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# History of Veterinary Medicine

**T**HE birth of veterinary art probably preceded that of human medicine. In biological existence, food is the primitive requirement. Veterinary medicine sustains life; human medicine preserves it.

Upon domestication of animal life, diseases which were not before apparent became rampant and it logically fell to the shepherds and herdsmen to care for the sick animals. These early husbandmen were not long in discovering the pitfalls of their undertaking. Their weapons in attacking the diseased conditions confronting them were magic, prayers, imprecations, incantations, and other barbaric rites practiced as cures preceding the primitive studies of animal medicine.

## Ancient Practice

It is found from the Bible that the ancient Jews and Egyptians knew many forms of animal diseases. Moses established a system of meat inspection which is still practiced by the Jewish people in our modern packing houses. Hippocrates (460-337 B. C.) described hydrothorax in oxen, sheep, and swine and mentioned the dislocation of the hip joint of cattle following a lean winter. Aristotle (384-326 B. C.) discovered some of the diseases of swine, dogs, cattle, horses, asses, and elephants. In his description of the diseases of the dog he gave an excellent description of rabies. Gen. Xenophon (349-259 B. C.) wrote a treatise on horses and horsemanship in which was emphasized diseases and care of the feet. Thus from this bit of ancient history it is seen that Veterinary Medicine had its beginning with the ancients.

As to the word "Veterinary", little is definitely known of its etymology. It is a pleonastic freak that has crept in and has no medical significance and no medical origin. Verrius Flaccus, 14 A. D. gives

the verb form as "veheri" to draw, and defines the term in "bestia veterinus" as "any animal that works with a yoke." Other etymologists give a Celtic origin from "vieh", cattle, and "terrin" to be sick.

As with the origin of the name of the profession, there is a controversy as to who is Father of the Profession. Some would have Hippocrates given this distinction. Others believe that Galen should be considered due to his insistence of meat inspection. The general opinion is that Vegetius is generally considered the Father of Veterinary Medicine. He was author of four books on diseases of horses and cattle in which he urged disregard of divine discipline as the cause of diseases and incantations as their cure.

## Dark Ages

From the time of Galen through the 12th century there was a period of inactivity in all science and art. These years are known as the Dark Ages. The Church forbade dissection and autopsies and confiscated and destroyed much of the literature on the subject of Veterinary Medicine. During this time no new literature was written. The only work that was done was by the Arabs in Spain. Because of their love of the horse and excellent horsemanship, they were interested in the diseases of the horse and had all available literature translated into Arabic.

In the 12th and 13th centuries simultaneously with the Renaissance of the Fine Arts there was a revival of interest in the medical sciences. A nobleman by the name of Rufus in the 12th or 13th century wrote "De Medicina Equorum". He excelled in ability of his successors for nearly 400 years. The volume was a tabulation of original observations with no reference to previous literature. He con-

sidered all superstitions, fables, and astrological influences on disease as nonsense. Many terms coined by him persist to this day.

About this time the printing press was invented. This gave great impetus to the publications of works in all fields of literature, scientific and otherwise. An Italian in 1598 by the name of Ruini Bologna wrote the first anatomy. LaFosse, a Frenchman, about 200 years later published a second anatomy which was very good. LaFosse's book was the first one that had colored plates. There is some controversy as to the scientific attitude of this man. He was a gentleman and a student of both human and equine anatomy, but Merrillat claims that he was just a horseman and a farrier. There were many other good books on horses during the 17th and 18th centuries; however, they were mostly good farrier books, not being books of scientific fact. In England up until the middle of the 18th century there was nothing written that had any resemblance of scientific fact. In 1751 Gibson published a book on diseases of horses which was original and accurate in its observations.

### European Schools

In the 18th century there were many plagues among the domestic animals of Europe. These were: rinderpest, anthrax, blackleg, sheep pox, scabies, glanders, contagious pleuro-pneumonia, strangles, tetanus and wound infections.

Economic losses of these plagues were enormous and brought to the public eye the need for a college of Veterinary Medicine. The first college was established in Lyons, France in 1762. It was in charge of Bourgelot, a young lawyer who had forsaken law because he won a case that he thought not just. He received government aid for this college and it was established in an old house that had been a hotel. There were 38 students its first year, among them were Danes, Swedes, Austrians, Prussians, Sardinians, Swiss, and French. The subjects taught were: Zootomy, especially the exterior of a

horse, horsemanship, pharmacy, special pathology, surgery, and the principles of sanitation policies. The devastating plagues gave students a chance to show the value of scientific training, as crude as it was. As a result of its apparent value Louis XV made Lyons a Royal School and established a second school at Alfort in 1765 and made Bourgelot director of all veterinary education in France. Other schools were established in rapid succession:

Dresden 1776	Berne 1808
now Leipzig	Zurich 1820
Copenhagen 1777	Stockholm 1821
Hannover 1777	Utrecht 1821
Vienna 1777	Edinburgh (Dick) 1823
Budapest 1786	Toulouse 1825
Berlin 1790	Giessen 1828
Munich 1790	Ontario 1862
London 1791	Glasgow 1862

### Subjects Taught

It might be of some interest to note the subjects taught in the European schools. The instances to be cited are from the German schools, which are typical. The Pre-Veterinary subjects are much more classical, including Greek, Latin, French, and English. While the Veterinary colleges themselves teach very much the same subjects as are taught here in the United States, there is a slight difference in the method of examinations, the students not being examined every semester but at the end of the third and fourth semesters and at the end of the course. The examination at the end of the course is a very comprehensive examination. The total cost of a veterinary education in Germany is around \$12,000. Upon completion of the college course one is not given the title of Doctor. A thesis must be submitted to the authorities after leaving school before the title of Doctor is conferred.

### Veterinary Medicine In U. S.

In the United States the development of veterinary medicine was quite slow until the latter part of the 19th century.

During the colonial period there was no special need for emphasis on veterinary

medicine since the country was sparsely settled and free from epizootics of any magnitude. Not until after the Revolutionary War did epizootics appear.

Prior to that time the horses, cattle, and other domestic animals brought here by the early colonists were treated and cared for by their owners. Later as the number of domestic animals increased, certain individuals who were, or at least thought they were, more proficient in diagnosing and treating the ailments of animals began devoting more of their time to this new profession.

There existed at this time two types of animal doctors, the farrier, who dwelt more with the problems of horses, and the cowleech, who treated cows and other forms of livestock. Although the farrier considered himself far superior to the leecher, both usually were of the lowest social caste, ignorant of true medicinal art, illiterate, and untutored in their vocation.

However, we should not be too critical with these colonial practitioners, nor should we judge them from the present standards of veterinary medicine. An explanation of their plight is not difficult. Printing was in its infancy in the United States; books dealing with the veterinary art were few, expensive, and hard to obtain. Apart from the knowledge practitioners inherited from other farriers, often as ignorant as themselves, the only source of information were books printed in Europe. Few if any of the farriers could read any language other than English. Since the period of establishment of the first veterinary schools in Europe and our Revolutionary War coincide, even European literature was scarce.

The first major epizootics to appear in this country were rabies and Texas fever. In 1785 an outbreak of rabies was recorded in Boston. It was considered a human medical problem. Texas fever made its appearance as far north as Maryland and Pennsylvania in 1795 but was chiefly an epizootic of the south. It was this disease that caused the North Carolina State Legislature in 1795 to pass an act preventing the driving of cattle from timber of long-

leaf pine (tick country) into or through the state of North Carolina. This is the first legislative act ever passed in connection with animal diseases in the United States. Several states followed with similar acts. Dr. James Mease, a physician, was the first to study this disease.

### First Veterinarians

According to Sir Frederick Smith, the first graduate veterinarian to come to America and establish a practice was Charles Clark in 1817. A Prussian graduate, John Rose, came to New York in 1827 but little is known about his life. Later C. C. Grice, R. H. Curtis, A. Lockhart, and C. Pilgrim, all graduates of the London school settled on the eastern coast. Popular non-graduates deserving mention here were the Saunders in Massachusetts, Dr. Wood in Boston, and the Micheners in Pennsylvania. The works of Youatt, Percivall, and Gamgee served these pioneers.

Had the veterinary enterprise been made up entirely of men of this caliber the prestige of veterinary medicine would have been raised instead of lowered in the century to come. As it was, these pioneers made up less than five per cent of the veterinary population and most of them settled in large cities in the East.

Ninety-five per cent of the practitioners were unqualified, they were in the main charlatans, harpies, mountebanks, a preponderant group whose practices were unthinkably barbarous to say the least. Specialization was the rule; some were "horse doctors" and claimed no more than the name implies, some "cow leechers", who weren't so rash with their treatment; others like "Cowboy Charlie" traveled, giving free lectures to sell medicine; "horse dentists" were plentiful as were the "gelders". Surgery and therapeutics of even the qualified was at low ebb and asepsis was undreamed of. Anesthesia was in its experimental stage in human medicine, unknown in veterinary medicine.

The veterinary enterprise was a private one up to about 1875. The "dark ages" developed through the neglect of veterinary education by governmental agencies.

To make matters worse the states conceived the mistaken idea that teaching every one to treat his own animals would constitute a sufficient means of protecting the livestock industry against the ravages of disease.

### B. A. I. Organized

Hog cholera made its first appearance in 1833 in the Ohio valley. Its pathogenesis and control were not determined until many years later despite the work of Drs. George Sutton and E. M. Snow between the years of 1858 and 1862.

The fourth big epizootic in the United States was contagious pleuro-pneumonia of cattle introduced into this country from Germany in 1843. In the next forty-three years the disease spread to ten states. It was the scourge that resulted in the organization of the Bureau of Animal Industry in 1884. Under the direction of Dr. D. E. Salmon the B. A. I. eradicated "lung plague" in five years at a cost of one-half million dollars.

Dr. Salmon held the position of chief of the B. A. I. until December 1, 1905. Outbreaks of foot-and-mouth disease were brought under control, a federal meat inspection system was inaugurated, the mode of transmission of Texas fever was discovered and measures for its control worked out, and a system of quarantine established for imported animals were the outstanding achievements of the B. A. I. during Dr. Salmon's administration.

Dr. A. D. Melvin was the second chief of the B. A. I. holding that position from Dec. 1, 1905 until his death in 1917. He was succeeded by Dr. John R. Mohler who is the current chief of the Bureau of Animal Industry. Both have been notable leaders in veterinary medicine.

Although farriers were included in the army personnel in 1792, the veterinary corps of the U. S. Army was not organized until Oct. 4, 1917.

### Veterinary Colleges

The latter half of the nineteenth century (mushroom period) marked the establishment of at least twenty-eight veterinary colleges. Five of these are in existence

today as state institutions. Between 1900 and the close of the World War fourteen more veterinary colleges were established or chartered. Of these fourteen colleges only four remain.

The tabulated history of the veterinary colleges of North America are as follows:

New York College of Veterinary Surgeons.....	1857 to 1899
Ontario Veterinary College, U. of Toronto.....	1862
Montreal Veterinary College, later Faculty of Comparative Medicine and Veterinary Science of McGill University .....	1866 to 1903
Cornell University .....	1868 to 1893
American Veterinary College .....	1875 to 1899
Columbia Veterinary College .....	1877 to 1884
Iowa State College, Division of Veterinary Medicine .....	1879
Northwestern Veterinary College .....	1881 to 1890
Harvard University, School of Veterinary Medicine .....	1882 to 1901
Chicago Veterinary College .....	1883 to 1920
University of Pennsylvania, School of Veterinary Medicine .....	1884
Ohio State University, School of Veterinary Medicine .....	1885
University of South Carolina, Division of Veterinary Medicine .....	1888 to 1891
Baltimore Veterinary College .....	1889 to 1891
Detroit College of Medicine, Veterinary Department .....	1890 to 1898
Iowa Veterinary College .....	1890 to 1894
Kansas City Veterinary College .....	1891 to 1918
Kentucky State College, Department of Veterinary Medicine .....	1891 to 1895
Ohio Veterinary College .....	1891 to 1896
Indiana Veterinary College .....	1892 to 1924
McKillip Veterinary College .....	1892 to 1920
National Veterinary College, later Veterinary School of Columbian University.....	1892 to 1898
New York State Veterinary College, Cornell University .....	1894
United States College of Veterinary Surgeons .....	1894 to 1927
Queen's University, Veterinary Department.....	1895 to 1899
University of California, Veterinary Dept.....	1895 to 1899
Grand Rapids Veterinary College .....	1897 to 1918
Western Veterinary College .....	1897 to 1908
New York-American Veterinary College.....	1899 to 1922
San Francisco Veterinary College .....	1899 to 1918
State College of Washington, College of Veterinary Medicine .....	1899
Cincinnati Veterinary College .....	1900 to 1920
University Veterinary College .....	1902 to 1906
Kansas State College, Division of Veterinary Medicine .....	1905
St. Joseph Veterinary College .....	1905 to 1923
West Virginia University, Veterinary Dept. ....	1905 to 1912
Alabama Polytechnic Institute, School of Veterinary Medicine .....	1907
Colorado State College, Division of Veterinary Medicine .....	1907

George Washington University, College of Veterinary Medicine .....	1908 to 1918
Michigan State College, Division of Veterinary Science .....	1909
Southwestern Veterinary College .....	1909 to 1916
Terre Haute Veterinary College .....	1909 to 1918
Arkansas Veterinary College .....	1913 to 1921
Agricultural and Mechanical College of Texas, School of Veterinary Medicine .....	1916
University of Georgia State College of Agriculture and Mechanical Arts, Division of Veterinary Medicine .....	1918 to 1933

The fall of 1895 is an important date in veterinary history. Due to the influence of the American Veterinary Medical Association all but three of the existing seventeen schools inaugurated three year courses. The first college to inaugurate a four year course was Iowa State College in the year 1903. This college was also the first state supported school in the United States. In the years 1866 to 1934 inclusive there were 20,762 graduates in Veterinary Medicine.

Since the World War new fields are opening up in which the veterinarian will play an important part. Most important of these are the poultry and fur industries. Small animal work is becoming a field of its own. Better systems of education, improved equipment, development of veterinary research, and an active national organization which is guarding and improving the veterinary profession are notable achievements in the last score of years. To leave out the extension of field work in the B. A. I. especially in bovine tuberculosis eradication which in 1935 has reduced the incidence of that disease to less than one-half of one per cent in eighteen states, would be unjust. Parasitology since 1920 has become increasingly important.

And last but by no means least, there is the more general realization of the importance of veterinary medicine by the state and federal governments and the American people.

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## Canine Hermaphrodite

A very unique case was presented at the small animal clinic on August thirty-first of this year. The dog was a six months old pointer which had a small penis protruding from the vulva. The penis was about two inches long and anatomically normal. The urethra, instead of being on the ventral part of the penis, was found upon the floor of the vagina to which it was loosely attached. No testes were evident. The owner wanted this sex malformation corrected.

The general outline of the procedure used to bring about this correction was as follows: One grain of morphine and one fiftieth grain of atropine were administered. Nembutal was used to complete the anesthesia. The area around the vulva was shaved, cleaned with ether, and painted with tincture of Iodine. The penis was grasped with a forceps. While tension was thus kept upon the penis the open urethra on the ventral floor of the vagina was grasped with another forceps. The urethra was cut away as far forward as possible, as it was attached to the surrounding tissues. Number two tension gut was now used as a ligature around the penis below the bulb. The penis was then cut off above the tourniquet and the end sutured with number one catgut. The tension tourniquet was left on the remaining portion of the penis. The vulva covered the remaining stump.

The next day some signs of hemorrhage could be seen. Ten cubic centimeters of Thromboplastin were given intravenously as a precautionary measure because of the difficulty in clamping off any blood vessels. Urination appeared to be normal. The dog remained in the hospital ten days before being sent home. A week later it was returned and the owner said the dog strained considerably when attempting to urinate. Upon examination a mass of cicatricial tissue was found on the floor of the vagina. This seemed to be the source of irritation. It was broken down, and an uneventful recovery was made.

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Dr. Earl Guthrie, I. S. C., '38, is now the father of a baby daughter.