust ourselves, Dr. Murphey was transferred to surgery with Dr. Leith as an assistant and Dr. Grossman acted as head of the Department of Anatomy; Dr. A. B. Haskins took Dr. Nelson's place in the ambulatory clinic; Dr. Henry Wehrbein assisted in the research department of which Dr. Murray was acting head. With this

temporary organization we continued until the close of the college year, 1918-19, when those members of the staff who had been on leave for military duty began to return. By the time college opened in September, 1919, we were again in operation with our "old" organization.

The whole period comes back as a "nightmare," but then when we think of what others endured, ours was such an insignificant matter that perhaps one should not mention it at all. However, it is now a part of history and as such is here recorded.

Things went along for a while with promise of our former progress and development, and we were quite optimistic. Did we not have what we had been asking for for 10 years, viz., veterinary schools all requiring 15 units of high school work for entrance? All that was necessary now was to look forward to a period of progress and development unequalled in the past history of the institution. But we were soon to be awakened from this pleasant dream when the post war depression came over the country (the darkest shadows of which seem at the present time—1929—to have passed). Student enrollment decreased in many college courses, but more especially in agriculture and veterinary medicine. Farmers were discouraged, as they well might be, and many of the veterinarians, especially those in practice, were discouraging young men from taking up the preparation for their profession because it had "no future." The effect of this depression is clearly shown in the graph depicting the enrollment since 1880. The demand for veterinarians was developing, nevertheless, and this was especially noticeable in the

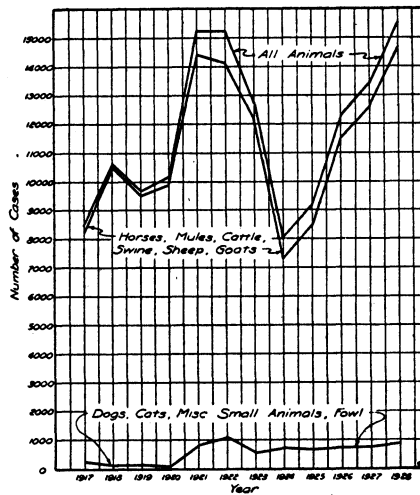
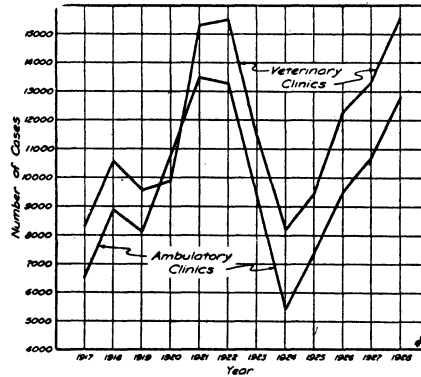


field of small animal practice. The graphs showing the number and character of our clinical cases are a good indication as to the condition in general practice. Collections were very difficult and a man might have "a good practice but no money." Food inspection and animal disease eradication and control continued to develop, the status of the veterinarians in the army had been improved greatly during the war, and it became apparent in a few years that instead of closing a veterinary college, as was discussed at some of our larger universities, there would be a distinct demand for that branch of education. All veterinary colleges are showing increased enrollment at the present time.

During the years of decreased enrollment, increased emphasis was placed on research and considerable work was completed in the division on the genital organs, animal parasites, swine diseases, etc.

Early in the year 1926, President Pearson resigned to accept the presidency of the University of Maryland. Prof. Herman Knapp was appointed acting-president when President Pearson left for his new position (September 1, 1926). Professor Knapp had been holding positions of responsibility (treasurer, registrar, business manager, etc.,) with the Iowa State College for many years and was eminently qualified to carry forward the administrative work of the college.

President Pearson had spent 14 years at Iowa State College and had rendered Iowa a great service. He was a "builder," and many of the fine buildings on our campus today are the result of his efforts. Among his last recommendations as president was an item of \$39,000.00 for buildings for the veterinary research farm, an item that unfortunately did not get to the legislature among the other askings. His understanding and interest regarding veterinary medicine were prob-



alby greater than that of any other college president in the United States. This can be said without reflection on other presidents, because of the fact that one of President Pearson's brothers, Dr. Leonard Pearson, is fondly remembered in our profession as one of the greatest men the profession of this continent ever produced. During his administration as Secretary of Agriculture of New York, animal disease control also came under his supervision. Altho the University of Maryland does not have a veterinary college, President Pearson continues his interest in the veterinary profession.

On September 1, 1927, Dr. Raymond M. Hughes took over the administration of the college and everything promises well for Iowa State College.

During Professor Knapp's year as acting-president, we had built the "cattle" wing of the proposed new clinic building and secured money for the new veterinary research laboratory. The latter was approved by the Board of Education on February 26, 1927. Among the regrettable things which stand out during the last few years are the loss of Dr. Murphey and the resignation of Dr. Bemis, who was tempted away by a much larger salary offered by the University of Pennsylvania.

At the present writing, May 1, 1929, everything points to a future full of possibilities and promise. We have an interested and sympathetic president, a young and enthusiastic faculty, a fine student body composed of clean, bright and energetic young men, and a greater demand for our graduates than we can supply; a well trained and industrious research staff and confidence that the State of Iowa will supply the needed buildings and equipment.

The accompanying graphs of the development of our clinics will assist in conveying an idea of that branch of our work. The depression in the curve was due quite largely to a decrease in the ambulatory clinic resulting from decreased vaccination of swine when farmers felt they could not afford to have the work done.

II

FACULTY



THE MOST vital part of any educational institution is its faculty. The faculty is the college. Therefore, the character and personality of the members of the staff determine the kind of a college we have. The burden of this responsibility for the School of Veterinary Medicine from its beginning until June, 1893, was carried by Drs. M. Stalker and D. S. Fairchild. It was shared by Dr. W. B. Niles when he became assistant professor in March, 1891. During this period (1879-1893) there were house surgeons and non-resident lecturers who, however, changed frequently and could not, both on account of their position and short periods of service, relieve the professors to any great extent when it came to responsibility for policy or teaching the important subjects.

The first instructor to be employed (March, 1881) to assist Drs. Stalker and Fairchild was Dr. George C. Faville, the first student to enter the Veterinary School when it opened. Among the house surgeons we find the names of George M. Osborn (1885), W. B. Niles (1886-87), John Tillie (1888), John McBirney (1889), S. B. Nelson (1890), J. C. Norton (1891), W. A. McClanahan (1892). Among the non-resident lecturers are the names of L. J. Alleman and F. E. Cruttenden (1886-89), W. B. Niles (1888).

When Dr. Fairchild resigned to accept a position with the C. & N. W. Railway and Dr. I. W. Smith was elected (1893), Dr. Stalker and Dr. Niles became the "mainstay" of the staff as Dr. Smith's health failed, and after about 18 months of service he was forced to resign and go to California. He died soon afterward. Dr. W. E. Harriman (1895) took the work organized originally by Dr. Fairchild. This organization of the staff continued until January 1, 1899, when Dr. W. B. Niles resigned. On account of Dr. Stalker being State Veterinarian he was away from the college a great deal and as a result a large part of the teaching fell to Dr. Niles' lot. He also was experiment station veterinarian. During this time (1894-99) C. M. Day (1894), A. R. Wake (1895), W. R. Cooper (1896), W. B. Lincoln (1897) and H. E. Titus (1898) served as house surgeons.

Dr. W. B. Niles, who had divided his time between teaching and Experiment Station work, became associated with the Bureau of Animal Industry in the United States Department of Agriculture and became famous as an authority on hog cholera. James Wilson had become Secretary of Agriculture in President McKinley's cabinet, but it was during his service at Iowa State College as Professor of Agriculture and Director of the Experiment Station that he became acquainted with Dr. Niles' worth in connection with experimental work on animal diseases. He was, therefore, glad to get him into the Bureau of Animal Industry.

The contribution made by Drs. Dorset, McBryde and Niles to veterinary science has undoubtedly been of greater significance to animal industry in the middle west than that of any other veterinarians.

As already indicated in the outline of faculty for each year, rapid changes in the faculty began in 1900 and continued until salaries became somewhat adjusted. Many men make some financial sacrifice in order to remain in an educational institution, but no one can afford to make this sacrifice too great and still do justice to himself and family. Repp, McNeill, Klein, Jacob, Gay, Ahlers, Hurt and several others came and went inside of a single decade.

The faculty at present may be said to be the third generation since the beginning in 1879. A more detailed statement concerning those who have served on the faculty is given in the following pages.

Dr. Milliken Stalker became head of the veterinary work of Iowa State College in 1876. Instruction began in 1877.

Dr. Stalker was born on August 6, 1841, in Plainfield, Ind. His ancestors were Quakers. They were typical pioneers. Dr. Stalker's parents moved to Richland, Iowa, when Milliken was still a young lad and it was here that Stalker spent his youth and young manhood. There

were no idle moments in his life on the farm. He attended district school and then the academies in Oskaloosa and Springdale, becoming a district school teacher.

Most people would not think of getting a college education at the age of twenty-four, but he graduated from Iowa State College in 1873 from the course which would now correspond to the general science course.

After his graduation, his professor, I. P. Roberts, well known for his agricultural contributions, became connected with Cornell University, leaving a vacancy. Because of his experience on the farm, the position of professor of agriculture was given to Stalker. He held this position from 1873 to November, 1876, also acting as secretary to the Board of Trustees.

Dr. A. S. Welch, a man with great vision, recommended that education in veterinary science be added to the curriculum. There were few men in this country who had had academic training for this work. However, there were a few brilliant exceptions, Dr. Law of Cornell University and Dr. Liautard of New York College of Veterinary Science being two of them. There was then a school of veterinary science at Toronto, Canada. In order to fit himself for the instruction in veterinary science, Dr. Stalker attended the veterinary schools at New York and Toronto, receiving the degree of D. V. M. from the University of Toronto.

Dr. Stalker had thrust upon him the professorship of agriculture and veterinary science at the close of the year 1876. In the spring of 1879, his work began in the Veterinary College.

Dr. Stalker was instrumental in organizing the veterinary work of the state and for many years he was the State Veterinarian. He is responsible also for the first Veterinary Practice Act in Iowa. He is really responsible for the advanced stand taken in connection with the suppression of contagious diseases among domestic animals in Iowa. The law creating the office of State Veterinary Surgeon was passed in 1884. The law was strengthened by several later acts of the legislature. It was a big task to organize the work of the State Veterinarian and at the same time to carry on the work of the Veterinary School.

The veterinary profession thruout the state had confidence in Dr. Stalker's ripe and sound judgment in all problems connected with the health and diseases of animals. This very significant statement was made by him in 1885, "The fact that the milk of tubercular cows is charged with the poison germs should cause it to be rejected in every instance as an article of food. As tuberculosis in man and in the bovine species is identical, the conclusion is inevitable that a similar experiment on man could be followed by a similar result."

He frequently made the suggestion that the State Veterinarian should be connected with the State Board of Health.

Dr. Stalker was a great lecturer. No one on the faculty of Iowa State College at that time had the ability to express himself in better and clearer English and could present his subject more effectively than Dr. Stalker.

Early during his career as head of the Veterinary department, Dr.

Stalker opened the subject of veterinary anatomy and other veterinary subjects to the science students and I am sure that I am correct in making the statement that no one has ever given instruction in the difficult subject of anatomy who was better able to secure the undivided attention of students than Dr. Stalker and that no student could learn the subject more easily than he could under the wonderful, and charming prince of lecturers.

But he was at home not only in the Veterinary Department but was a keen observer and was able to give to the public splendid lectures on various trips he made. Interesting incidents were always interwoven with these lectures. I never heard a man who was his equal as a conversationalist.

General James Rush Lincoln has said in a tribute to Dr. Stalker, "Perhaps a man's character or work when his life is closed may best be judged by the answer to the question, is he missed? No one who knew Dr. Stalker has other than pleasant memories of the man and reminiscences of delightful experiences with an always agreeable companion."

During the late years of his life, Dr. Stalker was professor emeritus. He has left his impress upon the veterinary science of America, and it is a fine thing to honor his work and his services to the state. Thus, there was dedicated on the college campus, a few years ago, a group of trees in memory of his distinguished services.

Dr. Stalker made a number of very important contributions to our knowledge of the diseases of livestock. One of these was in connection with the disease known as cro-talism. The rattlebox was common in the Missouri River bottoms and was the cause of a good deal of trouble among horses. Dr. Stalker shipped to Ames a large quantity of the material, which he used in experiments to prove that rattlebox was injurious. It was my pleasure afterwards to name this disease cro-talism. These investigations were published in the report of the Department of Botany for 1886, one of Dr. Bessey's reports.

A second very important publication was on his diagnosis of a disease known as ergotism. Quite early in his career as a veterinarian, Dr. Stalker came across a disease of cattle produced by the common ergot. At that time a large quantity of wild hay was consumed by livestock in the state. In 1884 there was a serious outbreak in Kansas of a disease which was at first diagnosed as foot and mouth disease. Dr. Faville of Colorado; Dr. Salmon of the United States Department of Agriculture, Dr. Paquin of Missouri and Dr. Stalker were asked to confer and study the disease. Dr. Stalker at once diagnosed it as ergotism.

On the reorganization of the Iowa Agricultural Experiment Station, January 8, 1891, Dr. Milliken Stalker became the veterinarian of the station, and while in this service gave considerable attention to veterinary work. One of the larger pieces of work which he undertook was the study of bovine tuberculosis under the title "An Investigation of Bovine Tuberculosis in Which Special Reference Is Made to its Existence in Iowa."

Dr. H. J. Detmers—The veterinary work of the college began with the work of Dr. H. J. Detmers.

In a report to the college trustees in 1871, Dr. A. S. Welch, then the president of the institution, urged the necessity of employing a professor of veterinary science. After careful investigation, Dr. Detmers was employed and his work began at the college in 1872. He was to teach comparative anatomy, physiology and veterinary science. He remained with the college a single year, the chair being declared vacant in November, 1873.

It was while he was instructor in veterinary science at the college that he gave courses in pathology, comparative anatomy and physiology. His lectures, according to Dr. O. H. Cessna, were always prepared in a scholarly way. He was thoroly familiar with the subjects he taught.

Two men who knew him intimately at the college at that time were Dr. O. H. Cessna and C. N. Dietz. They tell me that he was genial and friendly in his class associations with students, and all of his students respected him for scholarship and learning. He was regarded by the students as one of the outstanding men of the faculty. He insisted upon faithful, honest work and thoro preparation.

Dr. Detmers left a large impress upon the veterinary work at the Ohio State University and he was a pioneer in many investigations connected with the diseases of animals. He was thoroly familiar with the literature of the subject. Not only was this true with his teaching subjects, but his research work. He kept abreast with what was going on in Europe and made several trips abroad to make himself acquainted with the best technique in connection with the pathological subjects he was teaching and the investigations that he carried on.

One of his students, Dr. Mark Francis, says, "As the years have passed, I think he was simply ahead of his time. The conditions in America were not quite ready for a man of his type—but this was not his fault."

Dr. Detmers occupied positions at the Kansas Agricultural College and in the United States Department of Agriculture, and he inaugurated the work in connection with Texas fever, hog cholera or swine plague. His investigations began as early as 1876. He soon became convinced that hog cholera was an infectious disease and so stated in 1878.

This early work was done in Illinois and the swine investigation in this country was really started by Dr. Detmers at a time when researches of Koch and the other early bacteriologists proved that certain contagious diseases were caused by microorganisms.

His work in veterinary science was many sided. At one time, in 1883, he was engaged by the United States Department of Agriculture to make a report on the diseases of sheep, calling attention to the animal parasites. While in Ohio he was busy with many problems connected with the livestock industry. His work at Ohio began in 1884.

The course outlined by him in the Kansas State Agricultural College showed how broad his views were. His services to the livestock industry are recognized by the Saddle and Sirloin Club of Chicago, where a splendid portrait of him is hung, along with those of other noteworthy men who have contributed to the livestock industry of this country.

Dr. E. N. Wentworth, in writing a sketch of his life, said, "The

tenacity with which Dr. Detmers clung to his explanation of his discovery was a full measure of his character. He knew that it was right as far as it went and clung to it to the best of his ability against friend and foe, and he met both. As a matter of fact, Dr. Detmers knew only two kinds of people, friends and foe, and with these he went the limit. For his friends he knew no sacrifice too great—for his foes, no resistance too strong."

Dr. Detmers was born in Germany in the village of Jever in Oldenburg, on April 15, 1833. He was baptized Heinrich, which he changed to Henry Johnson when he came to this country. He attended the village school until the age of 13 and graduated from the Royal Veterinary College, Hanover, in 1853. He subsequently attended the Royal Veterinary College in Berlin, where he graduated in 1859. He came to this country after the close of the Civil War in 1865, locating at Dixon, Ill., where he practiced the profession and became a contributor to the Chicago Tribune and the Farm and Fireside. He went to the University of Illinois in 1869 and to Kansas State Agricultural College in 1871. He died at Columbus, Ohio, on December 11, 1907.

Dr. W. B. Niles was born in Rock County, Wis., on November 5, 1858, of New England ancestry. He was reared on a farm and there received his early education. He moved with his parents to Iowa in 1870. He was educated in the country schools of Wisconsin and Iowa. During the winter of 1882-1883 he taught school near Rhodes, Iowa. He entered Iowa State College in the spring of 1884, enrolling in the two-year veterinary course. He graduated as an honor student in a class of six in 1885. The subject of his thesis was "Actinomycosis."

He discovered actinomyces organism in a tumor removed from the jaw of a cow in the veterinary clinic. This was the first discovery of the fungus west of Chicago. During 1886 he was house surgeon of the Veterinary College, working under the direction of Dr. Milliken Stalker. He also did some bacteriological work with Dr. B. D. Halsted, who was then the professor of botany. He was, therefore, the first Iowa State College special student to do work along this line. It was not a regular prescribed course of the college.

During the fall of 1886, he was appointed Assistant State Veterinarian under Dr. Stalker, and this gave him considerable traveling experience in the state of Iowa, and an opportunity to study glanders in horses and mules.

He started private practice in Webster City, Iowa, in the fall of 1886 and continued until July, 1887, when he was elected professor of veterinary science and veterinarian of the state Experiment Station of the state of South Carolina. The agricultural college was then connected with the university, located at Columbia. From 1888 to 1900 he served in that capacity.

Dr. Niles was active along many lines and during his connection with the State University presented papers before various farmers' institutes. He was a contributor to the reports published by the State Department of Agriculture. It was while in South Carolina that he made the acquaintance of Dr. Meade Bolton, bacteriologist, with whom he wrote a bulletin on hog cholera.

When the Agricultural Department of the university was discontinued because of the establishment of an agricultural college known as Clemson College, Dr. Niles came to Iowa. This was in 1891. He became assistant veterinarian to Dr. Stalker. At the same time, he became connected with the Iowa Agricultural Experiment Station as assistant veterinarian. He taught various subjects in the college, such as surgery-operative and general obstetrics, veterinary materia medica, etc., and had charge of the veterinary clinic. He was a splendid teacher. I had the pleasure of occasionally dropping in and seeing the work done by him. He was concise and methodical, and was able to keep the confidence of the students and his associates.

While connected with the experiment station, Dr. Niles conducted investigations on diseases affecting livestock. Among these was the very perplexing disease, glanders, in connection with which he made some extensive experiments with mallein (Bul. Ia. Agr. Exp. Sta., No. 20. P. 729).

Actinomycosis, which had long been a baffling disease in many parts of the state, received his attention. He experimented with potassium iodide and found it a valuable specific for this disease (Bul. Ia. Agr. Exp. Sta. No. 25. P. 44). Also he wrote popular articles on hog cholera and swine plague (Bul. Ia. Agr. Exp. Sta. No. 35. P. 769). In this bulletin he set forth the main facts then known in regard to the disease. He also wrote an extensive article on the diseases of sheep (Bul. Ia. Agr. Exp. Sta. No. 35. P. 781). In conjunction with Dr. Stalker, he wrote a bulletin on tuberculosis in cattle in Iowa (Bul. Ia. Agr. Exp. Sta. No. 29. P. 241). This bulletin contains results of extensive tests on tuberculin as applied to breeding herds of dairy cattle. Thus, the Veterinary Department of the Iowa Agricultural Experiment Station was the first institution to make use of tuberculin for the detection of tuberculosis in this country. This work was done in Crawford County, Iowa, and the paper clearly showed the value of this agent.

During his connection with the college, Dr. Niles was also Associate State Veterinarian. Hog cholera and swine plague were such important subjects in the state at that time, causing such enormous losses, that the United States government felt the need of engaging specialists to wage war on hog cholera. Therefore, in 1898, Dr. Niles entered the service of the Bureau of Animal Industry of the United States Department of Agriculture. During the years 1898 and 1900, he was in charge of hog cholera work in Fremont County, Iowa, this being one of the counties in which a serum for the prevention of hog cholera, made by injecting horses, cattle and donkeys with the cultures of the hog cholera bacillus (Salmon and Smith), was being tried.

During the winter of 1900, Dr. Niles was engaged in meat inspection work in Omaha. As might be expected, the serum from cattle, horses and donkeys did not work out satisfactorily, and the department resumed its experiments in connection with hog cholera, Dr. Niles, stationed at Sidney, Iowa, being put in charge of the experimental part of the work in the field. In 1905, the station was moved to Ames. The work was under Dr. E. A. DeSchweinitz and later was continued under Dr. M. Dorset, chief of the biochemic division of the Bureau of Animal

Industry. These investigators found that hog cholera was not due to the hog cholera bacillus as previously described by Salmon and Smith, but was caused by what is known as a filterable virus. Attention was, therefore, turned toward finding a vaccine which would be successful in preventing the disease.

In 1905, Dr. Niles started his work with the production of serum, as outlined by Dr. Dorset. This serum was produced at the new Ames Station and was tried out in a limited way late in the season. The results of this serum were most favorable. It was found that shoats injected with a certain amount of the serum were protected against hog cholera when placed in contact with sick hogs or when injected with virulent blood taken from a cholera hog.

The work was continued during 1906, and these experiments confirmed the results of 1905. In the fall of 1907, having accumulated during the season a considerable amount of the serum, they arranged for numerous tests on herds being kept under regular farm conditions. These tests were carried out on something like 50 farms in Story and Boone counties. The results showed that hog cholera could be prevented by the proper use of the anti-hog cholera serum.

The experiments were so successful that in 1908 the Secretary of Agriculture, Chief of the Bureau and various state officials visited the Ames station and witnessed the preparation and use of the serum. The good leaven started then and was carried to other states. Further work was done in Kansas City and Omaha, under the direction of Dr. Niles. Numerous states established laboratories. The laboratory at Ames was enlarged so that larger amounts of serum could be made under the supervision of the veterinarian; and under the supervision of the bureau, veterinarians were stationed in one or more counties in several swine growing states, and herds were treated on a large scale. The results were most encouraging and as the success of the treatment became generally known, private companies were organized for the manufacture of serum. Soon a law was passed by congress putting the manufacture and interstate shipment of serum under the supervision of the bureau.

Dr. Niles had charge of the Ames Station until November, 1928, when, because of his advanced age, he retired. He has made many valuable contributions in the reports of the Bureau of Animal Industry and in veterinary journals. He has left a large impress upon the veterinary work of this country and Iowa State College may well be proud of one of its sons.

Dr. Charles Edwin Bessey—Botany was required for the veterinary students during the early organization of the veterinary college, required because it was felt that a knowledge of plant life is important in connection with the profession. The veterinary students were indeed fortunate that the college had on its faculty a man with the attainments of Dr. C. E. Bessey, who had a broad outlook and was an inspiring teacher, brim full of enthusiasm. The contact with a scientist of his type was worthwhile.

You may be sure that there never was a dull moment in the class-

room and that when the students left his class they knew something about the flower, the functions of the root, stem and leaf, and that the underlying principles of plant physiology were, after all, applicable to animals as well. They knew something about diseases of plants, and the injury to livestock from such plants as ergot, needle grass and rattlebox.

Dr. Bessey was born in a log cabin on an Ohio farm May 21, 1845. He received his early education from his father, then attended an academy in Ohio and, in 1866, entered Michigan Agricultural College with the intention of becoming a civil engineer. But his love of nature led him into the field of botany. He was graduated from the Michigan Agricultural College in 1869, receiving the B. S. degree. He received a call to the chair of botany, zoology and horticulture at Iowa State College in 1870. Later the chair was changed to botany.

In 1885, he accepted the chair of botany at the University of Nebraska. Dr. Bessey was at Ames when the veterinary college was organized; in fact, he was a member of the original faculty at Ames. He was acting-president of Iowa State College in 1882 and vice-president in 1883-1884. At Nebraska he was not only head of the department of botany but because of his fine executive ability was made acting-chancellor in 1899-1907.

Dr. Bessey organized the botanical work at Ames and Nebraska on a high plane. One of the interesting organizations was the botanical seminar, one of the unique organizations of the land.

During Dr. Bessey's connection with the college he published a textbook of botany. It was quite unlike any American textbook. An innovation in this book was a combination of morphology, physiology and systematic botany, in which he followed the German methods. The book was widely used and gave Dr. Bessey great reputation as a botanist.

One of the interesting papers published by him while at Ames was an account of ergot and, with Dr. M. Stalker, an account of the rattlebox, *Crotalaria sagittalis*, one of the toxic plants of the Missouri River bottoms. He made many other contributions to the systematic botany of Iowa and Nebraska and was the organizer of the botanical survey of Nebraska. While at Ames he was elected the first president of the old Iowa Academy of Science. He served in that capacity from 1875-1884. He was a charter member. A great honor was conferred on him when he was elected president of the American Association for the Advancement of Science.

Dr. Bessey was also president of the Botanical Society of America in 1896; president of the Society for the Promotion of Agricultural Science in 1889-1891.

Dr. Bessey was a very unusual man in every way. To him we are indebted for the inauguration of much that is modern in the teaching of botany. The first laboratory for undergraduate students was established between 1870 and 1884 and the veterinary students had the benefit of his fine technique in teaching. To him must be given a large place in the instruction of the early veterinary graduates of Ames.

Dr. Byron D. Halsted, a member of the faculty from February, 1885, to February, 1889, had charge of the botanical work following Dr. C. E. Bessey. After a service of four years, Dr. Halsted resigned to accept the position of professor of botany and horticulture in Rutgers College, New Brunswick, N. J. He served that institution as a teacher and investigator for thirty years.

During his time as a teacher at Ames, Dr. Halsted made a marked impress as a teacher and research worker.

Dr. Halsted was born in Venice, New York, on January 9, 1852. He received his early education in the secondary schools of that state and thru the influence of some relatives entered Michigan Agricultural College in 1871, receiving the degree of B. S. in 1875 and, three years later, the degree of M. S. Subsequently he attended Lawrence Scientific School of Harvard, a student of Dr. William G. Farlow, the leading authority in the country on lower plant life.

Dr. Halsted was the first to receive the degree of Sc. D. in this country. He was a member of many scientific societies, a charter member of the American Botanical Society and was recognized everywhere as an outstanding botanist.

The reports of the botany department are of especial interest because they give us an insight into his methods of teaching. These reports were published in 1886 and 1888. He tells how the students were asked to train their powers of observation. You may be sure that the students were well grounded in general morphology. In a report for 1888, of work done in 1887, he tells us, "In the Veterinary School, the seniors are given a lecture once a week on that portion of botany which is most nearly related to their future work. The subject of bacteriology is made a first feature and is approached by lectures and laboratory work on higher cryptograms." The germs mentioned here were then known as bacterium termo, which covers a multitude of species.

Dr. Halsted certainly left his impress upon the institution at Ames, and his lectures were of invaluable service to the veterinary students.

Dr. L. H. Pammel came to Iowa Agricultural College in 1889, to take the headship of the department of botany. He found awaiting him courses in the veterinary science classes.

For these his training and outlook had especially prepared him, and he gave to this work a vital interest, which engaged a quick response from the students.

Dr. Pammel gave the first course in bacteriology offered to veterinary students. He gave also the first courses in bacteriology to general science students, in this country. The three-year course in veterinary science, which was offered at I. A. C. in 1899, included one term of elementary botany, first year; one term pharmaceutical botany, second year; and one term of bacteriology, third year.

The first term's work included morphology and flowering plants and identification of drugs.

The second term's work required the preparation of an herbarium of medicinal plants and included the study of fungi, such as rusts, smuts, ergot; yeasts, and causes of fermentation. The courses in bacteriology included history of the subject, study of growth of cultures and means of preventing contagion. Poisonous plants of meadows and other plants injurious to stock were discussed.

In 1900 was offered a course on poisonous plants, to veterinary students, on suggestion of Dr. Repp, who had been a student of Dr. Harshberger of the University of Pennsylvania. This course in much greater detail was embodied in the publication "Poisonous Plants."

Since this, many papers have been published by Dr. Pammel on poisonous plants, and he has edited for a long period a department on poisonous plants in the Journal of Veterinary Medicine.

Dr. Pammel was born at LaCrosse, Wis., April 19, 1862. His parents came to Wisconsin from Germany in the year 1856; 10 years later the farmstead near the city of LaCrosse became the family home and here Dr. Pammel's boyhood was spent. The father was a progressive, self-reliant man of high intelligence, who loved to be trying out something new in his dairying and orchard operations. The varied natural surroundings of a beautifully situated country home appealed to the son and were ideal surroundings for a young botanist.

Dr. Pammel received from Wisconsin University his degree of B. Agr. in 1885, M. S. in 1889 and, in 1925, honorary Doctor of Science, Sci. D. He received Ph. D. from Washington University in 1899. Following graduation at Wisconsin in 1885, he became assistant to Dr. Farlow and later aided in scientific work in several branches of the United States Department of Agriculture. Later at Missouri Botanical Garden, he was associated with Dr. Wm. Trelease, the source, Dr. Pammel has said, of a deep and lasting inspiration to him.

He became a member of the State Geological Board in 1894; and served as chairman of the State Board of Conservation, 1918-1927. He has served as vice-president Section G., the American Association of Science. Botanical and scientific societies have given him general recognition, in offices which he has held. Dr. Pammel is well known in Iowa for his work in the establishment of state parks.

He has had a busy pen, at all times, and his contributions to scientific literature have been many. Included among them are:

Anatomical Characters of Seeds of Legumes, Grasses of Iowa, Flora of Uintahs, Weed Flora of Iowa, Manual of Poisonous Plants and many publications upon plants and fungi harmful to animals.

As a teacher, he believed in pupils working out their own destinies: if the student applied himself, the science became a lasting part of his equipment; if he was indifferent, the loss was his own.

Dr. Pammel has a wide outlook upon the science of botany as related to the general field of knowledge. He possesses the open mind toward research and a generous attitude toward honest efforts of others. In field work with Dr. Pammel, the students caught a touch of enthusiasm for plant study. This fairness and a spirit of friendliness toward his

classes have contributed their share to the lasting impression made upon his students.

Veterinary science has received a rich contribution thru the services of Dr. Pammel.

Dr. Herbert Osborn—Many of the problems connected with the diseases of animals are zoological. In the organization of the Veterinary College, full recognition was given to zoological work. One of the strong men of the veterinary faculty was Dr. Herbert Osborn, born at Lafayette, Wis. March 19, 1856. He moved to Fairfax, Iowa, with his parents. He had his preliminary training in the public schools. Later he graduated from Iowa State College in 1879, receiving the degree of Bachelor of Science. The degree of Master of Science was conferred upon him in 1880. Because of his distinguished services at Iowa State College in entomology the degree of Doctor of Science was conferred upon him in 1916. He also had contact with Dr. Hagen of Harvard University during his early work.

He became assistant to Dr. F. E. C. Beal in 1880, serving until 1883, when he became assistant professor, 1883 to 1885, and professor of entomology in 1885, serving until 1898, at which time he had the call from Ohio State University where he has since served as professor, and, since 1916, as research professor.

He became the entomologist of the Iowa Agricultural Experiment Station in 1890 and director of the Biological Survey of Ohio in 1912. To him the State of Iowa is indebted for the creation of the State Entomologist. He served as State Entomologist for one year. He has ably directed the research laboratories in zoological and entomological work of Ohio State University.

Dr. Osborn is a member of many important entomological and other societies such as the American Entomological Society, the Entomological Society of France and Society of Economic Entomologists. He was president of the Iowa Academy of Science in 1887; the president of the Ohio Academy of Sciences 1904-1905; vice-president of the zoology section of the American Association for the advancement of Science in 1917. For a number of years he has been connected with the Tropical Plant Research Foundation for the United States Department of Agriculture. He worked up the Mallophaga and was consulting entomologist of the Maine Agricultural Experiment Station in 1918.

To the veterinary students Dr. Osborn gave some general courses in entomology. These courses were thoro in the fundamentals. He gave to the students a special course on animal parasites. His fine research work on these animal parasites made him a great asset to the faculty. His indomitable energy and fine personality were impressed on the students.

Of particular interest in this connection is Dr. Osborn's work on parasitic insects of domestic animals. Especially Pediculi and Mallophaga of man and lower animals, a classic paper, published by the United States Department of Agriculture.

Dr. F. E. L. Beal, who came to Ames as a civil engineer, was trans-



View from Old Main toward the northeast. About 1886



Present-day view from Central toward the northeast



View from Old Main toward the southeast about 1886



Present-day view from Central toward the southeast

ferred to the Department of Zoology. He had long been interested in zoology and his major contributions pertained to a knowledge of bird life.

My earliest recollections concerning him were his associations with Dr. Osborn and Charles Aldrich. Dr. Aldrich was especially interested in Dr. Beal because of their mutual interest in the extinct animal of Iowa, the buffalo. They found a number of buffalo horns near Ames.

Dr. Beal was born in Middlesex County, Mass., March 9, 1840, and died at Branchville, Md., October 1, 1916. At an early age Beal was left an orphan.

He enlisted in the Thirty-sixth Massachusetts regiment. As a youth he was diagnosed as having tuberculosis and was discharged from the services on February 5, 1863. He then settled on a farm and there for several years studied birds, insects and trees. He graduated from the Massachusetts Institute of Technology in 1872 and became an engineer on the C. B. and Q. railroad. His thesis was "A Design for a Howe Truss Bridge," which is carefully preserved in the Boston Institute of Technology. He became a surveyor for the Burlington and Missouri railroad, stationed at Crete, Nebr.

He became an instructor in mathematics of the Boston Institute of Technology and later, for a few years, was connected with the United States Naval Academy at Annapolis. He came to Iowa Agricultural College on March 20, 1876. In 1882 he became professor of zoology as well as geology, his assistant in geology being Dr. Herbert Osborn. His work in Iowa brought him in contact with Dr. Aldrich who was an enthusiast on the subject of birds.

Henry Elijah Summers became connected with Iowa State College in July, 1898, when Professor Osborn resigned to accept a position at Ohio State University. Professor Summers became professor of zoology and entomology and continued until February, 1918.

Professor Summers was born in Rochester, N. Y. in 1863. He received his early education in that state and was graduated from Cornell University in 1886. He served as fellow in that institution from 1886 to 1888. From 1888 to 1891 he was associate professor of biology at the University of Tennessee. From 1892 to 1893 he was assistant professor in the Illinois State University Laboratory of Natural History under Dr. Forbes. From 1893 to 1897 he was assistant and associate professor of physiology in the same institution.

He became State Entomologist for Iowa in 1898. The work of the State Entomologist had been partly organized by Professor Osborn, but the real organization began with the work of Professor Summers.

He gave lectures to the veterinary students on the subjects of zoology, animal parasites and entomology.

Professor Summers is a member of numerous associations and scientific societies, among these the American Association for the Advancement of Science, in which organization he is a fellow, Association of American Entomologists, of which he was the president in 1905 and the vice-president in 1909. He was also a member of the Microscopical Society, the Iowa Academy of Science,

of which he was president in 1902 and treasurer from 1907 to 1909.

Alfred Allen Bennett, who for a number of years was connected with Iowa State College, and under whose direction the Veterinary students took courses in chemistry between 1885 and 1914, was born in Milford, N. H., on November 30, 1850. He received his early education in the public schools of his native town. He entered the State University of Michigan and received the degree of B. S. in 1877.

Because of his valuable services as a teacher, Iowa State College in 1887 conferred upon him the degree of M. S. Shortly after graduation from the University of Michigan he became teacher of science in the Michigan Military Academy, serving this institution from 1878 to 1880. He then became professor of physics and chemistry at Iowa Wesleyan College, Mount Pleasant, Iowa, and remained there from 1881 to 1883.

He became professor of chemistry in the old University of Chicago in 1883 and served until 1885.

On the resignation of Professor Pope at Ames, Professor Bennett was asked to assume the chair of chemistry. He was active in his work until failing health compelled him to let up his strenuous duties. He received a one year leave of absence from 1913 to 1914, resumed his work for a short time but was forced to take another leave of absence in 1915. Later he was made emeritus professor of chemistry. Professor Bennett died at Orange, Calif., from accidental drowning June 19, 1919.

Professor Bennett published little, but in the year 1893, a work of his, "Textbook of Inorganic Chemistry, Part I," was published, and in 1894, Part II of the same work was brought out.

Dr. Irving W. Smith was born in Franklin, Delaware County, N. Y., March 1, 1851. He resided with his parents at the place of his birth until he was about six years of age, when they moved to Iowa and located at Charles City. Dr. Smith graduated from the schools of that city. He then attended the Iowa Agricultural College at Ames, where he was graduated with the first class in 1872, with first rank. He then attended the medical department of the Iowa State University and from there went to Jefferson Medical College, Philadelphia, from which he was graduated. After graduation from the medical college he at once entered the practice of medicine in his home town of Charles City, where he continued from 1875 to 1893. In 1876, Dr. Smith was married to Miss Sallie Stalker, who was also a graduate of the Agricultural College. In 1893, Dr. Smith was elected to the professorship of pathology, therapeutics and college physician of the Agricultural College at Ames, which he held for about a year, achieving marked distinction and working out a brilliant career for himself, when he discovered in himself signs of tuberculous troubles. He at once resigned his professorship and with his family went to the Pacific coast to seek its healing climate. He was greatly improved in health by the change, but was attacked by malaria fever, from which he steadily declined until his death on October 29, 1895.

Wilbert Eugene Harriman was born at Cherokee, Iowa, December 4, 1871, and when five years old removed with his parents to Hampton, graduating from the Hampton high school in June, 1890. He entered the Iowa Agricultural College in 1890 enrolling for the scientific course. He was always popular as a student for he was wide-awake and generous. Being prominent in college activities, he was a loyal member of the Welch Eclectic Literary society, captain of Company E in the college battalion, manager of the baseball team and during his sophomore year class president. At the close of his sophomore year he began the study of medicine in the office of Dr. W. A. Rohlf of Hampton, continuing this work thro the winter vacation of 1891-92. At the close of his junior year in November, 1892, he entered the medical department of the State University and at the close of this year's work had the satisfaction of winning the prize offered for the best examination in histology. Returning to Ames in the spring he completed his course, graduating in November, 1893. In May, 1894, he passed the examination of the State Board of Medical Examiners and began the practice of medicine at Gilbert, Story county, where he remained until October, 1894, when he entered Jefferson Medical College at Philadelphia, graduating May 15, 1895. He located at Ames the month following and on July 16 was elected to the position of college physician and surgeon and professor of pathology, histology and physiology at Iowa State Agricultural College, a position which he filled for 12 years with honor to his profession and credit to his Alma Mater.

From 1895 to 1901 Dr. Harriman taught pathology to the junior and senior veterinarians, histology to the first year veterinarians, general surgical therapeutics to the veterinary seniors and physiology to a multitudinous class comprised of freshman veterinarians, juniors and seniors of the general science course and seniors of the ladies' domestic science course. This amounted to 18 lectures and two laboratories per week, classes convening in old Agricultural Hall.

The student body had increased from about 350 students in 1895, to nearly 600 in 1900. At the close of the typhoid epidemic of 1900 the doctor realized that he could no longer teach and at the same time give the sanitation and student illness proper care. So the Board of Education, having placed upon its records a resolution of appreciation of the faithful and unremitting services of the college physician, granted him the privilege of discontinuing the teaching so that he might have time for the care of the student body and an increasing private practice.

Doctor Harriman's life work was ended by an untimely death March 17, 1909.

He is survived by his widow, Mary Wormley Harriman, Ex. '95, who is now residing in Ames. Their three children, Loretta Harriman Jones, '19, Walter F. Harriman, '20, and Dorothy Harriman Sutton, '23, are all alumni of Iowa State College.—By Mrs. W. E. Harriman.

Dr. D. S. Fairchild was born September 16, 1847, at Fairfield, Vt.

He was educated at the academies of Franklin and Barre, Vt., during the years 1866, 1867 and 1868, attended medical lectures at Michigan University at Ann Arbor and was graduated from the Albany Medical College of Union University in December, 1868. He read medicine in the office of J. O. Cramton, of Fairfield, Vt.

The high rank attained by the Iowa State College Veterinary College is due in a large measure to the high quality of the men who gave instruction to students. Dr. Fairchild's connection with the Veterinary College was in a way accidental. The doctor located at Ames to practice medicine, having had previous experience in the practice of medicine in the little village of High Forest, Minn. It was while he was a practitioner in Ames that he came in contact with the students as medical advisor in the fall of 1872. There is a full account of his life in the *Alumnus of Iowa State College* (November 1925, 145). In 1872 he was appointed the regular college physician. In 1878 he became college health officer at the magnificent salary of \$100 a year, it being understood that he had the privilege of a private practice. It was during an epidemic of typhoid fever in 1883 that Dr. Fairchild, along with his colleagues, Professor J. L. Budd and F. E. L. Beal, found a defective sewage system, which they thought was responsible for the epidemic. These men privately borrowed the money from the Union National Bank and made the system safe.

It was during his incumbency that a college hospital was built in 1884, thus making the student medical service more efficient. These were indeed pioneer times and this kind of service was a venture.

When the Veterinary College was established in 1879, Dr. Fairchild became, along with his other duties, the professor of pathology, histology and therapeutics, and later there was added to these comparative anatomy. Along with his other duties he gave a few lectures to the students in psychology. All of this work was done at a salary of \$200 a year.

Dr. Fairchild, in an account of the trials of the Veterinary College says, "We have a feeling even to this day, that the professor (reference to Dr. H. Osborn) was somewhat amused at the course of instruction. We did not venture very far from the two volume work of Balfour on Embryology; this was a comparatively new branch of science. We had no apparatus, not even a chart. The best we could do was to make some drawings on a blackboard." There were many discouragements and disadvantages in giving instruction to the students. There was but little equipment, scarcely any room. The house formerly occupied by Dr. A. S. Welch became his laboratory in histology.

Dr. Fairchild remained with the college and was an active lecturer until 1893 when he moved to Clinton, Iowa.

Dr. Fairchild has made many fine contributions to medical science and his fine literary ability is shown in his extensive work in the *Journal of the Iowa Medical Society*. The historical articles are especially valuable. His paper on Pioneer Practice is a most note-

worthy one. He is a member of the leading medical science societies. He was honored by being elected president of the American Association of Railway Surgeons in 1914, president of the Iowa State Medical Society in 1894, president of Western Surgical Association in 1898, and of the American Medical Association in 1914. He is a fellow in the American College of Surgeons and was first vice-president.

In 1873 he helped organize the Story County Medical Society and was made its first president. In 1874 he assisted in organizing the Central District Medical Society and was twice elected its president.

Dr. J. H. McNeil was graduated from the University of Pennsylvania in 1899. He remained with the School of Veterinary Medicine at the University for one year after graduation, as house surgeon. Dr. Beardshear secured Dr. McNeil to teach anatomy and surgery, beginning in September, 1900. Dr. McNeil had been a student of medicine and was interested in the breeding of fine livestock. He soon became a warm friend of President Beardshear and was one of the main factors in putting new life and energy into the division after its reorganization.

I have never been associated with a man who had more energy and greater capacity for work than did Dr. McNeil; his energy was not only possessed in large quantities but was well directed. He is a deep thinker and had a wonderful insight into the personalities of his students. A number of the members of our present staff are former students of Dr. McNeil, and the writer feels indebted to him more than any one other person for his interest in the profession and the many opportunities which have come to him during the 22 years since he was graduated. Dr. Bemis, now of the University of Pennsylvania, Dr. Guard and Dr. Covault of our own staff, Dr. Graham of the Jensen-Salsberry Incorporation, and a number of others I could mention, undoubtedly got their inspiration from Dr. McNeil. The fact has already been referred to, that the first four-year course to be established in any veterinary college in the United States was established by him while he was dean of the Veterinary Division. This has now become the established requirement in all schools. He never liked publicity and above all he was an enemy of any misrepresentation or "sailing under false colors." Dr. McNeil was very active in attempting to help the livestock breeder to better methods of livestock production and was a frequent speaker on livestock breeders' programs. He was one of the first to urge systematic control of tuberculosis among livestock of the state and started the work of eradicating the disease from the college herd, which work was well under way when he resigned to go to the Ohio State University.

I have never known a truer friend; he never was friendly in your presence and unfriendly in your absence. Usually if he was your friend you were well aware of the fact. If he was not your friend

you also knew it. A friend like that is worth much when the test comes. I doubt whether we all realize how much he really meant to us when we were students.

Since leaving Iowa State College, Dr. McNeil served at Ohio State University as professor of surgery. Later he accepted a position with the Brazil Land and Cattle Company and spent five years in South America. After his return from South America, he accepted a position as Chief of the Bureau of Animal Industry of the State of New Jersey, which position he still holds.

Dr. L. A. Klein was born in Philadelphia in 1871; was educated in the public schools and Brown Preparatory School in Philadelphia, and was graduated from the School of Veterinary Medicine in 1897. He practiced his profession from 1897 to 1898 and was then employed by the Bureau of Animal Industry in the United States Department of Agriculture (1898-1899). Dr. Klein came to Iowa State College in September, 1900, at the same time Dr. McNeil accepted his position. Dr. Klein taught medicine and sanitary science, but resigned, effective January, 1902, after a period of service of about 15 months. After leaving Ames, he became professor of veterinary science at Clemson Agricultural College, 1904-1907, and deputy state veterinarian of Pennsylvania in 1907, which position he held until 1909 when he was offered the position of dean of the School of Veterinary Medicine at the University of Pennsylvania. This position he has filled with great credit since that time.

Dr. Klein has always been active in association work and has the reputation of being a good teacher and clear thinker. Among Dr. Klein's contributions to veterinary literature is a book, "Principles and Practice of Milk Hygiene," and a translation of Eugen Frohner's "Allgemeine Therapie Fur Tierarzte," as well as numerous papers.

Dr. M. Jacob was graduated from the University of Pennsylvania in 1902 and came to Iowa State College in September, 1903. Since leaving Iowa State College, Dr. Jacob has been connected with the faculty of the University of Tennessee at Knoxville. He has also served concurrently for a period of years as a state veterinarian of Tennessee. Dr. Jacob was on the staff as teacher of medicine when the writer was a freshman, and I remember distinctly the enthusiastic comments of the upper classmen regarding his teaching. It was a disappointment when we returned to college next year to find that he had resigned. Dr. Jacob has served our national association since 1918 as treasurer. This indicates the confidence and respect the profession has for him. He has served for a number of years on the tuberculosis committee of the United States Live Stock Sanitary Association where his counsel has always been progressive, yet safe. It is the regret of many of us that men of his type and ability could not have remained in veterinary colleges, so that the students might have the inspiration and benefit of their personality and ability.

Dr. W. A. Stuhr was born in southwestern Iowa. His early edu-

cation does not seem to have been recorded at the college, but he was graduated from the Veterinary Division in June, 1902. Upon graduation he remained at the college as house surgeon until 1903, when he was promoted to assistant professor in which capacity he served until August, 1907. Dr. Stuhr was a good teacher and a brilliant student. He was always very careful about his personal appearance and as a student we remember him as very thoro and deeply interested in his work. After leaving Iowa State College, Dr. Stuhr took up the study of medicine in Northwestern University, and upon completing his course, he remained in Chicago where he is very successful in the practice of his profession, specializing in surgery. It is regretted that a more recent photograph of him could not be secured.

Dr. L. M. Hurt was born at Newton, Iowa, November 5, 1880. After graduating from Newton high school, he came to Iowa State College, where he completed the veterinary course in 1904. He was retained on the faculty, serving until August, 1907. While a member of the staff, Dr. Hurt continued to take college work and when he left in 1907 had completed a considerable part of the course in agronomy, in which he received his Bachelor of Science degree in 1916. After leaving Iowa State College he became associated with the Division of Veterinary Medicine of the Michigan Agricultural College at East Lansing, where he served until 1911. He then went to California where he became city veterinarian of Pasadena. Dr. Hurt was made county veterinarian of Los Angeles County in 1913 and has succeeded in building up one of the finest livestock sanitary organizations on the west coast, an organization which he is still directing.

Dr. F. R. Ahlers graduated in the class of 1902 from Iowa State College. He made a fine record as a student, and when in 1904 Dr. McNeil needed an anatomist, Dr. Ahlers was chosen for the position. He was very much liked by the students, being sincere and frank. Instruction work, however, was not much to Dr. Ahlers liking, and he returned to the practice of his profession at Lamotte, Iowa, where he has been operating a farm and practicing his profession since leaving the college in 1905.

Dr. Ahlers has taken an active part in association work, having served the Eastern Iowa Veterinary Association as president.

Dr. T. S. Leith received his country and grade school education in Nebraska. His high school education was secured at Appleton, Wis., and after attending the University of Wisconsin for a semester, he transferred to the Iowa State College at Ames, completing the veterinary course in 1914. Following graduation he entered general practice in Iowa, and in 1916 became associated with the Veterinary Division as assistant and instructor until 1919. After the war period he located in Georgia for a while and then removed to DeFuniak Springs, Fla., where he is located at the present time. Dr. Leith rendered good service to the Iowa State College during the war period and is a very successful practitioner.

Dr. Kurt Schern was born September 10, 1880, in Berlin, Germany,

and after completing his preliminary education, enrolled in the Berlin Veterinary College, where after eight semesters, he passed the state veterinary examination in 1904. He then attended the University of Leipzig for three semesters, studying natural science. Following this, he entered the practice of his profession and was employed largely in a substitute capacity for official and practicing veterinarians. On April 1, 1906, he accepted a position as assistant in the veterinary section of Kaiser Wilhelm Institute at Bromberg under supervision of Dr. Meissner. He gave special attention to the bipolar organisms as well as diseases of cattle and sheep.

In 1908 he became associated with the imperial board of health (Kaiserlichen Gesundheitsamt) under Dr. Uhlenhut. In 1911 he took over food hygiene work in Berlin and in 1913 came to Iowa State College in connection with our veterinary research work. He was detained in Germany during the war and is now in Uruguay, South America.

Dr. L. E. Willey was born in Boone County, Iowa. At an early age his parents moved to Ames, where he received his preliminary education including high school. He entered the Iowa State College and was graduated from the Veterinary Division in 1911. Following graduation he became associated with the University of Minnesota as assistant professor until 1914, when he came to Iowa State College, where he remained until 1920. In 1920 he accepted a position as pathologist with the Sioux City Serum Company, where he is still employed.

When the war broke out, Dr. Willey enlisted as a second lieutenant on November 28, 1917. He was stationed at Ft. Keough, Mont., Camp Custer, Camp Greenleaf, Ft. Oglethorpe, Ga., and Camp Meade, Md. He was promoted to first Lieutenant on July 10, 1918, and is at present a member of the Officers Reserve Corps.

Dr. Willey's association with the Research Department during its formative period was a great help to us, and he has continued his scientific trend of thought and research attitude in his present position.

Dr. N. L. Nelson became house surgeon in September, 1911, and after serving for one year was advanced to instructor, in which capacity he served until June, 1913. He returned to the college as assistant professor in September, 1915, having engaged in private practice during the time intervening. He remained on the staff in this capacity until April, 1918, when he became affiliated with the Sioux Falls Serum Company.

The ambulatory clinic work was started with Dr. Nelson in charge. His pleasing personality and his practical ideas soon made him popular as a teacher and created a demand for his services among the farmers of this community.

When the United States entered the World War, Dr. Nelson volunteered his services. He distinguished himself abroad and when the war closed he was acting as assistant chief veterinarian of the army of occupation. His service record is as follows:

Enlisted October 17, 1917, with the rank of major in Veterinary Corps. He was assigned to the Division Veterinary Headquarters of the Thirtieth Division. He was transferred to Headquarters Veterinary Hospital No. 5, thence to Headquarters of the 3rd Army as Corps Veterinarian (October 2, 1918) and from here to Headquarters of the army of occupation from December, 1918, to April, 1919. Dr. Nelson was in foreign service from May 1, 1918, to June 1, 1919, and was present at Kimmel Hill, St. Mihiel and Argonne. His discharge was dated June, 1919. We were glad when he returned, but the lure of possibilities in the commercial field attracted him, and as usual he has "made good." Dr. Nelson is with the Sioux Falls Serum Company at Sioux Falls, S. D.

Dr. R. R. Bolton was graduated from Cornell University Veterinary College and joined the veterinary staff of Iowa State in February, 1914. This was during the busy organization year and the additional burden of the State Biological Laboratory and other hog cholera work was upon us. Dr. Bolton taught medicine and physical diagnosis. He resigned in April, 1918, and is now located at Newburg, N. Y.

George Judisch, altho always a "part time" member of the staff has had a prominent place in the work of the division for 25 years. He began teaching pharmacy to the veterinary students about 1900. In order better to equip himself, he studied veterinary physiology, materia medica, poisonous plants, and took some work in agricultural chemistry. Mr. Judisch was thoro in his work not only at the college, but in his own business (pharmacy). He was always ready to help the students out of class and laboratory hours as well as during the scheduled periods. Many a veterinary student has spent hours at his store downtown receiving helpful suggestions and advice. In recognition of his service, the Iowa State College a few years ago granted him a certificate of 25 years of eminent service to the institution.

He established a scholarship awarded each year to the "best senior student in veterinary medicine," consisting of four years' membership in the American Veterinary Medical Association and a subscription to the official journal (\$25.00).

Mr. Judisch has been a leading factor in his own profession not only in Iowa but in the National Pharmaceutical Society as well and has always stood for high ethical and educational standards. He has been honored with the degree D. Ph. from Des Moines University and has served on the Iowa Pharmacy Commission since 1924.

Dr. H. S. Murphey was reared in Coshocton County, Ohio. Following his graduation from the Veterinary College of the Ohio State University in 1908, he engaged in private practice and worked on a per diem basis for the Ohio Livestock Commission. From this work he came to Iowa State College in September, 1909. He remained with the Veterinary Division until his death on September 25, 1926. When Dr. Murphey first joined the faculty he taught physiology and sanitary science. When Dr. Dykstra resigned, Dr. Murphey

was appointed head of the anatomy department in which position he continued until his death.

Probably no student who studied under Dr. Murphey will ever forget his insistence on thoro work. I doubt if Dr. Murphey ever knowingly gave a passing grade to a student who did not deserve it. It cannot be said that he was a popular teacher (with the students) because he was considered too exacting and "hard." In most cases, however, when these same students became alumni, they spoke of their appreciation of the man who "had taught them to work." Dr. Murphey was as strict with himself as he was with his students for he was an almost tireless worker and as some one has said "a typical scientist."

At the time of his death, Dr. H. P. Hoskins, secretary of the American Veterinary Medical Association, said: "Only 43 years of age, his death removes from the veterinary profession an outstanding anatomist, a tireless investigator and an unusually successful teacher." "The report made by this committee (committee on abortion) at Lexington was a marked departure from the reports of the same committee of previous years. It is no less valuable by reason of its unusual character, and reflects in only a small way the vast amount of work that Dr. Murphey did as chairman of the committee. He plunged into it, heart and soul, just as soon as he was notified of his appointment. Dr. Murphey did things just that way."

One of his colleagues (Dr. Murray) in a tribute to Dr. Murphey wrote: "His superior qualities of intellect, his steadfastness to his ideals, his love for his friends, his loyalty to his institution and to his co-workers so far out-measure his short-comings that we can think of none of the latter. Students stood in awe before him until they came to know and appreciate him and, on their return to the college as alumni, their first inquiry was for 'Pat.' He hated hypocrisy—he loved the truth."

Dr. W. W. Dimock was born in Tolland, Conn., in 1880. He graduated from the Connecticut Agricultural College in 1901 (B. S.), after which he attended the New York State Veterinary College, graduating with the class of 1905. Following graduation he went to Cuba, becoming assistant chief of animal husbandry (1906-1908) and later (1908-1909) chief veterinarian of the National Board of Health of Cuba. From this position he came to Iowa State College in October, 1909, and remained until September, 1915, when he accepted his present position as professor of veterinary science at the University of Kentucky. While at Iowa State College, Dr. Dimock was advanced to the rank of professor and vice-dean. He was appointed head of the Department of Pathology when the division was divided into departments in 1911. Dr. Dimock has been very active in association work, especially the American Veterinary Medical Association, before which he has presented many papers.

Dr. R. R. Dykstra was born in Grouingen, Holland, in 1879, and came to the United States when still young. He graduated from the Orange City (Iowa) High School in 1895. Following graduation from high

school he took up the study of pharmacy and was admitted to the practice of that profession in 1900. He was engaged in the drug business until the fall of 1902 when he entered Iowa State College and took up the study of veterinary medicine. Following his graduation in 1905 (course then three years) he accepted an appointment on the staff of the Veterinary Division to teach anatomy. (Dr. Dykstra's class was the last to enter the college as a three-year class.) Dr. Dykstra served on the faculty of Iowa State College from September, 1905, to August, 1911, having advanced to the rank of full professor during that time. Dr. Dykstra was always considered a good lecturer. After leaving Iowa State College, he became a member of the faculty of the Kansas Agricultural College, where he is now dean of the Division of Veterinary Medicine.

Dr. George W. McNutt was born in Kossuth County, Iowa, and graduated from the Algona high school. He entered the Iowa State College and after completing the four-year course in 1917 entered general practice at Stratford, Iowa. He served as veterinary inspector for the Bureau of Animal Industry for four months, when he enlisted in the army as second lieutenant. After the war he became associated with the Iowa State College as instructor in pathology. He was transferred to the Anatomy Department in 1920, where he served until 1927. Dr. McNutt was very closely associated with Dr. Murphey in both his teaching and research work, and much of the careful work done on some of the ductless glands was due to Dr. McNutt's efforts. He is a very thoro worker and an excellent teacher. Many of the research publications from the Anatomy Department of this division carry his name as a co-author. He is now professor of anatomy in the College of Veterinary Medicine in Washington State College.

Dr. H. E. Bemis was born at Cawker City, Kas., and after "exhausting" local educational facilities enrolled at Northwestern University (Evanston). After completing about two years of work there he came to Iowa State College and studied agriculture for one year. This was his preparation for the veterinary course which he completed in 1908. He entered the inspection service of the Bureau of Animal Industry and was stationed in Chicago, but Dr. McNeill resigned that fall and suggested Dr. Bemis as a good man to help carry on the work of the division. The wisdom of this selection was soon demonstrated, as he was appointed head of the Department of Surgery in 1911, which position he filled with dignity and efficiency until the University of Pennsylvania needed a man to take the place of the late Dr. Adams. Dr. Bemis was ever loyal even under difficult circumstances; he has a pleasing personality and was always popular with the students. Dr. Bemis, in addition to his other duties, served as vice-dean from 1915 to 1927.

Among those members of the veterinary staff who entered the service during the World War, Dr. Bemis was the first to enlist. He entered with the rank of major at Camp Funston, Kas., on October 4, 1917. He acted as division veterinarian to the Eighty-ninth Division and on January 3, 1918, was transferred to Veterinary Hospital No. 3,

Camp Lee, Va. On September 1, 1918, he was assigned to the office of chief veterinarian, A. E. F., at Tours, France. On November 18, 1918, Dr. Bemis was assigned to the position of chief veterinarian, 3rd Army Headquarters, Coblenz, Germany. He saw eighteen and a half months of foreign service and made a fine record. During his service he was promoted to lieutenant-colonel, V. C. He received his discharge at Washington, D. C., June 24, 1919. The decoration, "Officier du Merite Agricole, Republique de France," was awarded Dr. Bemis by the Republic of France for work done in reclaiming diseased and debilitated horses after the Armistice, so they could be returned to agricultural service.

It is always difficult to adjust oneself to the loss of a staff member of Dr. Bemis' type and personality, especially when you have labored together over a period of 18 years and have shared each other's joys and sorrows.

Dr. C. H. Stange was born in Cedar County, Iowa, May 21, 1880, and after attending public and German school, entered Lowden high school, graduating in 1896. He worked on a farm until 1903, when he came to Iowa State College, graduating in the class of 1907. He was employed by the Bureau of Animal Industry until the opening of college in the fall of 1907, when he accepted a position on the faculty of the Veterinary Division, Iowa State College. He pursued work at the University of Chicago during the summer session of 1908 and has since been identified with the Veterinary Division.

Dr. Henry Dale Bergman was born in Newton, Iowa, November 22, 1886. He was graduated from the Newton high school in 1904 and from Iowa State College, Division of Veterinary Medicine, in 1910. He did graduate work at the University of Chicago during the summers of 1911 and 1914. He has been on the faculty of Iowa State College from September, 1910, until the present time. Dr. Bergman's present position is professor and head of veterinary physiology and pharmacology.

Dr. Charles Murray was born in Greenfield, Ohio, February 8, 1876. At an early age his family moved to Russell, Iowa. His preparatory education was taken at Chariton, Iowa, and Drake University at Des Moines, from which institution he took the Bachelor in Pedagogy degree in 1906. He came to Iowa State College in 1908 and was assistant from 1908 to 1912, when he had completed the veterinary course and received the degree of Doctor of Veterinary Medicine. In the meantime, having taken sufficient science work, he secured the Bachelor of Science degree in 1910. Following graduation he became associated with the Veterinary Pathology Department as bacteriologist and in 1917, after it became apparent that Dr. Schern could not return because the United States had joined the Allies, Dr. Murray was appointed head of the Department of Veterinary Research, and continues in that capacity at the present time. Dr. Murray has to his credit many research papers and has a number of projects in process at the present time.

Dr. E. A. Benbrook was born in South Orange, N. J., on May 15,

1892. After graduating from the South Orange high school, he entered the University of Pennsylvania, graduating in 1914. He remained at his Alma Mater as instructor in veterinary pathology for one year, when he accepted a position at Oklahoma A. & M. College, where he served as instructor and assistant professor until he came to Iowa State College in 1918 as associate professor of veterinary investigation. He was made head of the Department of Veterinary Pathology in 1919, in which capacity he is still serving.

Dr. C. D. Rice was born in Richmond, Ky., on March 16, 1881. After completing the high school work in Richmond, he entered Georgetown College (Kentucky) and was graduated in 1902 with the Bachelor of Science degree. He entered Iowa State College and received his Doctor of Veterinary Medicine degree in 1913. He served on our extension staff from 1913 to 1915, during the hog cholera wave. Commercial work attracted him from 1915 to 1917 when he returned to the Veterinary Division. He is now associate professor of pathology.

Dr. W. F. Guard was born at Cleves, Ohio, January 29, 1890. After completing his preliminary education he studied science for one year at Moores Hill College, then went to Ohio State University, graduating in 1912. He remained at his Alma Mater for one year as assistant in veterinary medicine and practiced his profession until October, 1914, when he came to Iowa State College. He is at present professor and head of veterinary surgery.

Dr. C. H. Covault was born at Troy, Ohio, November 1, 1886. He received his preliminary education in the Staunton Township public schools and the preparatory and science department of Lebanon University. He taught in township schools from 1905 to 1907, when he entered Ohio State University, graduating in 1911. He entered practice and did field work for the Ohio Agricultural Commission from 1911 to 1914 and practiced his profession at Akron, Ohio, from 1914 to 1917, when he came to Iowa State College as associate professor of medicine, which position he still occupies.

Dr. Frank E. Walsh was born in Garner, Iowa, in 1890, was graduated from high school, and from Iowa State College in 1918, receiving the degree of Doctor of Veterinary Medicine. He engaged in private practice until the fall of 1919, when he came to Iowa State College. Since that time he has been assistant professor of medicine in charge of ambulatory clinics.

Dr. W. A. Aitken was born at Paullina, Iowa, April 11, 1895. He graduated from the Paullina high school in 1912 and Iowa State College in 1917. He served in the United States army, August, 1917 to August, 1919. He was deputy state veterinarian for a short period before he accepted a position in the Department of Anatomy, Iowa State College. He was made associate professor of surgery in 1927, in which position he is still serving.

Dr. H. E. Biester was born December 13, 1892, in Chicago; was graduated from the public schools of Philadelphia, attended Temple University, George Washington University and the University of Pennsylvania, at which institution he received the degree of V. M. D. in 1919.

He spent the next year in post graduate work in pathology. He served as interne in the University of Pennsylvania Veterinary School, which position he left to work for the United States Bureau of Animal Industry at Lancaster, Pennsylvania. In 1920 he accepted the position of instructor in veterinary pathology at Iowa State College, which place he resigned to go to the University of Illinois as associate in animal pathology. Dr. Biester is now assistant professor of veterinary investigation at Iowa State College.

Dr. S. H. McNutt was born at Algona, Iowa, in 1892. He received his preliminary education in Algona, after which he entered upon the study of veterinary medicine at Iowa State College, graduating in 1917. Following graduation, he remained in the Department of Veterinary Pathology for one year as an assistant. He was transferred to the veterinary research staff, where he now holds the position of assistant professor.

Dr. H. H. Dukes was born at St. George, S. C., on September 9, 1895. After completing his high school education he entered Clemson College, South Carolina, graduating with the Bachelor of Science degree in 1915, following which he came to Iowa State College, completing the work for his D. V. M. degree in 1918 and Master of Science degree in 1923. He was assistant professor of Veterinary Science at Clemson College from 1918 to 1920 and in private practice until 1921, when he came to Iowa State College. He is at present assistant professor of veterinary physiology. Dr. Dukes is being transferred to veterinary research at the close of the present college year.

Dr. Harry L. Foust was born in Ohio, March 22, 1886. He attended grade and high school and Valparaiso University. He graduated from the Ohio State University in 1914 with the degree D. V. M. In addition, he took one year of chemistry and biology at North Dakota Agricultural College, two sessions at the University of Wisconsin Medical School and one year in the Medical School and Veterinary Division of the University of Minnesota. He served the North Dakota Agricultural College as a teacher and research man for 10 years and came to Iowa State College as head of the Department of Anatomy in 1927, in which position he is still serving.

Dr. Mack A. Emmerson was born at Pisgah, Iowa, May 15, 1903. He attended grade school at Grand Forks, N. D., and high school at Minot and Lakota, N. D. He attended North Dakota Agricultural College, 1921, to 1923, and Iowa State College, 1923 to 1925, receiving both his D. V. M. degree in 1925 and his Master of Science degree in 1928 from Iowa State College. Following graduation in 1925, he acted as house surgeon for two years and is now completing his second year as instructor in anatomy.

Dr. I. A. Merchant was born in Paonia, Colo., February 9, 1898. After graduation from the Paonia high school he attended the Colorado Agricultural College, receiving the degree, Doctor of Veterinary Medicine, in 1924. He was employed by the Bureau of Animal Industry until November, 1925, when he came to Iowa State College as instructor in veterinary pathology. He received his Master of Science degree in 1928 and is at present assistant professor of pathology.

Dr. George R. Fowler was born May 17, 1890, at Cross Lake, Mich. He received preparatory work in England in a private school, spent one year at the University of Missouri and one year at the University of Idaho and was graduated from Washington State College in 1925 with the degrees Bachelor of Science and Doctor of Veterinary Medicine. He joined the faculty of Iowa State College in 1928 as assistant professor of veterinary anatomy, after having served three and one-half years as instructor of anatomy in the faculty of his Alma Mater.

Dr. Chester Daniel Lee was born in Salt Lick, Ky., September 3, 1904. He received his preliminary education in high school and military school, and spent three years at Morningside College in Sioux City, Iowa.

He was graduated from Iowa State College in 1927, receiving the degree of Doctor of Veterinary Medicine. Since that time he has served this institution as house surgeon and as instructor in veterinary pathology.

Dr. Walter H. Chivers was born in St. Joseph, Mo., December 23, 1892. He was graduated from St. Joseph Central high school. In 1928 he was graduated from Iowa State College, receiving the degree D. V. M. His present position is house surgeon.

Joseph E. Guthrie was born in York, Livingston County, N. Y., September 24, 1871. He attended the public schools of his native town and was graduated from the high school at LeRoy, N. Y., in 1895. He matriculated at the University of Minnesota in 1896, receiving his B. S. degree from there in 1900. He received the degree of M. S. in 1901. He is interested especially in entomology and herpetology and has done a large amount of excellent work in connection with snakes.

Professor J. E. Guthrie has been connected with Iowa State College since 1901, serving in the capacity of instructor until 1904, assistant professor until 1914, associate professor until 1917, when he was made professor of zoology, which position he still holds.

Professor Guthrie has been teaching veterinary students for 27 years. The students in veterinary medicine who have had work with him in general zoology and embryology all speak of him in the highest terms.

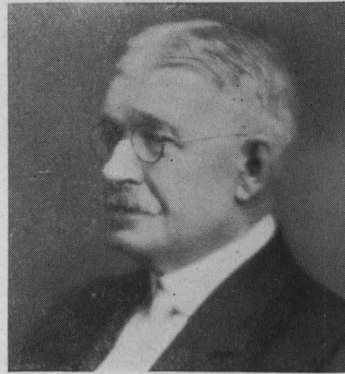
He is a member of numerous societies, among which are: Fellow, American Association for the Advancement of Science, Reptile Study Society, American Herpetological and Ichthyological Society, Wilson Ornithological Society, Iowa Academy of Science, Iowa Ornithological Union, Sigma Xi, Gamma Sigma Delta and Phi Kappa Phi.—L. H. Pammel.

Maria M. Roberts was born in Harrison County, Iowa, June 29, 1867. She completed her common and high school education by graduating from the Dunlap high school at the age of 14. She was graduated from Iowa State College with the class of 1890. After graduation she taught in the Des Moines schools for a while, but resigned to accept a position in the mathematics department of her Alma Mater. In 1892 and 1893 she did post graduate work at Cornell University. When Dr. Storms became president, he organized the college into a junior and senior college (1904). Dr. E. W. Stanton was appointed dean of the junior college, in which all freshman and sophomore students are clas-

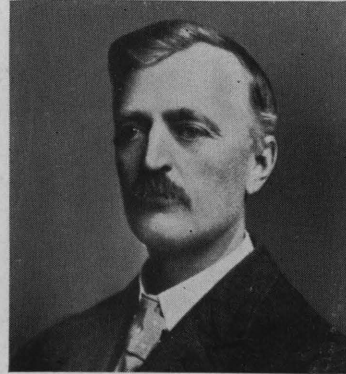
sified. Miss Roberts was appointed vice-dean of the junior college (1914) and, on the death of Dean Stanton (September, 1920), succeeded him as dean. All veterinary students entering Iowa State College since 1909 have been classified during their first two years in her office. They know of her sympathy with the students in their problems and appreciate her fine ideals of scholarship. Probably no member of the staff of Iowa State College is so widely and favorably known among alumni as Miss Roberts.

FACULTY ORGANIZATION

- 1873—H. J. Detmers, professor.
 1877-79—M. Stalker, professor agriculture and veterinary science.
 1880—M. Stalker, professor; D. S. Fairchild, professor.
 1881—M. Stalker, professor; D. S. Fairchild, professor; G. C. Faville, instructor.
 1882-84—M. Stalker, professor; D. S. Fairchild, professor.
 1885—M. Stalker, professor; D. S. Fairchild, professor; G. M. Osborn, house surgeon.
 1886—M. Stalker, professor; D. S. Fairchild, professor; W. B. Niles, house surgeon; L. J. Alleman, lecturer; F. E. Cruttenden, lecturer.
 1887—M. Stalker, professor; D. S. Fairchild, professor; W. B. Niles, house surgeon; L. J. Alleman, lecturer; F. E. Cruttenden, lecturer.
 1888—M. Stalker, professor; D. S. Fairchild, professor; W. B. Niles, lecturer; F. E. Cruttenden, lecturer; John Tillie, house surgeon; L. Schooler, lecturer.
 1889—M. Stalker, professor; D. S. Fairchild, professor; F. E. Cruttenden, lecturer; L. Schooler, lecturer; John McBirney, house surgeon.
 1890—M. Stalker, professor; D. S. Fairchild, professor; S. B. Nelson, house surgeon.
 1891—M. Stalker, professor; D. S. Fairchild, professor; W. B. Niles, assistant professor; J. C. Norton, house surgeon.
 1892—M. Stalker, professor; D. S. Fairchild, professor; W. B. Niles, assistant professor; W. A. McClanahan, house surgeon.
 1893—M. Stalker, professor; D. S. Fairchild, professor; W. B. Niles, assistant professor; J. A. Replogle, house surgeon.
 1894—M. Stalker, professor; I. W. Smith, professor; W. B. Niles, assistant professor; C. M. Day, house surgeon.
 1895—M. Stalker, professor; I. W. Smith, professor ($\frac{1}{2}$); W. E. Harriman, professor ($\frac{1}{2}$); W. B. Niles, assistant professor; A. R. Wake, house surgeon.
 1896—M. Stalker, professor; W. E. Harriman, professor; W. B. Niles, assistant professor; W. R. Cooper, house surgeon.
 1897-98—M. Stalker, professor; W. E. Harriman, professor; W. B. Niles, assistant professor; W. B. Lincoln, house surgeon.
 1898-99—M. Stalker, professor; W. E. Harriman, professor; W. B. Niles, assistant professor; J. J. Repp, assistant professor; J. E. Bingham, lecturer; M. F. Patterson, lecturer; S. C. Brownlee, lecturer; C. G. Lee, lecturer; H. E. Titus, house surgeon.
 1899-00—M. Stalker, professor; J. J. Repp, assistant professor; Bur-



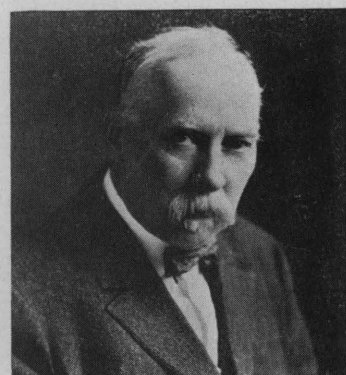
DR. DAVID S. FAIRCHILD



DR. W. B. NILES



DR. W. E. HARRIMAN



DR. L. H. PAMMEL



DR. L. A. KLEIN



DR. M. JACOB



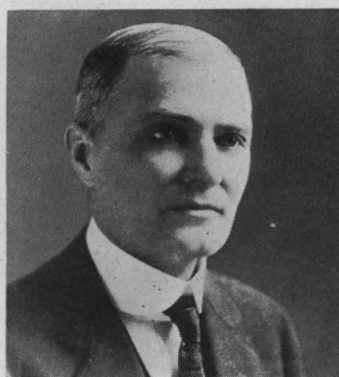
DR. L. M. HURT



DR. F. R. AHLERS



DR. R. R. DYKSTRA



GEORGE JUDISCH



DR. H. S. MURPHEY



DR. H. E. BEMIS



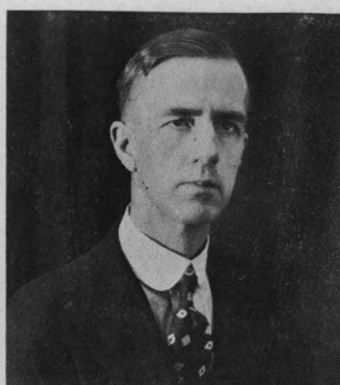
DR. L. E. WILLEY



DR. T. S. LEITH



DR. G. W. McNUTT



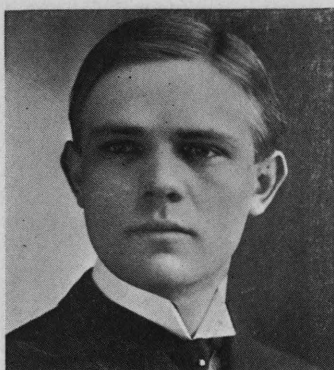
DR. E. A. HEWITT



DR. J. D. GROSSMAN



DR. W. W. DIMOCK



DR. W. A. STUHR



DR. W. E. MADSON



DR. R. R. BOLTON



PROF. J. E. GUTHRIE



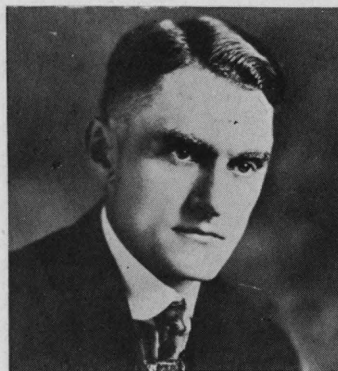
DEAN MARIA M. ROBERTS



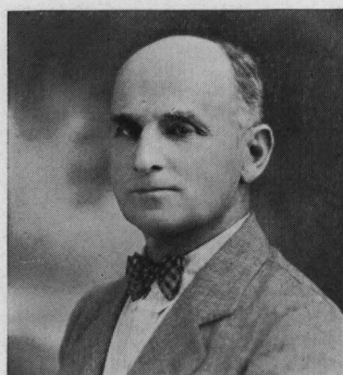
DEAN R. E. BUCHANAN



DEAN C. H. STANGE



DR. H. D. BERGMAN



DR. CHARLES MURRAY



DR. C. D. RICE



DR. W. F. GUARD



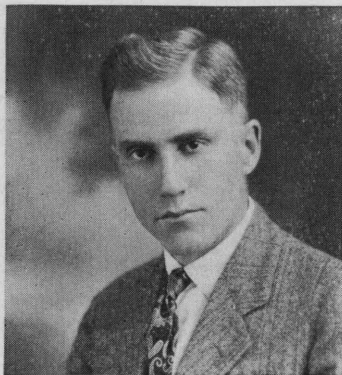
DR. C. H. COVAULT



DR. F. E. WALSH



DR. E. A. BENBROOK



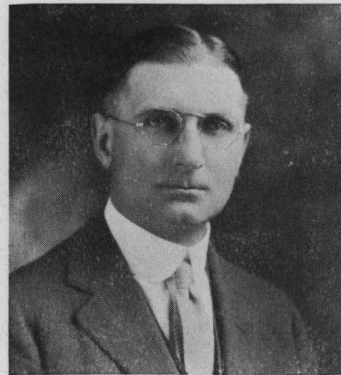
DR. S. H. McNUTT



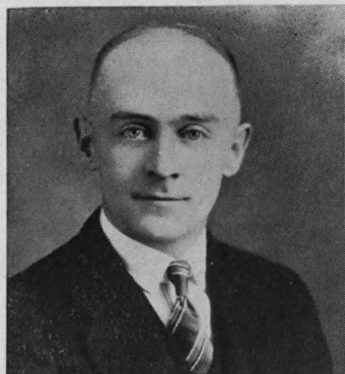
PAUL PURWIN



DR. W. A. AITKEN



DR. H. E. BIESTER



DR. H. H. DUKES



D. F. ANDERSON



DR. H. L. FOUST



DR. GEORGE R. FOWLER



DR. I. A. MERCHANT



DR. C. D. LEE



DR. M. A. EMERSON



View of the campus about 1870. Note South Hall in foreground, Chemistry Building in the left background and the Maples to the extreme left

ton Rogers, house surgeon; J. E. Bingham, lecturer; M. F. Patterson, lecturer; S. C. Brownlee, lecturer; C. G. Lee, lecturer.

1900-01—J. H. McNeill, professor; L. A. Klein, professor; J. J. Repp, professor; M. Stalker, lecturer; C. G. Lee, lecturer.

1901-02—J. H. McNeill, professor; L. A. Klein, professor (1/02); J. J. Repp, professor; C. W. Gay, instructor; M. Stalker, lecturer; G. Judisch, lecturer.

1902-03—J. H. McNeill, professor and dean; C. W. Gay, professor; J. J. Repp, professor; W. E. Harriman, professor; W. A. Stuhr, house surgeon; M. Stalker, lecturer; G. Judisch, lecturer; C. G. Lee, lecturer.

1903-04—J. H. McNeill, professor and dean; M. Jacob, professor; C. W. Gay, professor; W. E. Harriman, professor; W. A. Stuhr, assistant professor; M. Stalker, lecturer; C. G. Lee, lecturer.

1904-05—J. H. McNeill, professor and dean; W. E. Harriman, professor; W. A. Stuhr, associate professor; F. R. Ahlers, assistant professor; L. M. Hurt, assistant professor; M. Stalker, lecturer; G. Judisch, lecturer; C. G. Lee, lecturer.

1905-06—J. H. McNeill, professor and dean; W. A. Stuhr, associate professor; R. R. Dykstra, assistant professor; L. M. Hurt, assistant professor; W. E. Harriman, professor; M. Stalker, lecturer; G. Judisch, lecturer; I. J. Scott, lecturer.

1906-07—J. H. McNeill, professor and dean; W. A. Stuhr, associate professor; R. R. Dykstra, assistant professor; L. M. Hurt, assistant professor; W. E. Harriman, professor; M. Stalker, lecturer; G. Judisch, lecturer.

1907-08—J. H. McNeill, professor and dean; R. R. Dykstra, associate professor; C. H. Stange, assistant professor; W. E. Madson, assistant professor; G. Judisch, instructor; M. Stalker, lecturer.

1908-09—C. H. Stange, professor; R. R. Dykstra, associate professor; H. E. Bemis, assistant professor; W. E. Madson, assistant professor; G. Judisch, instructor.

1909-10—C. H. Stange, professor and dean; R. R. Dykstra, professor; W. W. Dimock, associate professor; H. E. Bemis, assistant professor; H. S. Murphey, assistant professor; G. Judisch, lecturer.

1910-11—C. H. Stange, professor and dean; R. R. Dykstra, professor; W. W. Dimock, professor; H. E. Bemis, assistant professor; H. S. Murphey, assistant professor; G. Judisch, lecturer; H. D. Bergman, assistant.

1911-12—C. H. Stange, professor and dean; N. L. Nelson, house surgeon; H. S. Murphey, associate professor; H. D. Bergman, associate professor; G. Judisch, lecturer; W. W. Dimock, professor; Chas. Murray, instructor; H. E. Bemis, associate professor.

1912-13—C. H. Stange, professor and dean; N. L. Nelson, house surgeon; H. S. Murphey, associate professor; H. D. Bergman, associate professor; G. Judisch, instructor; W. W. Dimock, professor; Chas. Murray, instructor; H. E. Bemis, professor.

1913-14—C. H. Stange, professor and dean; R. R. Bolton, assistant professor; H. S. Murphey, professor; H. D. Bergman, associate professor; G. Judisch, instructor; W. W. Dimock, professor and vice-dean;

Chas. Murray, associate professor; J. W. Lumb, instructor; H. E. Bemis, professor; Glen Darbyshire, instructor.

1914-15—C. H. Stange, professor and dean; R. R. Bolton, assistant professor; H. S. Murphey, professor; H. D. Bergman, associate professor; G. Judisch, instructor; W. W. Dimock, professor and vice-dean; Chas. Murray, associate professor; J. D. Grossman, assistant; H. E. Bemis, professor; W. F. Guard, assistant and house surgeon.

1915-16—C. H. Stange, professor and dean; R. R. Bolton, assistant professor; H. S. Murphey, professor; H. D. Bergman, associate professor; G. Judisch, instructor; W. W. Dimock, professor; Chas. Murray, associate professor; J. D. Grossman, instructor; H. E. Bemis, professor and vice-dean; W. F. Guard, assistant and house surgeon; N. L. Nelson, assistant professor.

1916-17—C. H. Stange, professor and dean; R. R. Bolton, assistant professor; H. S. Murphey, professor; H. D. Bergman, associate professor; G. Judisch, instructor; W. W. Dimock, professor; Chas. Murray, associate professor; J. D. Grossman, instructor; H. E. Bemis, professor and vice-dean; W. F. Guard, assistant professor; D. F. Anderson, pharmacist; N. L. Nelson, assistant professor.

1917-18—C. H. Stange, professor and dean; R. R. Bolton, assistant professor (4/18); H. S. Murphey, professor; H. D. Bergman, professor; G. Judisch, instructor; W. W. Dimock, professor; Chas. Murray, professor; J. D. Grossman, assistant professor; H. E. Bemis, professor and vice dean; W. F. Guard, assistant professor; D. F. Anderson, pharmacist; T. S. Leith, instructor; E. A. Hewitt, instructor; C. D. Rice, associate professor; Steiner, instructor.

1918-19—C. H. Stange, professor and dean; C. H. Covault, assistant professor (12/14/17); H. S. Murphey, professor; H. D. Bergman, professor; G. Judisch, instructor; W. W. Dimock, professor (8/19); Chas. Murray, professor; J. D. Grossman, assistant professor (11/19); H. E. Bemis, professor and vice-dean; W. F. Guard, assistant professor; E. L. Harvey, pharmacist; B. T. Larsen, instructor; E. A. Hewitt, instructor (6/19); C. D. Rice, associate professor; G. W. McNutt, instructor.

1919-20—C. H. Stange, professor and dean; C. H. Covault, associate professor; H. S. Murphey, professor; H. D. Bergman, professor; G. Judisch, instructor; E. A. Benbrook, professor; Chas. Murray, professor; W. A. Aitken, instructor; H. E. Bemis, professor and vice-dean; W. F. Guard, associate professor; F. E. Walsh, assistant professor; D. F. Anderson, pharmacist; H. E. Biester, instructor; C. D. Rice, associate professor; G. W. McNutt, assistant professor.

1920-21—C. H. Stange, professor and dean; C. H. Covault, associate professor; H. S. Murphey, professor; H. D. Bergman, professor; G. Judisch, instructor; E. A. Benbrook, professor; Chas. Murray, professor; W. A. Aitken, assistant professor; H. E. Bemis, professor and vice-dean; W. F. Guard, associate professor; F. E. Walsh, assistant professor; D. F. Anderson, pharmacist; H. E. Biester, instructor; C. D. Rice, associate professor; G. W. McNutt, instructor.

1921-22—C. H. Stange, professor and dean; C. H. Covault, associate professor; H. S. Murphey, professor; H. D. Bergman, professor; G. Ju-

disch, instructor; E. A. Benbrook, professor; Chas. Murray, professor; W. A. Aitken, assistant professor; H. E. Bemis, professor and vice-dean; W. F. Guard, associate professor; F. E. Walsh, assistant professor; D. F. Anderson, pharmacist; G. E. Jacobi, instructor (9/21); H. H. Dukes, instructor (8/21); C. D. Rice, associate professor; G. W. McNutt, instructor; G. A. Evans, instructor.

1922-23—C. H. Stange, professor and dean; C. H. Covault, associate professor; F. E. Walsh, assistant professor; H. S. Murphey, professor; G. W. McNutt, instructor; W. A. Aitken, assistant professor; H. E. Bemis, professor and vice-dean; W. F. Guard, associate professor; D. F. Anderson, pharmacist; H. D. Bergman, professor; H. H. Dukes, instructor; G. Judisch, instructor; E. A. Benbrook, professor; G. E. Jacobi, instructor (12/23); C. D. Rice, associate professor; C. J. Dods-worth, instructor; E. Janssen, technician.

1923-24—C. H. Stange, professor and dean; C. H. Covault, associate professor; F. E. Walsh, assistant professor; H. S. Murphey, professor; G. W. McNutt, instructor; W. A. Aitken, assistant professor; H. E. Bemis, professor and vice-dean; W. F. Guard, associate professor; D. F. Anderson, pharmacist; H. D. Bergman, professor; H. H. Dukes, assistant professor; G. Judisch, instructor; E. A. Benbrook, professor; C. Larsen, instructor (12/23); M. Sloss, technician; C. D. Rice, associate professor; B. A. Zupp, instructor; E. Janssen, technician

1924-25—C. H. Stange, professor and dean; C. H. Covault, associate professor; F. E. Walsh, assistant professor; H. S. Murphey, professor; G. W. McNutt, instructor; W. A. Aitken, assistant professor; H. E. Bemis, professor and vice-dean; W. F. Guard, associate professor; D. F. Anderson, pharmacist; H. D. Bergman, professor; H. H. Dukes, assistant professor; G. Judisch, instructor (6/25); E. A. Benbrook, professor; C. Larsen, instructor (10/25); M. Sloss, technician; C. D. Rice, associate professor; B. A. Zupp, instructor; E. Janssen, technician.

1925-26—C. H. Stange, professor and dean; C. H. Covault, associate professor; F. E. Walsh, assistant professor; H. S. Murphey, professor; G. W. McNutt, assistant professor; W. A. Aitken, assistant professor; H. E. Bemis, professor and vice-dean; W. F. Guard, associate professor; D. F. Anderson, pharmacist; H. D. Bergman, professor; H. H. Dukes, assistant professor; E. A. Benbrook, professor; I. A. Merchant, instructor (12/25); E. M. Watkins, technician; C. D. Rice, associate professor; B. A. Zupp, instructor.

1926-27—C. H. Stange, professor and dean; C. H. Covault, associate professor; F. E. Walsh, assistant professor; H. S. Murphey, professor; G. W. McNutt, associate professor; W. A. Aitken, associate professor; H. E. Bemis, professor and vice-dean; W. F. Guard, associate professor; D. F. Anderson, pharmacist; H. D. Bergman, professor; H. H. Dukes, assistant professor; E. A. Benbrook, professor; I. A. Merchant, instructor; M. Sloss, technician; C. D. Rice, associate professor; B. A. Zupp, instructor; D. Boozer, technician.

1927-28—C. H. Stange, professor and dean; C. H. Covault, associate professor; F. E. Walsh, assistant professor; H. L. Foust, professor; W. F. Guard, professor; W. A. Aitken, associate professor; D. F. An-

derson, pharmacist; H. D. Bergman, professor; H. H. Dukes, assistant professor; E. A. Benbrook, professor; I. A. Merchant, instructor; M. Sloss, technician; C. D. Rice, associate professor; M. A. Emmerson, instructor; D. Boozer, technician.

1928-29—C. H. Stange, professor and dean; C. H. Covault, associate professor; F. E. Walsh, assistant professor; H. L. Foust, professor; W. F. Guard, professor; W. A. Aitken, associate professor; D. F. Anderson, pharmacist; H. D. Bergman, professor; H. H. Dukes, assistant professor; E. A. Benbrook, professor; I. A. Merchant, assistant professor; M. Sloss, technician; C. D. Rice, associate professor; M. A. Emmerson, instructor; G. R. Fowler, assistant professor; C. D. Lee, instructor; Lois Calhoun, technician.

III

BUILDINGS AND LANDS



UR Veterinary School, even as the college itself, had its beginning, so far as buildings were concerned, in a very humble way. Dr. Fairchild writes, "We had now (1879) a fully developed veterinary school but "no place to go." After some canvassing we finally discovered in the house then known as the 'President's House,' which had been vacated by President Welch (having himself built a new home called the "Gables") a small bedroom with one window which could be used as a laboratory (it was the best we could find)." This building was occupied together with botany during the college years 1879 and 1880. This building was later variously known as South Hall, Domestic Economy and Music Hall.

The second building to be occupied by the Veterinary School was also in "partnership" and Dr. Fairchild again gives us a clear idea of these accommodations in the following words:

"In March, 1881, the Veterinary Department and Department of Botany moved to North Hall. We find in the Aurora for March 1881, the following notice, 'North Hall, although not completely finished, is in running order. The botanical and Veterinary Departments have moved into it, and students in those classes enjoy the luxury of large and commodious classrooms.'"

"The main lecture room occupied the west end of North Hall, the laboratory occupied jointly by the Veterinary and Botany Departments was located in a room running along a part of the north side of second floor. Professor Bessey occupied the room facing the east and south, and Dr. Fairchild occupied a small adjoining room facing south.

"The laboratory arrangements consisted of a series of tables of triangular shape with the base next to the window, two students working on each side and one at the end. The microscopes were the Beck student microscope provided with 1/4 and 1/6 objectives. As this was at a time before bacteriology had been developed, very few accessories were

used. The work consisted in examining blood cells, normal tissues and specimens of morbid growth (pathological histology) from the practice of Dr. Fairchild and his friends and from the veterinary hospital. In Professor Bessey's room, there was a magnificent Beck binocular of immense size which was used exclusively for show purposes.

"The department of veterinary medicine, theoretical and laboratory side—and the department of botany occupied North Hall jointly from 1881 to the second term of 1885 when the Veterinary School, or the part above referred to, moved to the new building known as the "Sanitary Building" and was there joined with Professor Stalker."

For clinical instruction, accommodations were if anything poorer than for the laboratory and class work. In order "to provide for the clinical and practical side of the veterinary work in the early days, a barn located west of the Horticultural Department was renovated, and called the veterinary hospital, for the use of Professor Stalker. This was an exceedingly unpretentious building, only a barn at best, and a poor one at that, but here the first classes received their clinical training. In 1885 the new veterinary hospital was completed at a cost of \$6,000. Professor Stalker exhibited this modern hospital with pride as the latest and last word in veterinary hospital construction. Professor Stalker was furnished with one or more internes from senior students or graduate students. We now possessed the most complete veterinary school in the country.

"The classrooms were in the Sanitary Building and occupied all the first floor. This building was erected at a cost of \$4,000; the first floor veterinary, the second floor laboratory and hospital for sick students. The word hospital we were not permitted to use for fear it would convey the idea of an unhealthful location and endanger the future of the college. There was one lecture room, which would accommodate about 30 students, which was used by Professor Stalker for his lectures on veterinary medicine and surgery, and Dr. Fairchild in his lectures on physiology, histology, pathology and therapeutics, time so arranged as not to conflict. In physiology were the junior class in the general course, the textbook being Martin's "Human Body." Foster was used in advanced physiology. During the first four weeks of each year Dr. Fairchild gave lectures to the senior students in the general course on the anatomy and physiology of the brain, in the president's lecture room in the main building at 8:00 a. m.; a busy morning, four lectures in succession. Then came a general inspection every Monday and visits to sick students daily."

The campus of Iowa State College has had many compliments because of its informality and beauty. Location of buildings had much to do with this and Dr. Fairchild gives us a sidelight on the location of the two buildings next to be occupied by the Veterinary School.

"When the \$10,000 was expended in the construction of the two buildings which were to accommodate the Veterinary Department and the sick students, Professor Stalker, who accepted the position of director in locating the two buildings, insisted on close proximity, but we ob-

jected to placing sick horses and sick students too close together and insisted on the present location of what was once the college hospital. Professor Stalker was State Veterinarian. On the occasion of laying the foundation of our joint building he was called on professional business to a distant part of the state and we undertook the supervision of laying the foundation and insisted on our favorite location contrary to Stalker's directions; the workmen protested, but finally submitted and when the professor returned work was done. We arranged to have the tower end look down the hill as offering the best view of the building on approaching along the main travelled road thru the college grounds. Then we had Professor Stanton to deal with, as he could not tolerate the idea of having the rather unattractive rear end of the building facing his house; finally with a show of generosity we turned the building quarter way around, an easy thing to do, as it was exactly 40 feet square. The storm passed in a few days and no unpleasant feeling followed."

The Sanitary Building (later known as College Hospital and Music Hall) was used for lecture rooms and laboratories until "Old" Agricultural Hall was built in 1893, when veterinary medicine occupied the building with agriculture and horticulture. The clinical work, however, remained in the "old" Veterinary Hospital until 1912.

In "Old" Agricultural Hall two lecture rooms on the northwest corner of the third floor and three office rooms, across the hall from these, on the southwest part of the same floor, were occupied by the Veterinary Division. The only laboratory space available even then (1893-1912) was one room in the southwest corner of the fourth floor. About one-half of this was partitioned off for Experiment Station work.

The "Old" Veterinary Hospital in which Dr. Stalker took so much pride was to be "added to," but the addition was never secured. Many of our alumni will undoubtedly remember the door to the south on the second floor. Records indicate that it was Dr. Stalker's plan to build another building south of the Veterinary Hospital and connect them by means of a bridge at the second floor level. The old veterinary hospital became wholly inadequate as soon as the clinics began to develop materially. The rapid advance of the knowledge of sanitation also made the building undesirable from a sanitary point of view. The operating, where the use of a table was inadvisable, had to be done out of doors. The daily care of the "in cases," except in the most severe weather, had to be given out of doors. It was not an easy task to keep students interested in a subject when they were standing in snow and mud, with "goose flesh" on the bare arms of those who were supposed to assist.

The old hospital also contained the dissecting rooms, which were the scene of many "a class scrap." Undoubtedly the classes of 1907 and 1908 will always remember one of them. Dissecting work was not begun in the fall semester until cold weather set in, because fresh material was used and it would not keep fresh long during warm weather. All material is carefully preserved at present and anatomical stud-

les can be carried on in the summer equally as well as in the winter.

Somehow the impression was gained that there existed at one time a feeling that the veterinary students were a "different kind of animal" from the rest of the student body, that they did not care for the same things, that their ideals were at variance, and that for these reasons they did not need the same accommodations and comforts as other students. It is reported that the question was raised in faculty meeting on one occasion as to why the veterinary students were not so refined as the others. Dr. Stalker replied that it must be the influence of the head of the department. Whether or not such ever was the case, happily it can be said now that it is generally realized that altho there always has been a fine "esprit de corps" among the veterinary students (it is hoped there always will be) they come from the same homes, the same schools, the same churches, the same towns, cities and farms in the same states as those in the other divisions of this and other colleges. No, the difference was not in the student, but in what somebody else thought the student was going to be. Dr. Stalker referred to the cause in some of his reports. Dean McNeill did much to correct it by increasing standards and the present dean and faculty have been making every effort to remove the handicap. Only time, however, could correct the situation. The whole difficulty arose out of the slowness of states in developing good veterinary schools in the early years, thus permitting empirics to become what many considered the veterinary profession.

Some may wonder what all this has to do with buildings. The answer is much the same as to the question what has the home to do with the training of young people. When in the spring of 1912 the old unsanitary buildings were vacated and we moved into the new buildings, the attitude and morale of our student body changed so noticeably that it was a matter of comment by members of the staff. It is but natural for any normal human being to react to the character of his or her surroundings. This improved condition has now existed for 17 years and shows every indication of continuing.

The present buildings are "fireproof" and built with a view to cleanliness. The original plan carried six buildings connected by corridors arranged around an open court. Lack of funds made it necessary to leave off one building. The present buildings have served the purpose admirably, but "history repeats itself," and they are now being outgrown. A new clinic building has been planned and one wing has been completed.

The Research buildings are located about one mile south of the campus on a 60-acre farm. This should be a "well balanced" institute as practically the entire plant was constructed out of balances left in some fund. In fact no request has been made of the Legislature by the Board of Education for capital improvements (lands or buildings) for the Division of Veterinary Medicine since 1909. The wing of the new clinic building was built with a balance left in a small building fund after urgent requests had been made for more work on diseases of cattle

by the State Dairy Cattle Breeders' Association. The research farm was purchased with some of the balance remaining in the operating fund when the serum plant was closed. Two of the stables were built from the same fund. The Laboratory Building was built in 1927 from the balance remaining in the contingent fund in the hands of the State Budget Director. The State Dairy Cattle Breeders' Association was of great help to us in securing this building. The late Senator E. L. Hogue (budget director), being a large land owner, was much interested in the control of animal diseases and very kindly approved of the use of the funds for that purpose.

It was agreed that the buildings erected in 1913 should be taken down and the material, or as much thereof as possible, used in the construction of the new laboratory. This was done with the result that we secured an unusual "amount" of building with the comparatively small appropriation of \$25,000. This is the first laboratory building designed and built for veterinary research in the state of Iowa. We had an organized research department 14 years before we could secure a satisfactory building in which to carry on the work. Following is an inventory at the present time.

Buildings:

Main veterinary buildings	\$150,000.00
Wing of new clinic building	25,800.00
Research laboratory	25,000.00
Other buildings for research (8 stables, etc.)	19,376.00
Total buildings	\$220,176.00

Land:

Land (research farm)	22,000.00
Equipment—furniture etc.	88,208.00
Total Investment	\$330,384.00

IV.

ENTRANCE REQUIREMENTS AND COURSE OF STUDY



HERE is a question as to which one has received the most attention in the past, by those interested in medical education (human and veterinary), entrance requirements, or the content of the course of study pursued after the student has entered.

The entrance requirements to the Division of Veterinary Medicine at Iowa State College from 1879 to 1888 were: 16 years of age, knowledge of reading, orthography, grammar and arithmetic. In 1888, human physiology and history were added to the list. These requirements continued in force for 10 years. In 1899 algebra was added,

but in 1900 the requirements were changed to "Write an essay of 200 words and pass an examination in arithmetic and history, and give other evidences of proficiency." The catalog of 1910-11 announced 15 units as the entrance requirement to the Veterinary Division.

I am sure that entrance requirements were one of the most debated questions before the American Veterinary Medical Association for at least a decade. We had, when the writer first appeared upon the scene in national association affairs, 12 private veterinary colleges, which required a large attendance in order to secure sufficient funds with which to operate. High entrance requirements would seriously interfere with this most necessary requirement in the operation of any institution. Many of the men connected with private veterinary colleges were sincere in their argument that the livestock industry needed practitioners and that high school entrance requirements would keep out many who would make excellent practitioners but who, for various reasons, had not had the advantages of a high school education. The writer still maintains that the requirements a successful practitioner must meet if he is to fill the place in his community he should are no different educationally than for most other branches of service rendered by the veterinary profession. Many of our finest alumni are practitioners. For almost a decade the American Veterinary Medical Association was divided into two "camps" on this question, and it was quite important whether one was a private or state school graduate.

The writer in making his "maiden" speech before the American Veterinary Medical Association at Toronto, Canada, in 1911, had the "nerve" or "lack of judgment" (state school men said "nerve"—private school men said "lack of judgment") to say that "the livestock interests are demanding not more, but better men—men capable of solving the many and complex problems incident to modern veterinary science." "In order to prevent the country from becoming saturated with semi-qualified veterinarians, higher entrance requirements should be enforced and made attractive to desirable and qualified men, so barring the unqualified, and after admission the course must be of sufficient length to permit thoro work without congesting or confusing, but rather aiming to enlighten the student."

The Iowa State College had adopted at this time (1911) high school entrance requirements, being the first and only in America having that requirement at that time. From this time until the matter was finally settled (1918) the staff of the Veterinary Division was often the center of the "whirlpool." Many of the better educated alumni from the private schools joined with the state institutions (we have many fine and distinguished members of the profession who graduated from private veterinary colleges) and for several years if the annual meeting was held in a favorable place the "state school" representatives would insert provisions into the by-laws of the American Veterinary Medical Association barring from membership graduates from colleges maintaining low standards only to have them eliminated the following year when private school interests "had the votes." The last

City for example, in a comparatively few years had quite extensive buildings and a large student body. The same history in regard to education in medicine could be written. The private schools rendered an important service in that they provided practitioners for many sections of our agricultural districts where otherwise quackery would have prevailed.

Many had the impression that our educational problems would be settled with the requirement of 15 units of high school for entrance. Altho of a somewhat different type our educational puzzle is still with us and probably always will be to a greater or less extent.

In our present problem the content of our course of study has assumed greater proportionate significance because four years is not sufficient time in which to enlighten the student in regard to all the fundamentals as well as the essentially practical phases of the various branches of veterinary service. At present it remains four years of college work with fifteen units for entrance, but there is now a definite need for extending these requirements.

The chart showing the introduction of the various subjects into the course of study and the period of time over which they are taught, tells the story much better than could be done by mere words.

V.

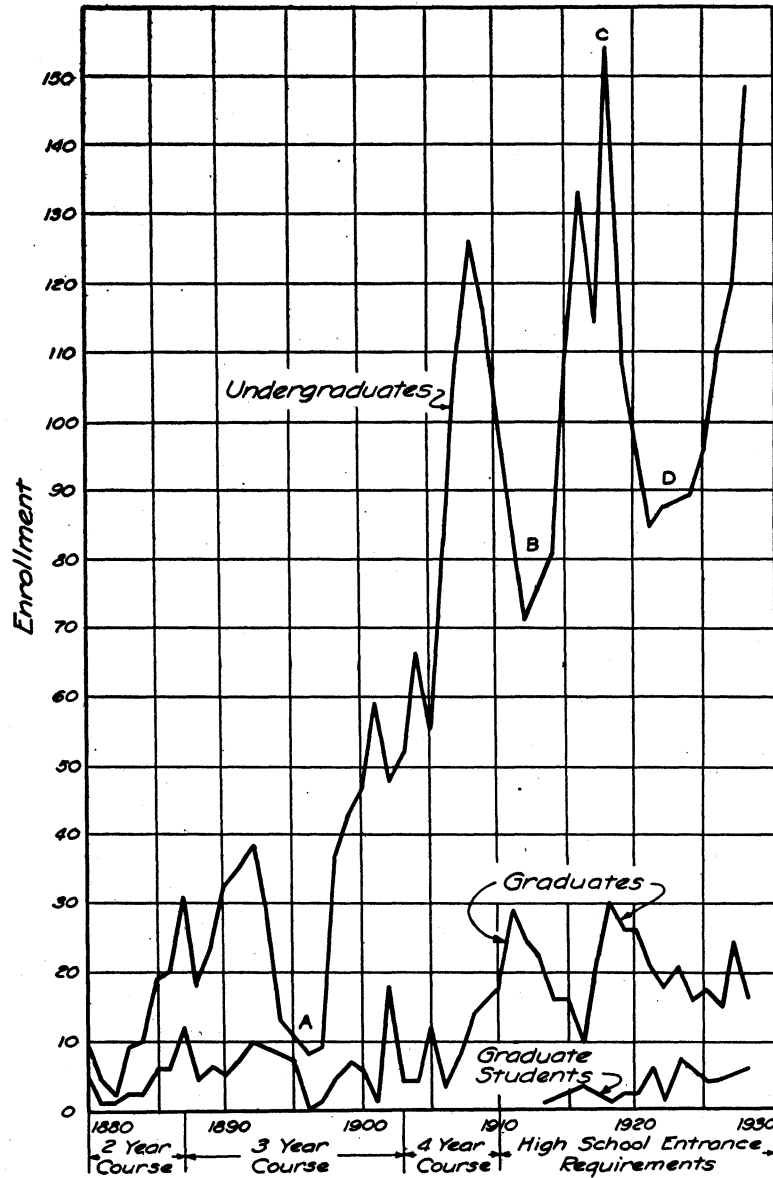
STUDENTS AND ALUMNI



THE graph on another page showing the number of students enrolled in the Veterinary Division from its beginning is an interesting study. The depression of the line indicated at "A" was the result of extraneous causes and led to considerable doubt as to the advisability of continuing the Veterinary Division. That period (1892 to 1896) is referred to by Dr. Stalker in one of his reports (1897) in the following words: "Everything went well until the almost unprecedented decline in horse values Such a state of affairs tended to discourage students from entering the profession, which was not so full of promise as formerly. The natural result was a decline in attendance. Meanwhile the general government began to want specialists in this line for the prosecution of its work—there proved to be an active demand for bright, well-trained young men to enter the Bureau of Animal Industry. Colleges and experiment stations were looking for educated veterinarians. All this has brought about a reaction and now young men with fair educational preparation are actively interesting themselves in veterinary studies." This period is also known as the "panic of the '90's" and it will be noted that no veterinary student graduated in 1896. After 1897 the enrollment showed an increase, which became most marked after the "reorganization." A part of this increased enrollment can be ascribed to the introduction of the four-year course which would in itself increase the

enrollment from 20 to 25 percent without any increase in the size of the entering classes.

The depression at "B" was due to increased requirements (chiefly entrance) and was predicted by the dean in his report to the president. The Iowa State College has, however, always been more concerned



about "quality" than worried over "quantity" of students. After a few years the enrollment began to increase again until we had the rather abnormal enrollment indicated at "C", which was due in part to the war period when most of the "private" schools closed their doors and their students (who had sufficient entrance credits) went to the state institutions. The depression at "D" is the result of the same general influence as operated at "A" except in one case it was a "panic" and in the other the aftermath of the world war.

The steady growth during the past eight years has had no artificial stimulation, but instead represents the reaction to the constant demand for more and better trained veterinarians. The author anticipates that this curve will continue until it reaches the maximum and capacity of the Veterinary Division. Limited enrollment has already been announced (60 freshmen). In order to replace those who are daily dropping out of our ranks and for the continuation of our work without any extensions, the veterinary schools of the United States must graduate on an average of 50 veterinarians per year. This would mean an enrollment of from 225 to 250 students.

The number graduating each year is indicated by the lower line in the graph, while the dotted line indicates graduate enrollment. It must be remembered that a large freshman class in 1928 does not mean an increase in the graduating class until 1932.

Alumni of the Veterinary Division of the Iowa State College have contributed much to the development of the profession. During the early years, the number was comparatively small, but those who did graduate soon found a great demand for their services, not only in general practice but in institutional work. This was indicated by the statement contained in President Beardshear's report for the year 1899, in which he said: "Ninety-five young men have graduated from this course (veterinary). Out of this number 10 states have selected veterinary professors for their agricultural colleges or state veterinarians, or have filled both offices from the same source of supply." Among those the president referred to were:

DR. C. A. CAREY ('85) of Alabama, who has been State Veterinarian of his state for many years and has been dean of the Veterinary Division of the Alabama Polytechnic Institute since it was organized. Dr. Carey has always taken an active part in association work and has probably done as much for the development of the livestock industry of the South, as any one person.

DR. SESCO STEWART ('85), who was founder and director of the Kansas City Veterinary College, is fondly remembered by all of the men who graduated from that institution. He served as president of the American Veterinary Medical Association in 1902-1903 and as its secretary from 1895-1902. Dr. Stewart was a big factor in the development of the veterinary profession in the middle west.

DR. GEORGE H. GLOVER ('85), was born in Blackhawk County, Iowa, in 1864, but moved to Colorado, where he graduated from the State College of Agriculture at the age of 20. He then came to the Iowa

About 45 percent worked a part of their way thru college while 54 percent were assisted wholly or in part by their parents, and over 40 percent borrowed money to defray a part of their expenses while in college.

Of the extra curricular activities in college, football leads, as it did in high school, but literary societies win over baseball and track. Interest in 33 other activities is quite equally divided.

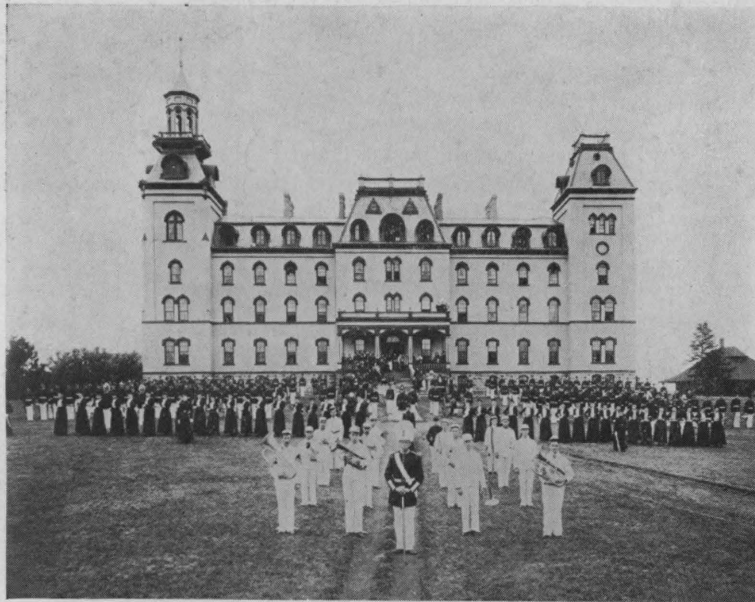
Now let us see what our alumni have to say about the much discussed (on the campus) question as to what effects these activities have on grades. Nearly one-half of our alumni expressed themselves on this point. Thirty-six percent say that the grades are not affected, between 17 and 18 percent say the grades are increased, while less than 5 percent indicate that grades are lowered.

One would expect that where such a large percentage of students are working a part or all of their way thru college insufficient finances would be one of their greatest difficulties. This was in fact more frequently reported to be the case than any one of the 35 difficulties encountered while in college. Inability to study came next, while too heavy a schedule was third.

Financial difficulties continued very naturally with many of the graduates for several years after leaving college, but lack of experience and confidence, with little knowledge of business methods, were contributory factors in many cases. General practice reports about three times as many alumni (62.5 percent) as the next largest field, that of the Bureau of Animal Industry (20 percent). The latter is almost equalled by the educational field (19 percent), while state sanitary work is only 1 percent below that of education. More of our alumni have served in the army than most of us realize, as about 12 percent report having been thus engaged. Commercial work also seems quite attractive as over 10 percent are making or have made their livelihood in this field. Over 4 percent report service as dairy or sanitary officers, while those engaged in small animal practice is about the same with physicians, dentists, pharmacists and a few farmers completing the principal part of the list.

Our alumni are certainly "joiners," as 48.3 percent of the replies show that they belong to the national association, 51.24 percent belong to the state association and a large number belong to a local association. In addition to these there were 48 other societies and organizations of various kinds in which one or more of the alumni replying to the questionnaires held membership.

All this indicates a community interest on the part of the graduates from this division. They not only take an interest in community affairs, but take their share of the responsibility, as shown by the fact that nearly 3.5 percent are acting as mayors of their cities, 15.5 percent are serving as councilmen and nearly 9 percent are assisting in the educational work of their communities by serving on school boards. Others are acting as city milk inspectors, county coroners, bank directors, on veterinary examining boards, etc.



The Cadet Corps of the early days in front of Old Main



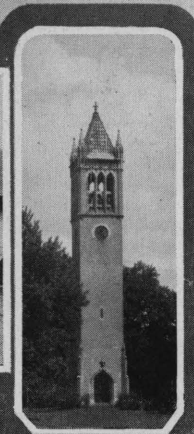
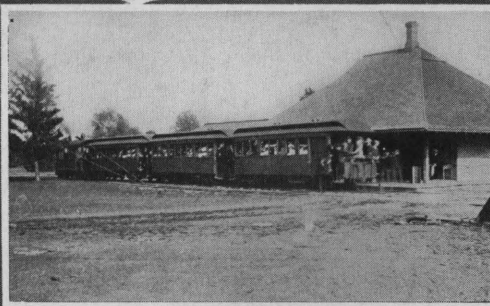
Central Building, successor to Old Main



Iowa State's Student Union, a memorial to those who served in the World War. Occupies site of Old Veterinary Hospital

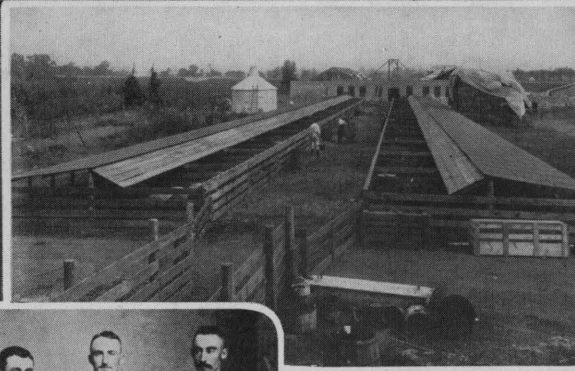


Agricultural Hall, Center of the Agricultural Division



1. East entrance to Veterinary Quadrangle. 2. Administration Building. 3. "The Dinky." 4. The Campanile. 5. South Hall goes up in smoke.

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1. Emergency serum plant. 2. Class of 1885. 3. Class of 1886. 4. S. A. T. C. days

The question is frequently asked, where do the veterinary graduates of Iowa State College go? While exact figures cannot be secured, it is only natural to expect that Iowa should claim a large percentage of them. Our records indicate that 50 percent is the approximate number remaining in the state. South Dakota, Minnesota, Nebraska, Missouri, Illinois, Kansas and California each take from 3 to 6 percent of our alumni, while the remainder of the 35 states report a smaller percentage.

The various capacities in which alumni have served make a list numbering 26, of which general practice would be expected to lead by a wide margin. These figures indicate that the Veterinary Division, while it has served Iowa in a large way, has also done its share in helping to solve national problems falling within the field of veterinary medicine. Some of our earlier graduates and the splendid work they have done have been referred to elsewhere.

During the 50 years of the Veterinary Division, 594 students have received the degree, doctor of veterinary medicine.

HONORARY DEGREES

On two occasions during the 50 years, so far as can be ascertained, the Veterinary Division has asked the college to confer a degree as a recognition of great service rendered to the nation.

The first occasion was June, 1915, when an honorary degree (D.V.M.) was conferred on Marion Dorset, M. D., of the Biochemic Division of the Bureau of Animal Industry (U. S. Department of Agriculture). Dr. Dorset was born in Tennessee in 1872. He received his Bachelor of Science degree from the University of Tennessee in 1893, attended the University of Pennsylvania ('93-'94), and secured his Medical Doctor degree from George Washington University in 1896. He became assistant in the Biochemic Division in 1894 and in 10 years had been promoted to the position of chief of his division, in which capacity he is still serving.

Dr. Dorset is a thoro scientist and research worker, having done much valuable work on the chemistry and biology of the tuberculosis bacillus, as well as the chemistry and bacteriology of meats. His outstanding work, however, from a veterinary viewpoint, was in connection with the etiology and prevention of hog cholera. He was only 23 years old when he came to Iowa the first time to study an outbreak of hog cholera, and from that time on until he had solved the problems of cause and prevention Dr. Dorset was a very busy man. The culmination of his achievement and its announcement to the public are referred to elsewhere (Biological Laboratory).

The second occasion was on the event of the commemoration of the fiftieth anniversary of the Iowa State College (1920), when the honorary degree Doctor of Science was conferred upon Dr. John R. Mohler, chief of the Bureau of Animal Industry, United States Department of Agriculture.

Dr. Mohler was born in Philadelphia in 1875. After completing high school, he attended Temple University and later the University of Pennsylvania, graduating from the School of Veterinary Medicine in 1896. Dr. Mohler was appointed chief of the Pathological Division of the Bureau of Animal Industry in 1902, after having served the bureau in various capacities since 1897. He served as assistant chief of the bureau from 1914 to 1917 and has been chief since that time.

Dr. Mohler has contributed much to veterinary literature in the way of translations and original articles. He has always taken an active part in affairs of associations, both veterinary and a number of others closely allied to medicine.

Not only has Dr. Mohler been able to "produce the goods" in field and laboratory, but he is one of the outstanding chiefs in the United States Department of Agriculture, which is an indication of his executive ability. In his position as chief of the bureau, Dr. Mohler has done more to protect the livestock industry of this country against the invasion of foreign diseases and unfair competition than any other government official.

The Iowa State College honored itself in recognizing these men and their contributions to humanity.

STUDENT LIFE

(Quotations are from History and Reminiscences of class of 1897.)

1878: "One Sunday evening immediately after prayer meeting a Young Men's and Women's Christian Association was organized. This was the beginning of the work, the good influences of which are now so apparent. Actuated by the president's excellent talk on the use of words, an anti-slang society was started, but like many other good ventures started by the students, it soon died from indifference."

"Football made its appearance at I. A. C. and was appreciated as a great game. It took the place of baseball and croquet, and even the specials and some of the professors succumbed to its influence."

1879: "A victim had been selected, the judge chosen and a jury impaneled numbering some of Iowa's most energetic young men. The trembling prisoner, innocent of aught save a sense of his own unworthiness, was brought into court to answer the grave charge of having spasmodically closed his left optic while in the presence of a senior lady. The witnesses being duly sworn testified to the veracity of the charge and everything seemed to indicate a speedy conviction of the prisoner. But he, wishing to demonstrate his innocence, requested the privilege of proving an alibi. The judge was dumbfounded, the jury stupified, for alibi was a word entirely foreign to their vocabulary. Finally the judge, not daring to refer to the Webster's Unabridged lying upon the table, having been used to administer the oath to the witnesses, was about to commit the prisoner for contempt of court, when the prosecuting attorney came

to the rescue, stating that on no previous occasion had a prisoner dared to encroach upon the time of that court of justice to prove so trivial a thing as an alibi. Owing to the faulty records the remainder of that trial has ever since remained a profound secret."

1882: "On the 8th of April at 6:15 p. m., a terrific cyclone visited the college grounds, destroying much property and injuring several persons. After completely demolishing the house occupied by Mr. and Mrs. McCarthy, about three-fourths of a mile south of the college, and injuring them quite severely, it then removed a few of the chimneys on the president's new house and entered the college campus from the south side, making sad havoc with all that was before it. The first that fell a victim to its fury was the new bridge south-east of the college. The apron and floor of the bridge were lifted bodily from their foundations, leaving the framework of the bridge undisturbed, and were carried about eight or ten rods to the hill north of it, where they plowed a deep furrow in the hill side. South Hall was next visited and partially destroyed by having its walls damaged, windows smashed in, and chimneys removed. It then seemingly divided, one portion promiscuously tearing up the trees about the lawn, blowing off the chimney to Professor Budd's house, and partially destroying the horticultural barn, while the other portion blew the top and body off the 'bus, which was standing within fifty rods of the college, over into the evergreens together with its passengers numbering not less than ten or twelve. Mrs. Professor Bessey received slight injuries in the face, and Mr. Connell had three of his ribs broken, and sustained internal injuries, which left him in a very critical condition. It next visited the college, broke up the chapel exercises, smashed a few window lights, destroyed the railing on the south tower, and toppled over a few chimneys. Then it passed to North Hall, where it joined hands with its fellow and completely ruined the upper part of this large brick building. The damages sustained by the college property were estimated to be from \$25,000 to \$30,000."

1884: "This was a term of organizing. Three new societies were organized by the members of the three special courses, viz.: veterinary, agriculture and engineering. Their objects were the discussion and co-operative investigation of subjects directly relating to their particular courses. They held their meetings every alternate Friday evening."

One must remember that during that period, '70-'97, the student body was comparatively small and practically all of the out of town students lived in the "Old Main" building, the young men and women occupying separate floors. In order to control the "fractious" element a "proctor" system was maintained.

Literary societies were the chief extra-curricular activity of the students (outside of athletics, which as usual were for the few). This was true even as late as 1905 and 1906. Even after this time, one evening (Friday) a week was set aside for literary societies

and no other "attractions" were permitted on that evening. For many years the literary societies also furnished the principal social contact as there were few social fraternities and sororities and even those were "banished" under President Beardshear's administration as undemocratic and not in the best interests of the student body. When Dr. Storms became president the college had grown considerably and fraternities and sororities had developed rapidly at other colleges, so it was considered safe to permit them at Iowa State College "if properly regulated." With this development the social life of the students was shifted in a few years ('04-'07) to the fraternity and sorority houses.

Man is by instinct a sociable creature and social contacts are natural and necessary if young people are to become good and useful citizens. This fact is now recognized in all educational institutions and in fact social behavior is really a part of a student's education. As a result, a system of chaperonage at student social functions and matrons in the dormitories has been provided. Instead of having a closed evening for literary societies as formerly, the chief interest now on Friday and Saturday evenings is in the social life at the fraternities, sororities and the new Union Building. The 1928 Bomb contains the organization and membership of only four literary societies, which have thus far survived the new order in student activities. Their total membership last year was 60 out of a student body of over 4,000.

There was a vast amount of good came to the student in the days when literary societies flourished and many of the older alumni fondly refer to them when they return to the college. The author has always valued highly his association with the literary society (Welch Eclectic) when he was a student not only because he needed that training very much, but also because of the type of men (W. A. Tener, Cohagan, etc.) with whom it brought him in contact.

The development which came to the student in literary society work along public speaking lines was of much value, especially to those who expected to practice a profession following graduation. This was recognized by the faculty and after the literary societies became less active, public speaking was introduced into some of the courses (including veterinary) as a required subject.

(The remainder of this chapter was written by Miss Mary Morrison Beyer, as an assignment in a class in Technical Journalism.)

In the "bustle" days of the '80's and '90's when the men wore derbies and stretched their tight trouser legs over the lean lines of a bicycle, Iowa State College was but a building or so scattered around in an orchard.

In the '80's and the early part of the '90's all the boys and girls lived together in "Old Main" building, a brick and stone affair, which stood where the green spires of Central now pierce the blue. In the basement thrice daily they gathered for meals. On the first floor of the building were most of the class rooms of the college. The

second floor held the coeds (then known merely as girls) and the preceptress (now known familiarly as the chaperon). The upper class men lived on the third floor, and on the fourth floor was "Freshman Heaven," known thusly because it was the haven of the the freshman boys.

On the first floor between the men's stairway and the women's stairway was an imaginary, yet sternly enduring, line, called in the language of the ancients, the "dead line." Beyond this line coeds must not step, further than this line the youths dare not lurk. Here one would meet one's "special," or in modern terminology "steady," or the member of the opposite sex most preferred at a certain time. And great was the hanging over the "dead line" when a bell, or perhaps a most insistent preceptress or proctor, called the young folks away to study.

Studying they were supposed to do between the hours of 7 and 10 o'clock on week day evenings. A few seconds after 7 o'clock a stern proctor would go around and inspect all rooms to ascertain if all were present.

However, night life during the week had its variations, particularly if one were telegraphically minded and added a little bit of ingenuity to the making of the said variations. There was the "air line." This was invented by the lovelorn boys on the third floor so that they might communicate with their lady loves on the second, in stolen, odd, and nevertheless delicious moments. First was a series of dots and dashes on the radiator or empty gas pipes. Then a dash to the window and a lowering of a string attached to a dish of dainties, or an obscure message, which was received from the window below by a faint giggle and a toss of a girlish head.

The boys threw off the heavy rules pertaining to night and study life easier than the girls. More skillful also were they in avoiding rules, so many boys made delightfully stealthy treks to the college orchard on dark evenings while they should have been perusing ponderous tomes. But this only caused the 'air lines' to be the more fruitful and the orchard caretaker to scratch his head and mutter anathemas about the college boys.

The real social life of the college was centered in the week-ends. Friday and Sunday nights were 10 o'clock nights, while Saturday evening, as an after thought of the board of trustees, was a 10:30 night. On Friday night everyone went to literary society meetings. In the early days there were four main societies: Bachelors, Crescent, Philomathean and Clifolian. Orations (not unlike Antony's), original essays, recitations, debates and music were given by the individual members for the entertainment but mostly for the edification of the other members. Afterwards if there was any time left they would disport themselves in games such as "Pig in the Parlor" and "The Miller." But perhaps these would be left for a social on Saturday night.

On Saturday night if there were no socials or lectures, perhaps

there would be a play in the theatre down in the city of Ames. If so the "special" or "specials" who wished to go would have to get permission from the preceptress or even the president. Permission was always necessary if one were to leave the campus. Permission granted, they would take the stage coach or the bus driven by "10 cent Billy" (so-called because he charged 10 cents for everything from passengers to packages or letters) and ride merrily off to the play. Maybe before the "specials" returned to the safe shelter of "Old Main" they would loiter in the shadows of the chapel and whisper sweet nothings to each other. Of course it was against the rules but—

Daytime dates or dates of any kind were unheard of in the early days. A course, however, called "campus lab," was much indulged in by the students particularly in the springtime. On the campus between the Main Building and Agricultural Hall, between the hours of 4 and 6 they played croquet, or on the two tennis courts nimbly batted balls back and forth. One year the latest senior pastime was wheeling junior ladies around in wheel-barrows. As always in "campus lab" the specials could do lots of walking, but only on the campus unless they had special permission.

Athletics, at first was the vehicle for class duels, since intercollegiate athletics did not begin until about 1890 when Iowa State played the schools in the state. Gory were the battles fought between the classes. One class would challenge the other to battle. Baseball and association football were the means of expression. The boys bought their own equipment and trained each other in the sports. Seeking more distant enemies they would often play the small towns round about in baseball. Some of the boys wishing a little extra money would play in other towns.

Speaking of battles, the greatest of all was the annual class fight between the freshmen and sophomores. This was called the "picture scrap." The clever sophomores would draw a picture, depicting the glory and the greenness of the freshman class. Then the war for its possession would be on. In '92 the battle was most thrillingly waged. The picture was lowered from North Tower. A sophomore like unto Ichabod Crane, galloped madly around the campus on horse-back bearing the picture, while a hundred freshmen tore after him. Coats were torn. The sophomore girls, not to be left out of the squabble, poured water from the windows down on the panting freshmen. But the real picture mysteriously disappeared. After the battle the sophomore girls had a sewing society and sewed up the boys' coats. The freshman girls, wishing to follow the example of the sophomore girls, made the mistake of asking the preceptress if they too couldn't form a sewing society; of course she refused. So the freshman boys had to sew their own coats.

The first college paper was the "Aurora," published monthly by the four literary societies. The reading matter was confined chiefly to learned discourses about philosophy and orations. It was writ-

ten by the intelligentsia of the clubs. The I. A. C. Student came later. It was published "fortnightly." It was called the I. A. C. Student because Iowa State College was then known as the Iowa Agricultural College.

For those dramatically inclined there were the Shakespearean plays given during commencement. There were no try-outs then. The teacher in elocution simply gave the parts to those she thought would be best able to play them.

VI.

RESEARCH



It is difficult to say just when veterinary research began in Iowa State College. Dr. Stalker did a little work in connection with his duties as State Veterinarian, but it was difficult to carry forward any systematic and definitely organized projects during those years.

Probably the first work of a serious nature was taken up by Dr. Niles when he became a member of the staff and devoted a part of his time to experiment station work.

Dr. Stalker had written a bulletin on ergotism, and his reports as State Veterinarian indicated that he was a keen observer. However, Dr. Niles was somewhat more inquisitive in regard to some of these diseases and was the first man west of Chicago to discover the actinomyces fungus in the tumors which it produces on cattle. This was in 1885, and Dr. Niles' graduation thesis was on the subject of actinomycosis. Dr. Niles also took some special work in bacteriology in 1886 under Prof. Halsted. This work was taken with special arrangement while he was acting as house surgeon.

The first tuberculin to be used in the state of Iowa was injected by Dr. Niles in the McHenry herd at Denison, Iowa. This was soon after Dr. Leonard Pearson had first used it in Pennsylvania. Dr. Pearson was the first man in America to apply tuberculin as a diagnostic agent.

I have referred elsewhere to the reports of the work they were doing with tuberculin and the preparation of mallein.

A bulletin published in 1895 (Stalker and Niles), reporting the investigation of bovine tuberculosis with special reference to its existence in Iowa, contains much interesting information, and among other statements which are given as established facts are the following:

1. Tuberculosis of the lower animals is identical with human consumption.
2. The disease may be transmitted from man to the lower animals and from the lower animals to man.
3. Milk from tuberculous cows may convey disease to the consumer.
4. Milk from tuberculous cows having non-affected udders may convey the disease.

5. The flesh of tuberculous animals may convey the disease.
6. Injection of tuberculin cannot produce tuberculosis or other harmful results.

The bulletin refers to the danger of feeding milk from tuberculous cows and to experiments conducted by other stations which prove the infectiousness of milk coming from tuberculous herds. A record is given on about 50 herds, which have been tested in Black Hawk, Kosuth, Story, Boone, Page, Harrison, Sac, Wapello and Floyd counties. Detailed records are given of the temperature reactions of these animals.

There is also the comprehensive bulletin on the diseases of sheep prepared by Dr. Niles as experiment station veterinarian. The sheep industry in the state at that time was of much greater significance than it is today, and diseases of sheep were important problems.

The development of the educational work and the reorganization of the division discouraged any considerable amount of experiment station work along veterinary lines for several years. When the new hog cholera serum was being developed, McNeil and Stange conducted some experiments with serum secured from the Bureau of Animal Industry laboratory.

During the reorganization ('08-'09) of the division, it was decided that it would be best to have a Veterinary Research Department on the same basis as we had an Agricultural Experiment Station and an Engineering Experiment Station.

Veterinary medicine may be likened to a tree, with its roots imbedded in the soil of the fundamental sciences and drawing its nourishment from this source, but bearing its fruit on the branches which extend up into the medium of agriculture, public health, etc. Reference is made in one of the dean's early reports to the advisability of having thoroly trained men in this branch of our work. Reference was also made to the proposed building at the southwest corner of the veterinary group, which could not be built on account of lack of funds. This building was intended for research work. The growth of the division and the development of the college to the north, which occupied land that otherwise might have been used for experimental animals, made it advisable to remove our research laboratory and farm to some distance from the college buildings in order to prevent interference with our research plant by further college expansion.

It can be said that we have at present, for the first time, buildings and support for our research which will enable us to do satisfactory work.

In the meantime problems have accumulated and we are being besieged on every side for work on some important project. Many of these projects with which we are confronted can only be solved by going back to the beginning and working out certain fundamental things, which have thus far not been satisfactorily explained. Things do not come as easily as many who are not connected with state institutions imagine, and one cannot help but be impressed with this fact at several

points in the history of this division. A history of the research work is a typical example of many of our problems, since it was just about 19 years from the time we realized the need of a definite research organization and program, with the buildings and equipment to carry them out, before these desires could be reasonably satisfied.

A brief statement of the history of the research staff is as follows:

"In July, 1914, Dr. Kurt Schern, whose employment has already been referred to, left for Europe to attend the International Veterinary Congress scheduled to meet in London. Adjournment of the congress was taken shortly after it convened, made necessary by the declaration of war. Dr. Schern was not permitted to return to America and the Department of Veterinary Investigation was left without a head.

"Charles Murray, then a member of the staff of the Department of Pathology, was placed in temporary charge under direction of Dean C. H. Stange. With the help of Paul Purwin, Dr. Schern's assistant, investigational work on hemorrhagic septicemia was carried on until the United States entered the World War. In 1917 Charles Murray was made head of the department. During the war the attention of the department was largely directed toward food conservation. A routine diagnosis laboratory had been established and this demanded the full time of one worker. Dr. L. E. Willey was placed in charge and continued in this capacity until his enlistment (November 28, 1917). Dr. Heinrich Wehrbein was employed for a year preceding our entrance into the war and completed some splendid work on dourine of horses and on hog cholera. In 1918, Dr. Wehrbein was succeeded by Dr. E. A. Benbrook, who remained one year, resigning in 1919 to become head of the Department of Veterinary Pathology. At the close of the war, Dr. L. E. Willey returned to assume his duties with the department, resigning July 31, 1920, to enter commercial work. Dr. S. H. McNutt became a member of the staff in 1918. In 1922, Dr. H. E. Belster entered the department as pathologist. At present the staff consists of Dean Stange, director; Charles Murray, vice-director and head of the department; Dr. S. H. McNutt and Paul Purwin, bacteriologists; Dr. H. E. Belster, pathologist; Dr. H. H. Dukes, physiologist; Dr. F. D. Patterson, Jr., graduate assistant. Three lines of major work are being conducted, in enteritis and related diseases of swine, abortion and related diseases of cattle and poultry diseases.

Three of the principal and fundamental veterinary sciences have been established in our Research Department, namely: Veterinary pathology, veterinary bacteriology and veterinary physiology. With the research work being carried on in chemistry and biological sciences on the campus, the work in connection with most animal disease problems can be pursued by the college in a thorough and effective way.

Since the work has been put in satisfactory quarters about a year ago, eight papers on research work have been published. From the standpoint of the future of the veterinary profession, it is anticipated that the Research Department will be one of the most valuable parts of our organization.

VII.

GRADUATE SCHOOL



URING the early years ('70-'90) the graduate work of the college was not well organized. The writer is informed that during the first five or six years the D.V.M. degree was regarded as a graduate degree. Records seem to confirm this statement, as men like Nicholson, Carey, etc., who had a Bachelor of Science degree and later took veterinary medicine, were listed as graduate students. These men received the D.V.M. degree while B.V.M. was the degree granted to those having less extensive preparation for the work. There is no record of there being any difference in the content of the course for the two classes of students.

As nearly as can be determined, they attended classes together and their course of study was exactly the same. After a few years, however, the degrees were the same for all students graduating from the Veterinary Division (D.V.M.). In 1890 graduate work was listed in veterinary pathology and materia medica.

From about 1890 until 1913, the graduate work of the entire college was administered by a graduate committee of the general faculty. By this time (1913), however, there was such interest in graduate work that it was necessary to form a more effective organization to administer the affairs of graduate students. On July 15, 1915, the graduate faculty was organized and the president appointed as acting-dean. The graduate faculty consisted then, as it does now, of the staff members in the various divisions and departments who are offering graduate work in their respective lines.

Veterinary medicine was included in this organization, and since that time we have had a recognized plan and method of procedure with definitely outlined graduate courses. Some readjustments were made on October 7, 1919, and the graduate organization was named "Graduate College" and Dr. R. E. Buchanan was appointed dean. Previous to this time, Dr. Buchanan had been serving as dean of the Industrial Science Division and the vacancy created by his transfer was filled by Dr. S. W. Beyer.

The first graduate catalog was published in 1915-16, and among the courses offered we find veterinary anatomy leading to the degree Master of Science. Also veterinary pathology and veterinary physiology were offered for the same degree. Later (1926-27) veterinary anatomy was offered for the Ph. D. degree. Graduate work in veterinary surgery was not offered until 1920-21. The summary of the number of graduate students taking the course in the Veterinary Division is shown on the chart indicating student enrollment.

We find more specifically that in veterinary anatomy (1923-28 inclusive) there were six graduate students enrolled. In veterinary pathology there were eight; in veterinary physiology, six, and in sur-

gery, six. A total of eight students have taken their graduate degrees in the last six years. The total enrollment of the graduate college has increased rapidly since 1919, and much of this development is due to the efforts of Dean Buchanan, who is well known to many of our veterinarians on account of his book on veterinary bacteriology.

VIII.

STATE BIOLOGICAL LABORATORY



HE State Biological Laboratory was established at Iowa State College under a law which provided for "a laboratory for the manufacture and distribution of hog cholera serum, toxins, virus and biological products at the Iowa State College of Agriculture and Mechanic Arts, etc." This act was approved April 23, 1913, and became effective upon publication in the Register and Leader and the Des Moines Capital. The reaction to the losses from hog cholera came during 1913. The figures gathered by the assessors gave the exact number of hogs dead from hog cholera that year as 2,709,876. It is not strange that Iowa should be immediately interested in the question of hog cholera control since about one-sixth to one-seventh of the swine of the United States have been produced in Iowa every year. Thus it can be seen that we have had a very fertile soil in which to develop the disease. After Dr. Niles' resignation, the Bureau of Animal Industry established a field laboratory near Ames. This work was continued during 1907, and then the problem arose as to how this new method of vaccinating hogs had best be applied to the problem of hog cholera control. The first announcement to the public of the methods used was made at a conference of federal and state officers at Iowa State College on May 30, 1908. The following extract from the report of the State Biological Laboratory in 1915 gives one a general idea of this significant meeting.

"The purpose of this conference was to discuss the practical application of a vaccine recently developed by Doctors Dorset and Niles of the Bureau of Animal Industry and determine lines of investigational work in connection with the use of the vaccine in the control of hog cholera. The conference was held in Agricultural Hall, on the campus of the Iowa State College. Dr. A. D. Melvin acted as chairman of the conference.

"The following persons were present: Dr. A. D. Melvin, chief of the Bureau of Animal Industry; Dr. M. Dorset, chief of the biochemical division of the bureau, and Mr. H. J. Shore of the same bureau, all of Washington, D. C.; Dr. W. B. Niles, in charge of the bureau's field experiments in Iowa; Dr. R. R. Dinwiddie, pathologist and bacteriologist of the Arkansas Experiment Station, Fayetteville; Dr. F. S. Schoenleber, experiment station veterinarian, Manhattan, Kan.; Dr. A. T. Peters, animal pathologist of the Nebraska Experiment Station, Lin-

coln; Director C. F. Curtiss and Drs. John H. McNeill and C. H. Stange of the Iowa Experiment Station, Ames; Dr. J. W. Conaway, experiment station veterinarian, Columbia, Mo.; Dr. M. H. Reynolds, experiment station veterinarian, St. Anthony Park, St. Paul, Minn.; Dr. Paul Fischer, state veterinarian, Columbus, Ohio; Dr. C. E. Marshall, experiment station bacteriologist, Lansing, Mich.; Dr. R. A. Craig, experiment station veterinarian, Lafayette, Ind.

"Following the address by the chairman, stating the purpose of the conference, the state officials were called on to express their opinions regarding the use of the vaccine and means of production and distribution to the farmers in their respective states."

In the spring of 1909 the Legislature convened and prepared to establish a laboratory to manufacture hog cholera serum. There was some discussion as to whether it should be at Iowa State College or at Des Moines, but it was finally concluded to locate the laboratory at the capital city. A sum of \$8,000 was appropriated for this purpose and two years later an additional \$5,000 was appropriated for the same laboratory.

In the interim between the legislative meetings of 1911 and 1913, hog cholera had increased considerably in the state. The feeling was growing that laboratory methods and practices had better be combined with a technical institution where the members of the staff were familiar with the technique in producing biological products. As a result the act already referred to was adopted by the legislature. The demand for serum can readily be imagined when we realize that the farmers of Iowa were losing on the average of \$76,548 per day. As a result of this demand, it was necessary to purchase serum wherever it might be procured and send it out, while our own plant was under construction. Temporary pens were built and an alley was constructed leading into the Anatomy Laboratory, which was used during the summer months. Before our own serum could be produced and tested, we distributed 901,750 cc. of serum which we had purchased from Kansas, Kentucky and the commercial plant at Sioux City, Iowa. It was provided that each person, firm, company or corporation desiring to sell serum in the state must give a bond to the director of the laboratory and such other evidence as he might require to secure a permit to sell within the state. The director was required to set a standard of potency which all serum must meet in order to come under the requirements of the law. During 1913, 25 such permits were granted and by the end of 1914, 62 companies had been given permits to sell serum in the state. The original act required that each shipment of serum and virulent blood must be made with the permission of the director of the laboratory. The most difficult provision in the law to administer was the provision to grant permits to use virus, and in order to reach a reasonable conclusion a conference was called to which the state veterinarian, the president of the State Veterinary Association, Dr. W. B. Niles; the president and secretary of the Iowa Swine Breeders' Association, the dean of agriculture, head of the Animal Husbandry Department, and the director of the State Biological Laboratory were

invited. One of the conclusions reached by this committee was the following:

"The law does not clearly state whether or not the use of virus shall be limited to practicing veterinarians, but it does clearly indicate that much information which veterinarians have is essential to the use of virus; therefore the director should use special care to satisfy himself in connection with application of any person other than a competent veterinarian, that this person is sufficiently trained along the lines of sanitation, immunization and bacteriology to have a fundamental knowledge to enable him to receive the brief instruction that is offered at the college for persons wishing to secure permits."

Of the \$35,000 appropriated, approximately \$18,000 was put into buildings of semi-permanent character. This left a working fund which, however, was not sufficient to enable us to store serum in any considerable quantity. This became known to a number of swine owners and others, and as a result \$12,100.34 was advanced on orders during the winter season. The sale price of our serum was 2 cents per cc. until June 1, 1914. The price was then reduced to 1½ cents per cc.

It must be remembered that the supervision of all commercial plants, the testing of samples of serum, the supervision of the use of virus and all overhead was charged to the cost of serum produced here.

We have already referred to the beginning of the operation of the laboratory and the kind assistance of Dr. Murphey, Dr. Murray and other members of the staff. On September 1, 1913, Dr. C. G. Cole was put in charge of serum production and testing, and Dr. D. W. McAhern, who was pathologist for the state serum plant at Des Moines before it was transferred to the college, was secured as an assistant. He soon, however, received an offer from a commercial serum plant and resigned. Dr. J. D. Cecil of Philadelphia was secured for the vacancy, but in a few months he also accepted a position with a commercial firm. Dr. N. E. Koenig of Cornell University was then secured to fill the position, which he held until 1916.

The work which had been begun in 1913 had developed to such an extent that additional help was necessary and Dr. Lew McElyea was appointed on the serum inspection work May 8, 1916. Dr. McElyea is now in commercial work in the city of Ames. Dr. Cole is with the Bureau of Animal Industry in the field laboratory in which the hog cholera vaccination methods were worked out in the beginning. Dr. F. W. Cairy was added to the staff soon after the laboratory was established. He is now identified with the commercial serum work at Sioux City, Iowa.

During 1914 an outbreak of foot and mouth disease appeared in the United States and spread to several parts of the state of Illinois thru hog cholera serum which had been manufactured in a plant located at the Union Stockyards, Chicago. This led to a more rigid supervision and the necessity of testing all serum produced on calves for foot and mouth disease before it was distributed.

During 1913 and 1914, four extension veterinarians were employed for an additional program on the use of hog cholera serum. Five

hundred and thirty-five lectures and demonstrations were given and 20,379 people from every county in the state were reached.

It was not our desire to become permanently established in serum production work, and the public generally preferred to deal with people in commercial work. The percentage of serum supplied by the State Biological Laboratory as compared with the total amount used, showed an annual decrease.

There were no policies or precedents, and the following quotation from the last, but unpublished, report from the director of the State Biological Laboratory is interesting in this connection:

"At that time (1913) there was much contention among persons in charge of hog cholera work in the various states as to whether the use of virus should be permitted and, if so, under what conditions. After careful consideration of the advantages as well as dangers associated with the use of virus the following conclusion was reached:

"Immunity produced by injecting serum lasting for but a few weeks can be made permanent by the use of a small quantity of virus at a very slight additional expense. The expense of applying serum alone treatment for obtaining protection for but a few weeks under Iowa conditions is not justified and would be a disappointment to stockmen. The interests of the state would be served best by adopting, except in a limited number of cases, the simultaneous (serum and virus) treatment. All possible precautions that would not interfere with efficiency should surround the distribution and use of virus, which should be kept in the hands of those trained to use it.

"There is every evidence that our policy has not been wrong for Iowa conditions. Our records indicate that in 1918 approximately 96 percent of the hogs treated were treated by the simultaneous method, while in the beginning the virus was used in about 88 percent of the herds treated. With the increased use of serum and virus in Iowa there has been a constant decrease in hog cholera. From our experience one is forced to the conclusion that, based on our present knowledge of the disease, the future control of hog cholera depends on the careful application of the simultaneous treatment by properly trained men before the disease appears in the herd. This should be accompanied by education as to proper sanitary measures. In other words, we must keep ahead of the disease and not follow it."

As the demand for serum decreased, we finally discontinued production and bought serum from a reliable commercial concern and distributed it for a couple of years. In the meantime the legislature had authorized us to use the buildings and grounds for research and other work of the Veterinary Division. During the entire period the records show we produced 25,793,357 cc. of serum; of this 24,770,467 were sold, 209,910 were used in the laboratory, 282,540 were used for revaccination purposes for which no charge was made, and 503,995 cc. were destroyed.

During this period we bought and used 26,568 head of hogs. The total number of permits issued to all companies for sale of serum and virus in the state was 84. During the period from 1913 to 1920, altho it required much time and effort on the part of the administration of

the Veterinary Division and was distracting from an educational and research standpoint, the value of the work should not be underestimated. On January 1, 1913, there was no regulation, whatsoever, for the production of hog cholera serum and virus; there was no plan or policy in regard to the control of hog cholera where the production of immunity was involved; the practical application of the serum and the best methods to be employed were not yet known. It was necessary for someone to organize the work, marshal all the facts known and figure out a plan how they could be best utilized to control the enormous losses the livestock industry of the state was suffering. We believe that it is fair to say that these problems were worked out in a quite satisfactory manner during that period of time.

IX.

VETERINARY MEDICAL SOCIETY



THE Veterinary Medical Society of the Iowa Agricultural College was organized in the spring term of 1884. As the senior students of the veterinary course realized the necessity of a society, the object of which should be the discussion of matters relating to veterinary science for the improvement of its members, a meeting of the veterinary students was called and the organization of the society determined upon.

Many difficulties attended its organization. The rules of the college were such that the permission of the college faculty had first to be obtained. It was given upon certain conditions. Notwithstanding the many difficulties, the society was organized with the following charter members:

W. E. D. Morrison	G. M. Osborn
W. B. Niles	E. E. Sayers
M. E. Johnson	D. E. Collins

W. R. Whiteman.

Most of the spring term was utilized in perfecting the organization, much interest being taken by the members, and at the close of the fall term two senior students were graduated from the society.

In the spring term of 1885, the original constitution and by-laws, being somewhat defective, were revised, but no marked changes made. Several new members joined at the opening of this term, and increased interest was taken in the society. At the close of the fall term, four senior students were graduated.

Near the close of the spring term of 1886, the constitution was altered and the dean of the veterinary faculty was made permanent president and the house surgeon first vice-president. During this year the society numbered more members than at any previous time in its history. Near the close of the fall term, arrangements were made and perfected for incorporating the society under the laws of the state of Iowa. These arrangements were to be carried out and the society

incorporated the coming year. (No records of incorporation have been found as yet).

At the last meeting of the society in the fall term, six senior students were graduated.

During the year of 1887, there was a remarkable increase in the membership of the society; during the fall term its membership had grown to 21, nine of whom were seniors who were graduated at the last meeting of the society; their places being soon filled by a large percentage of the succeeding classes.

Good work was done in 1888, and beside the regular society work lecturers from abroad were obtained as frequently as it was thought prudent. At the last meeting of the year, four seniors were graduated.

In 1889, nearly all of the new veterinary students became members early in the spring term. The membership during the year was about 20. Seven senior students graduated from the society at the close of the year.

In 1890 increased interest was shown in the work of the society. Eleven new veterinary students joined early in the spring term, and during the fall term an effort was made to revise the constitution and by-laws. Especially was it thought expedient by some members that more stringent measures be adopted for enforcing fines for absences and non-performances. No revision, however, was recognized, as the proceedings of the society were found to have been illegal. At the close of the year four senior students were graduated.

At the opening of the spring term of 1891, the society re-elected the officers, and proceeded to revise the constitution and by-laws. This was done and some necessary changes were made. Twelve new veterinary students joined during the spring term, giving the society a greater membership than at any previous time in its history.

During the nineties there was little change in the conduct of the society and the interest varied somewhat from year to year. During 1900 the thesis requirement was dropped from the course of study with the understanding that all veterinary students would be required to join the Veterinary Society and take part in the programs. This added new interest to society work and additional features were the social functions, which began in 1904. This was the year the first faculty, student, alumni banquet was held in Des Moines. The banquets have been an annual event ever since that time excepting for a few years during the war. There was more or less debate each year whether evening or dinner clothes should be worn. Dress suits were the accepted thing during the early years ('04-'12). Not all of us could afford dress suits, however, but we were never denied admission as a result of our "plain clothes." The same problem confronts the society today, but it is hoped that in a few years all students will be equipped with "evening clothes."

The Veterinary Medical Society became the Iowa State College Student Chapter of the American Veterinary Medical Association in April, 1927. The programs are usually good and frequently outside speakers are brought in for lectures on subjects of interest to veterinary students.