

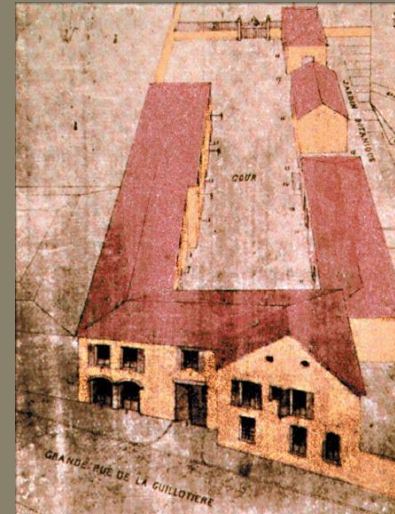
# The Early History of the Horse Doctor

A STORY COVERING OVER 2200 YEARS  
OF THE EVOLUTION OF THE STUDY OF  
VETERINARY MEDICINE

by Fred J. Born, DVM



PowerPoint Library Edition



Ecole Nationale  
Vétérinaire  
de Lyon

A JOURNEY FROM THE WRITINGS OF HIPPOCRATES TO  
CLAUDE BOURGELAT'S CLASSIC VETERINARY TEXT,  
"ELEMENTS OF HIPPIATRY AND NEW KNOWLEDGE OF EQUINE MEDICINE"

# Preface

Historians believe that the world's greatest ancient discovery occurred about 8000 B.C., with the conversion of human beings from hunter-gatherers into farmers and keepers of livestock.

# Introduction

The year 2011, marks the world's 250<sup>th</sup> anniversary of veterinary education that formally established the veterinary profession with founding of the world's first veterinary school in Lyon, France, in 1761. This monumental work was followed shortly afterward by founding of the Alfort veterinary school, near Paris, in 1765. Formation of both of these institutions were accomplished through the extraordinary vision and initiative of French veterinarian Claude Bourgelat. By setting up the world's first veterinary training institutions, Bourgelat in effect created the veterinary profession itself and his genius did not stop there.

As a result of his fruitful collaboration with surgeons in Lyon, Bourgelat was also the first scientist who courageously suggested that studying animal biology and pathology would help to improve our understanding of human biology and pathology. As a consequence, we happily recognize this 250th anniversary as marking the study of comparative pathobiology too, without which modern medicine would never have emerged.

This year (2011) we are celebrating the 250<sup>th</sup> anniversary in the life of Ecole Nationale Veterinaire de Lyon. With the cooperation of the Vet 2011 Executive Council ([www.vet2011.org](http://www.vet2011.org)), and specifically Dr. Claude Grandmontagne, this illustrated lecture has been made available for presentation to interested groups in celebration of this most significant historical anniversary.

As a Board Member of the American Veterinary Medical History Society, this PowerPoint has been developed over a seven month period with the cooperation and support of many of the officers and members of the AVMHS. At this time, I wish to recognize and thank them for their expert advice as to the content and support of this Vet2011 PowerPoint .

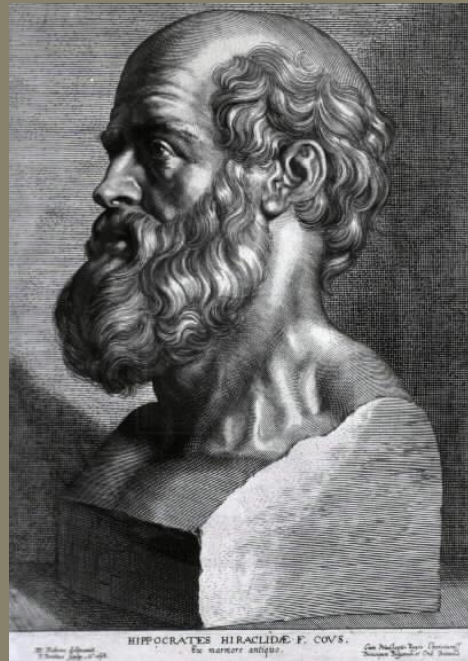
Fred J. Born, DVM

[fjborn@att.net](mailto:fjborn@att.net)

195 East 18<sup>th</sup> Street


Fond du Lac, WI 54935 USA

# Hippocrates 460 – 377 BC



Hippocrates, engraving by Peter Paul Rubens, 1638  
Courtesy of the U. S. National Library of Medicine

Father of Medicine and even today the code of ethics written by this Greek physician and philosopher is the creed of every physician of human medicine. Hippocrates, whose name means “chief of horses,” and whose brother Sosander (“savior of men”) was reported to be one of the Greek hippiatroi (literally, horse doctors). The name hippopotamus is derived from the ancient Greek word for “river horse.” Hippology is the science of the horse.




According to Dorland's Illustrated Medical Dictionary, the definitions of the following words are:

hippiater (hip'e-a"ter). A veterinarian.

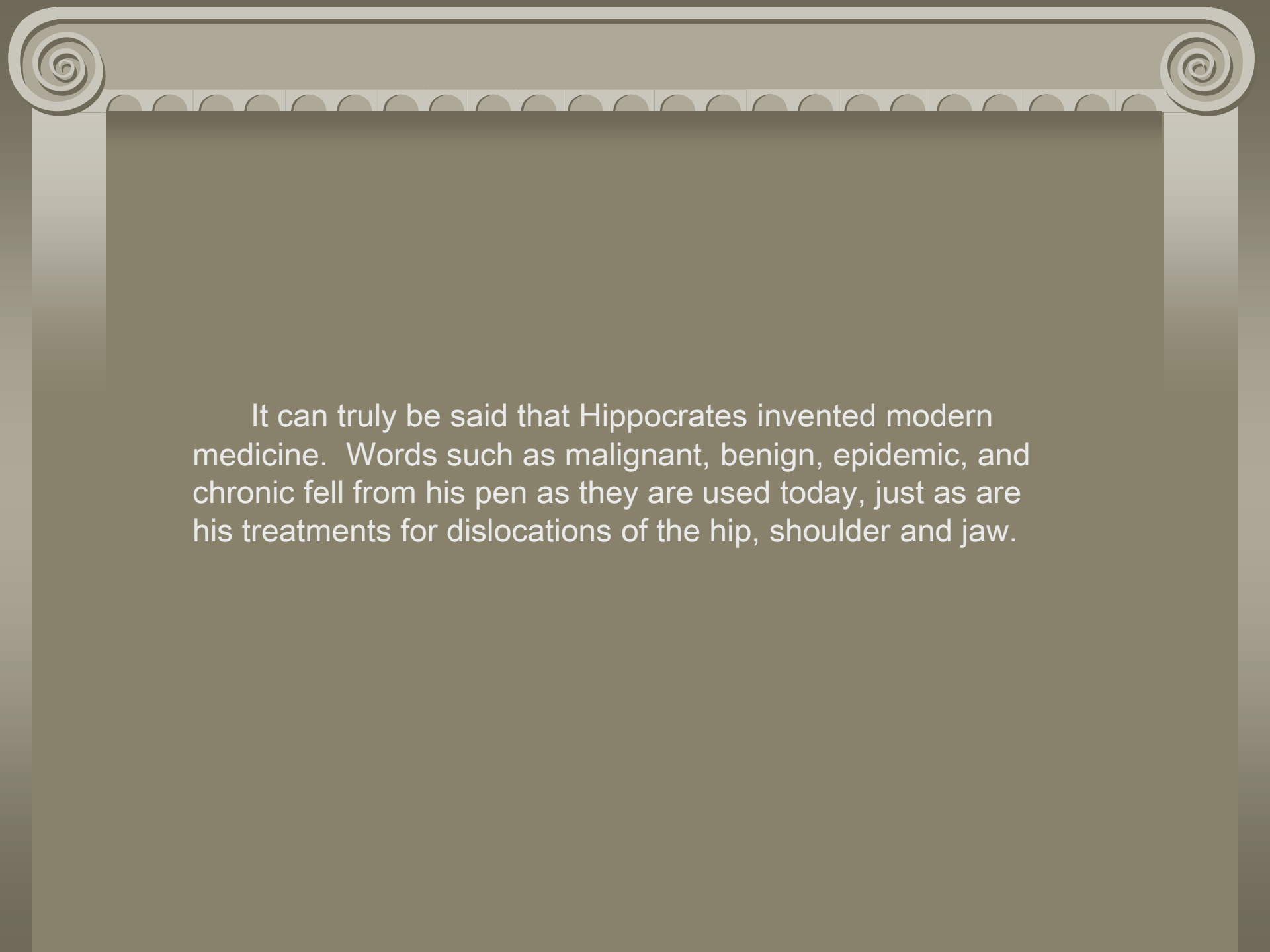
hippiatric (hip"e-at'rik). Veterinary.

hippiatry (hip'e-ah-tre). Veterinary medicine and surgery.





Medicine existed for centuries before him, and Hippocrates himself wrote a treatise entitled *On Ancient Medicine*. The medical knowledge of the ancients comes almost exclusively through the works of Hippocrates. All of what went before and much of what came immediately thereafter is lost in the dark of history.



It can truly be said that Hippocrates invented modern medicine. Words such as malignant, benign, epidemic, and chronic fell from his pen as they are used today, just as are his treatments for dislocations of the hip, shoulder and jaw.

## Hippocrates 460 - 377 BC Aristotle 384 - 322 BC

Greek medicine had a greater impact upon veterinary medicine later in history, but both of these men were especially helpful in the development of the veterinary art. However, it was through the Hippocratic influence on Greek veterinary practitioners and writers of the Byzantine Period that veterinary medicine and human medicine grew. They were not colleagues, as Aristotle was only 7 years old when Hippocrates died.

# Aristotle 384 - 322 BC




Resource: [http://en.wikipedia.org/wiki/File:Aristotle\\_Altemps\\_Inv8575.jpg](http://en.wikipedia.org/wiki/File:Aristotle_Altemps_Inv8575.jpg)



Detail of [The School of Athens](#) by [Raffaello Sanzio](#), [1509](#), showing [Plato](#) (left) and [Aristotle](#) (right)

Reference: [http://en.wikipedia.org/wiki/File:Sanzio\\_01\\_Plato\\_Aristotle.jpg](http://en.wikipedia.org/wiki/File:Sanzio_01_Plato_Aristotle.jpg)




Aristotle was the student of Plato, Plato was the student of Socrates, much of philosophy and Western thought is a response to these three.

Aristotle studied plants and animals and recorded his observations based on discovered facts. He classified animals according to their similarities of structure. He dissected more than 50 different animals and recorded the likenesses and differences in their structure. His works marks him as the father of biology.

# Claudius Galen 131- 201 AD




Resource: HISTORIA MEDICINAE VETERINARIAE 2006, 31.1 - page 10



A Greek physician and writer, who went to Rome and revived the ideas of Hippocrates and other Greek doctors. He was a gifted intellect who studied at the famous medical school in Alexandria in Egypt. At the age of 28, Galen became the surgeon to a school of gladiators. He was a genius, a born physiologist, a brilliant exponent of experimental methods, and a first-class anatomist.



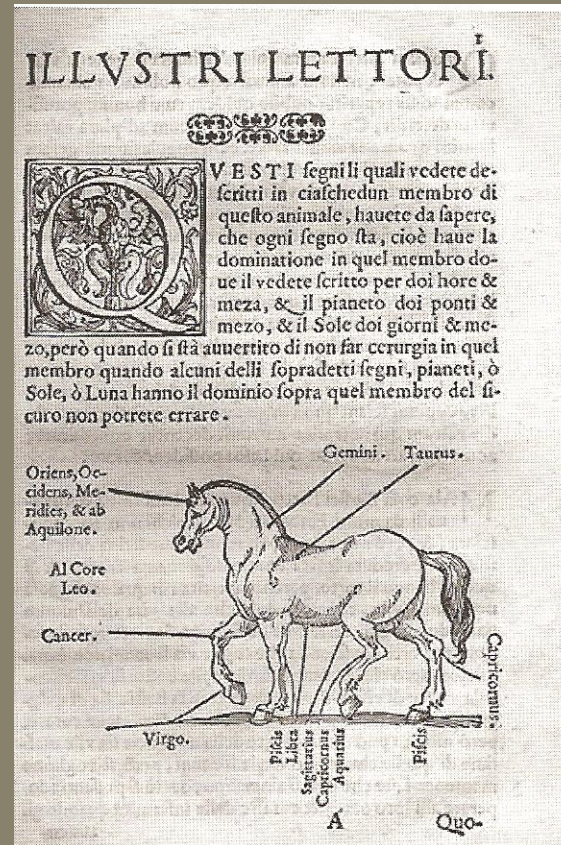


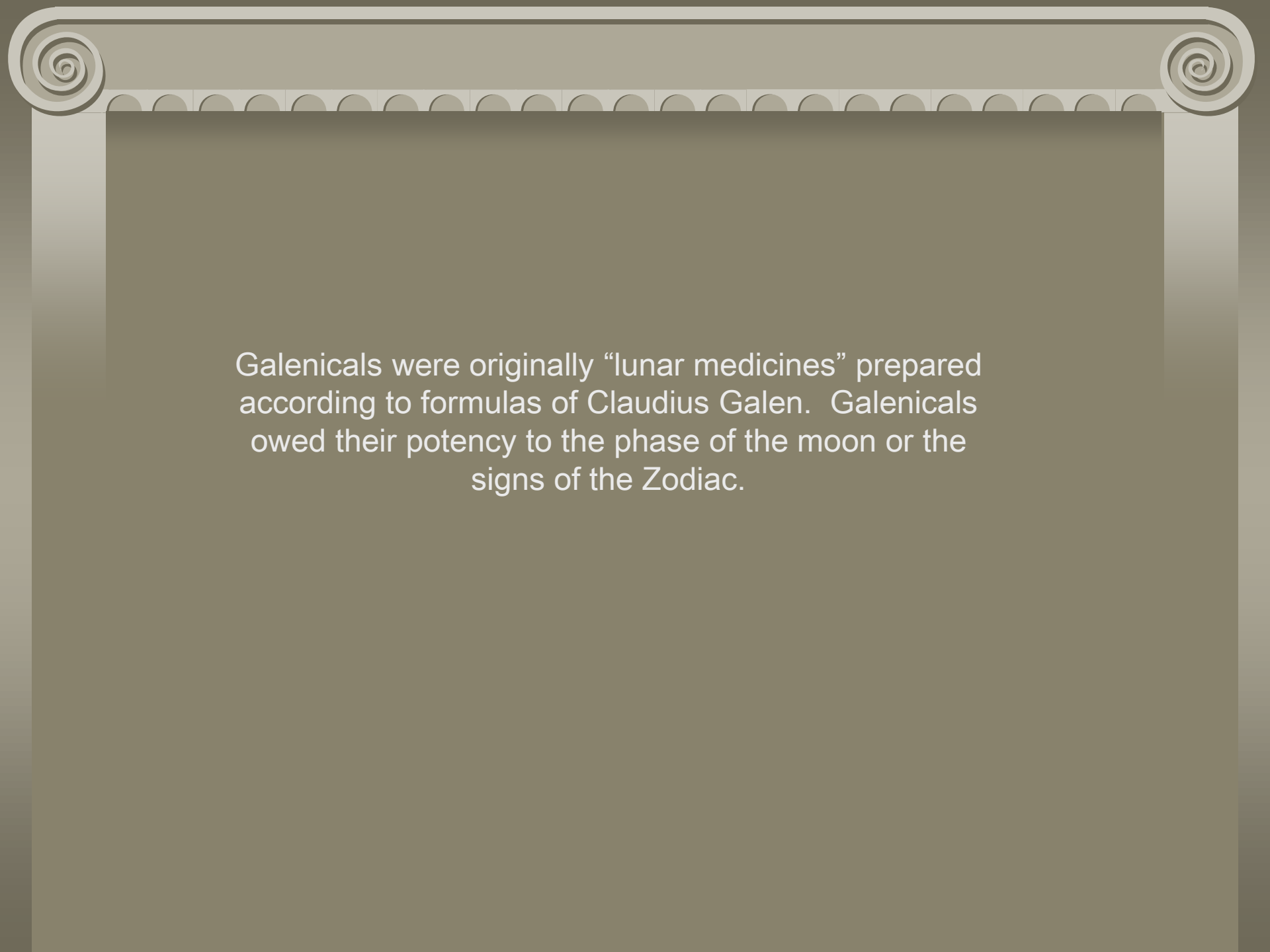
Galen, nevertheless, was considered an absolute authority on all medical matters and his writings were the basis of medical practice for almost 1500 years. Galen developed the science of anatomy by observing and treating wounded Roman soldiers. Veterinary medicine, as it related to the horse, reached new heights in the Roman Empire. He also gave attention to veterinary medicine; he is said to have dissected many animals.

# The Zodiac Horse


Courtesy of the U. S. National Library of Medicine

“Zodiac Horse” Filippo Scaccho da Tagliacozzo  
Opera di Mexcalzia  
(Rome: P. Blado, 1591)



A decorative frame with two columns on the left and right sides, each topped with a scrollwork ornament. The top edge of the frame features a series of small, repeating circular motifs.

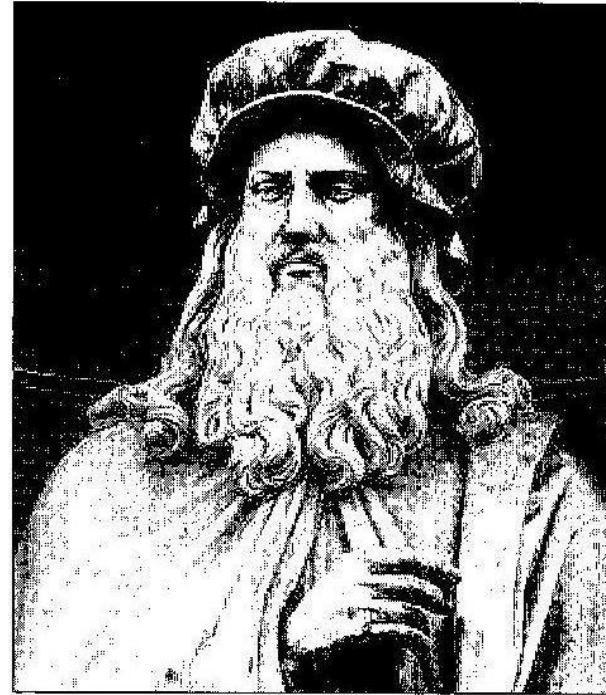
Galenicals were originally “lunar medicines” prepared according to formulas of Claudius Galen. Galenicals owed their potency to the phase of the moon or the signs of the Zodiac.



Rome gave us much of our current terminology relating to the veterinary profession, including veterinarius and equarius medicus. The oldest complete veterinary work known today is the Hippiatrika, which is a compilation of many texts by a number of Greek veterinarian authors who accompanied the Roman armies into Asia Minor during the Byzantine period (3<sup>rd</sup>-4<sup>th</sup> century AD).

## Leonardo da Vinci (1452-1519AD)

da Vinci, as a youth was an excellent horseman, he had great physical strength and a joyous curiosity of life. He dissected many animal and human bodies. He is known as the real Father of Modern Anatomy. His anatomical knowledge was the first who drew accurate pictures, including the human skeleton.



VINCI, Leonardo da (1452-1519).  
Famous Italian artist and multiscientist.

## Leonardo da Vinci (1452-1519AD)

da Vinci was very interested in the anatomy of animals. Here is his drawing study of the uterus of a pregnant cow.




VINCI, Leonardo da: uterus of a pregnant cow.

# The title page of the Hippiatria


Courtesy of the U. S. National Library of Medicine





This veterinary text was written by Laurentius Ruisius, (Paris, 1532). This work has many illustrations of stirrups and includes a lot of information about riding as well as healing.






With the invention of the nailed-on iron horseshoe during the Roman period, horseshoeing became an adjunct to the craft of the ferrarius (ironworker, thus the farrier).

# Apsyrtus of Constantinople 330 – 380 AD



Constantinople shown as it was in the Fourth Century

Resource: <http://www.newworldencyclopedia.org/entry/Constantinople>



Apsyrtus, a Byzantine veterinarian, lived in the middle of the fourth century. With some accuracy he described many of the infectious and contagious diseases of the horse. He left a written record of proof of his abilities, especially in diagnosis.

As an army officer, he taught veterinary medicine to cavalrymen. Because Apsyrtus was one of the most famous of the animal doctors up to that time, some historians consider him the father of veterinary medicine.



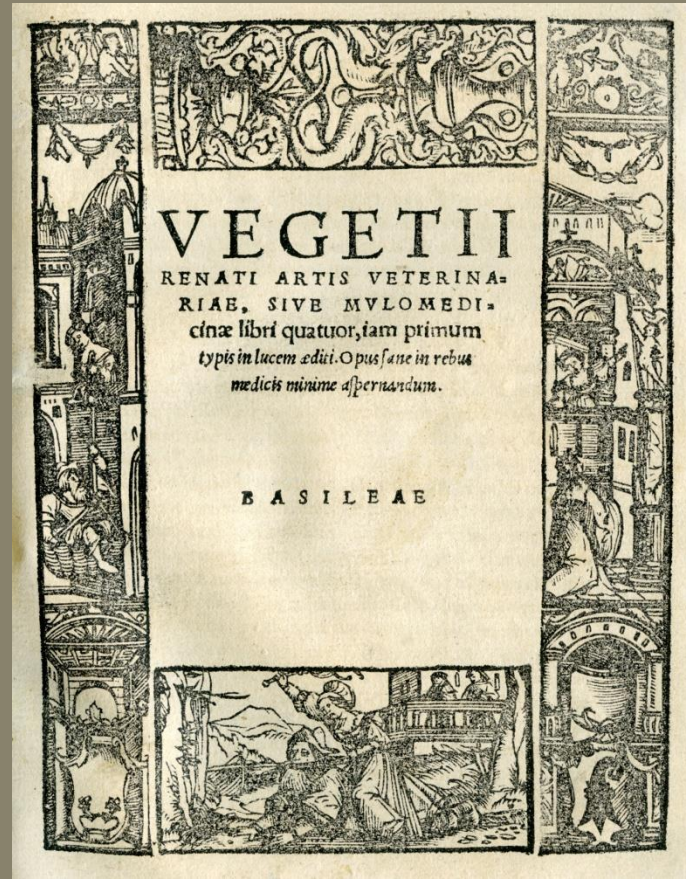
Flavius Vegetius  
383-450 AD


*Digestorum aris mulomedicinae libri IV*

The most scientific work of this period was the text written by Vegetius about the care of mules. His book almost founded veterinary science and remained an authority till the Renaissance, over a 1000 years later.

This is the title page of the Vegetius Mulomedicinae book, published in 1528.

Resource: Univ. of Missouri Veterinary Medical Library  
C. Trenton Boyd





Most physicians accepted astrology and some advised different treatments according to the position of the planets. Marcellus, a physician, in his book entitled *De medicamentis*, written in 395 AD, anticipated modern techniques by urging the wearing of a rabbit's foot. Mules fared better than man, Vegetius' text had more sound treatments for the ills of the mule.



Vegetius Renatus  
450–500 AD

## Vegetius Renatus

Still other historians, however, consider Vegetius Renatus the father of veterinary medicine. Renatus wrote a complete work on veterinary medicine; as Hippocrates did, he ignored superstition in his search for natural causes of disease and expounded sound medical doctrines. Renatus was also a celebrated military writer of the 5th century.


Yet, he wrote of the influence of the moon on horses. He termed moonblindness, *oculus lunaticus*. The term moonblindness is retained in modern texts.






# The Dark Ages

The European Early Middle Ages (476-1000)




Progress made by the Romans in the medical and veterinary science on the European Continent was destined to be short lived. The disuse of human and veterinary medical sciences during the Middle Ages brought obvious results. Human and animal plagues swept through all parts of Europe, taking a tremendous annual toll of life.



Carts were piled high with human victims of smallpox and so-called plague, then wheeled to the edge of the city so the bodies could be burned. Fields and farm lands frequently were littered with dead and dying domesticated animals. Superstition prevailed over reason and everything that happened was supposed to be the result of divine will. Hippocrates' and Vegetius' quest of natural causes was forgotten. Treatments for disease were usually absurd.



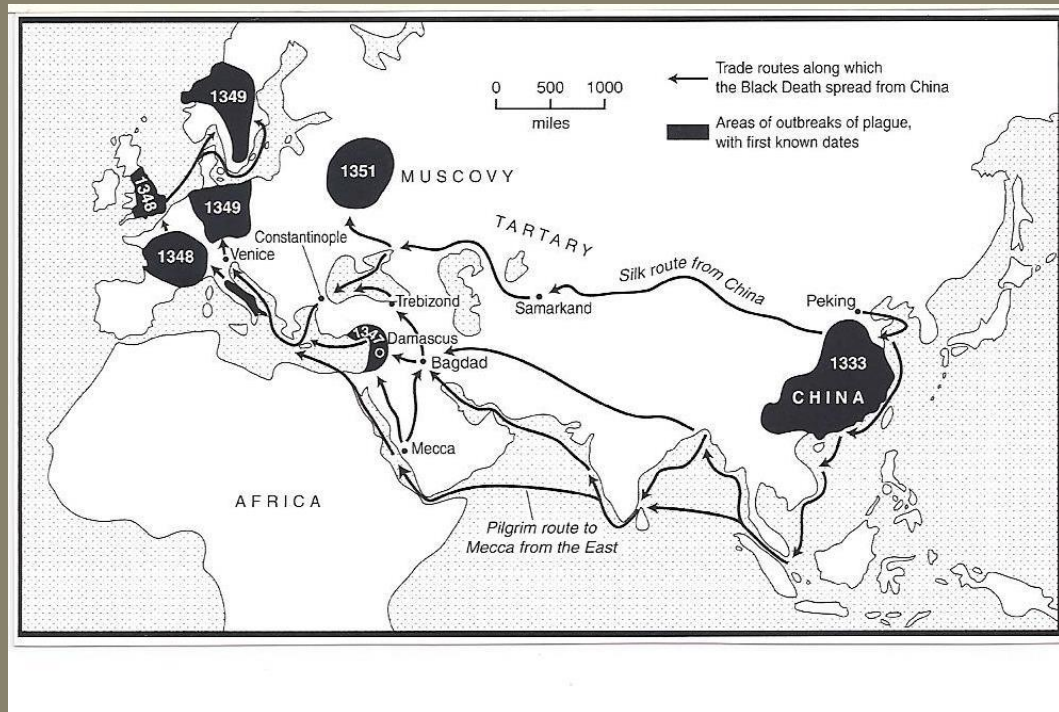
# The Black Death




[Over the years, vast records of the Black Death] “document the greatest spread of terror in all of Western human history and because it involved a complex process that was not understood at that time, long before infectious diseases had been defined by Pasteur or even characterized clearly as contagious.” (Dunlop, 2004)

“One of the most powerful historic examples of a great plague is that of the Black Death between 1333 and 1369.” (Dunlop, 2004) In 1347, this plague swept over Europe, ravaged cities causing wide-spread hysteria and death. One third of the population of Europe died. “The impact upon the future of England was greater than upon any other European country.” (Cartwright, 1991) The primary culprits in transmitting this disease (bubonic plague) were oriental rat fleas carried on the back of black rats.

The Black Death was a devastating disease and at that time its cause was unknown. As you can see the outbreaks from this map, occurred first in 1333 in China, then in Europe 1347-48-49, in 1351 then in 1370.




Resource: <http://www.utpjournals.com/jvme/tocs/314/310.pdf>



The first account is from Jean de Venette. While the plague was still active and spreading from town to town, men in Germany, Flanders, Hainault and Lorraine rose up and began a new sect on their own authority. Stripped to the waist, they gathered in large groups and bands and marched in procession throughout the crossroads and squares of cities and towns.





Another account is from the medieval historian Jean Froissart, from his history of the Hundred Years' War ....the penitents went about, coming first out of Germany. They were men who did public penance and scourged themselves with whips of hard knotted leather with little iron spikes.


The object of this penance was to put a stop to the mortality, for in that time . . . .



Courtesy of the Museum of Wisconsin Art, "The Flagellants" Carl von Marr (1858-1936) oil on canvas, on permanent loan to the Museum of Wisconsin Art, West Bend, WI from the City of Milwaukee Collection.  
[www.wisconsinart.org](http://www.wisconsinart.org)

## THE FLAGELLANTS

“This painting depicts the madness of penitent groups of flagellants, self-scourgers, who roamed through Europe in the thirteenth (also fourteenth) centuries and again in the sixteenth century. As Europeans suffered from plagues, wars, religious and political factions, the flagellants, as self-appointed sufferers, would publicly whip themselves in a penitential effort to save sinners.”



“These religious outcasts believed that the redemption of others was brought through the shedding of their blood. Even though attempts were made by the papacy to suppress the movement, bands of converts continued to march in the religious processions beating themselves with knotted leather thongs, as depicted by the artist.”



These two close-up photos show more detail to this remarkable painting



Six Centuries of  
Islamic Influence 660–1258

## Islamic Influence

All was not dark during the so-called Dark Ages, however, the flames of the Grecian cultural heritage never died in the Eastern or Byzantine part of the Roman Empire, around Constantinople. Then, too, beginning around 660 A.D., the Muslims (Mohammed 570-632) swept through Arabia, Syria and Persia and then across all of North Africa.

# The Arab Conquest


660 - 750 AD

The Omeyyade, the first Moslem dynasty



Resource: [http://memo.fr/en/article.aspx?ID=MOY\\_ARA\\_001](http://memo.fr/en/article.aspx?ID=MOY_ARA_001)





By 715, the Islamic empire extended from Spain to the Indus River in India. After establishing their empire, the Muslims eagerly pursued all phases of learning. The works of the great philosophers, scientists and physicians, that were dormant for centuries, were revived by Arabian scholars and translated into Arabic.

The legacy of ancient Greece was restored.

750 – 1258 AD  
The Abbasid Empire



Resource: [http://memo.fr/en/article.aspx?ID=MOY\\_ARA\\_005](http://memo.fr/en/article.aspx?ID=MOY_ARA_005)

Books dealing with the natural science were enriched by the observations of Arab scientists.

Saracen or Arabian physicians added their own findings to the works of Hippocrates and Galen. The veterinary art, especially as it applied to the horse, was highly developed by Arab horsemen.



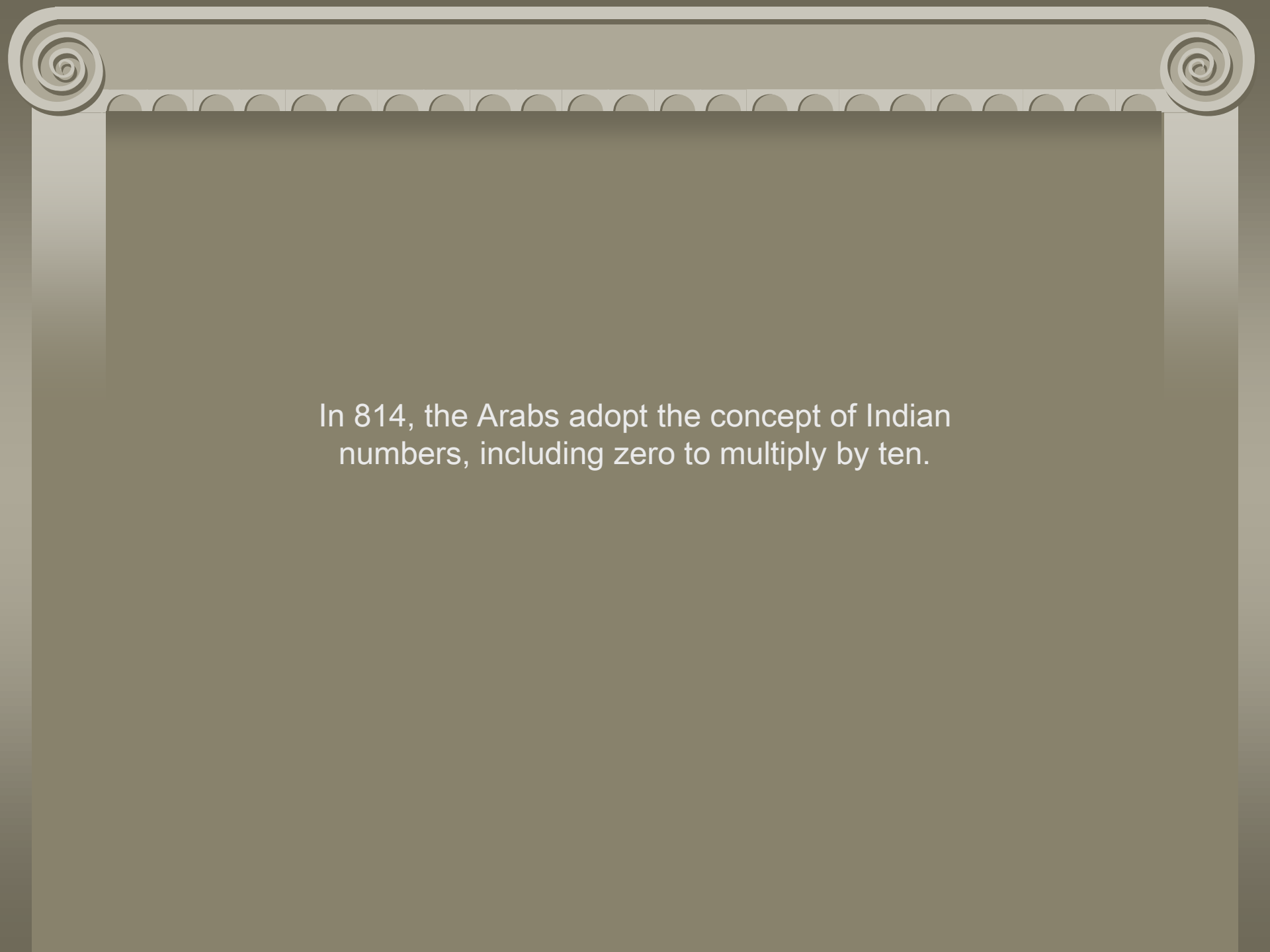
Resource: [http://en.wikipedia.org/wiki/File:Adolf\\_Schreyer\\_-\\_Arab\\_Horsemen\\_.jpg](http://en.wikipedia.org/wiki/File:Adolf_Schreyer_-_Arab_Horsemen_.jpg)

# Classic examples of Islamic manuscripts

Courtesy of the U.S. National Library of Medicine








In 814, the Arabs adopt the concept of Indian numbers, including zero to multiply by ten.

A decorative frame with a light gray background. At the top, there is a horizontal bar with a scrollwork pattern on the left and right ends. Below this bar is a row of small, light gray circles. The main area of the frame is a dark gray rectangle.

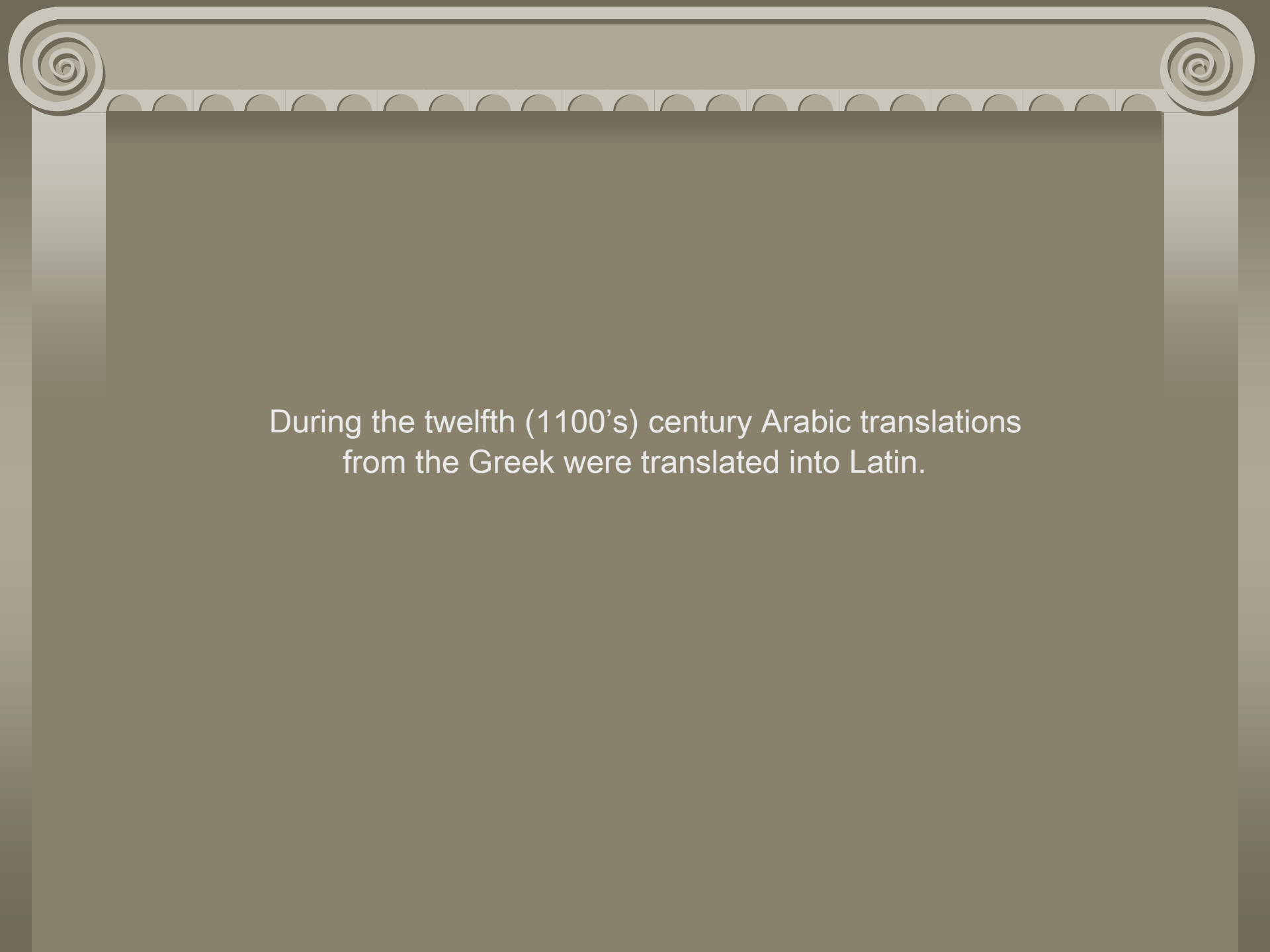
In 975, the present arithmetical notation  
was brought into Europe by the Arabs.



Learning in agriculture and veterinary medicine grew, improved and was disseminated in Arabic.

The development of the sciences by the Islamic Empire influenced the people of Europe through Spain, Sicily and Asia Minor.



A decorative frame with a light gray background. At the top, there is a horizontal bar with a series of small, light gray circles along its bottom edge. On the left and right sides, there are vertical columns. The top of each column is decorated with a spiral scrollwork design. The central area of the frame is a solid, light gray color.


During the twelfth (1100's) century Arabic translations  
from the Greek were translated into Latin.

These translations were written in monasteries throughout Europe, one such monastery reached its maximum splendor between the 11<sup>th</sup> and 12<sup>th</sup> centuries until its final decay in the 17<sup>th</sup> century.


Monastery of St. Pere de Rodes, Costa Brava, Spain

Resource: [http://en.wikipedia.org/wiki/Sant\\_Pere\\_de\\_Rodes](http://en.wikipedia.org/wiki/Sant_Pere_de_Rodes)





The true origin of the monastery of St. Pere de Rodes is not known, which has given rise to speculation and legend; such as its foundation by monks who disembarked in the area with the remains of Saint Peter and other saints, to save them from the Barbarian hordes that invaded the Western Roman Empire. Once the danger had passed the Pope Boniface IV commanded them to construct a monastery.

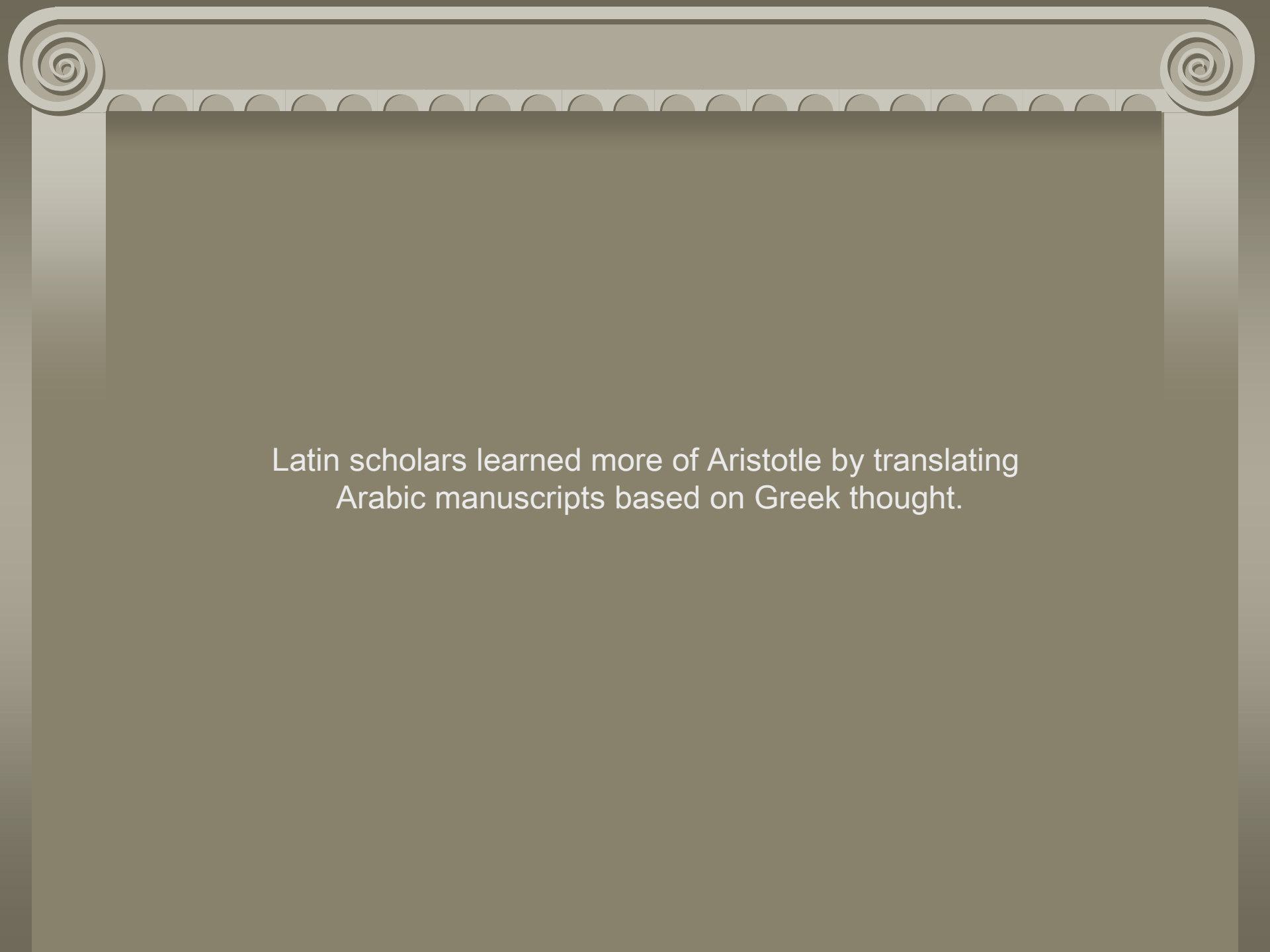


The first documentation of the existence of the monastery dates 878, when it was mentioned as a simple monastery cell consecrated to Saint Peter, but it is not until 945 when an independent Benedictine monastery was founded, led by an abbot. Connected with the County of Empuries, it reached its maximum splendor between the 11th and 12th centuries until its final decay in 17th century. Its increasing importance is reflected in its status as a point of pilgrimage.

Medieval depiction of a monk at work in a monastic scriptorium, in the 15<sup>th</sup> century. The picture is greatly detailed in its rendering of the room's furnishings, the writer's materials, equipment, and activity.



Resource: <http://en.wikipedia.org/wiki/File:Escribano.jpg>

A decorative frame with a scrollwork border at the top and two columns on the sides. The background is a solid dark gray color.

Latin scholars learned more of Aristotle by translating Arabic manuscripts based on Greek thought.

## The Gutenberg Printing Press

Johannes Gutenberg (1398 – 1468) as an inventor, drew upon known technology and adapted it for new uses. Movable type and the printing press had a revolutionary impact on western civilization. The first book he printed was the Bible that came to be known as the Gutenberg Bible and was printed over a course of several years between 1445 and 1455. Gutenberg was also a German goldsmith, printer and publisher who introduced modern book printing. His invention of mechanical movable type printing started the Printing Revolution and is widely regarded as the most important event of the modern period.

It played a key role in the development of the Renaissance, Reformation and the Scientific Revolution and laid the material basis for the modern knowledge-based economy and the spread of learning to the masses.


## Gutenberg Bible 1445-1455

The Gutenberg Bible (also known as the 42-line Bible, the Mazarin Bible) was the first major book printed with a movable type printing press, marking the start of the "Gutenberg Revolution" and the age of the printed book.

Widely praised for its high qualities, aesthetic and artistic the has iconic status in the West. It is an edition of the Vulgate, printed by Johannes Gutenberg, in Mainz, Germany in the 1450s. Only twenty-one complete copies survive, they are considered by many sources to be the most valuable books in the world. The Gutenberg Bible was printed in Latin, (Vulgate) the language of the Catholic Church of that time.







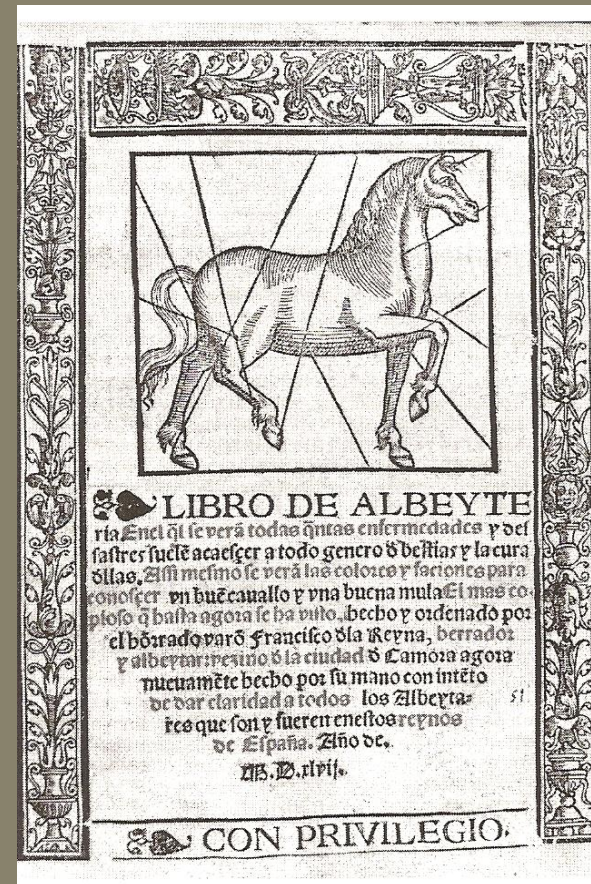
With this one outstanding invention, books could be printed with replaceable/moveable wooden or metal letters in 1436 (completed by 1440).


In a time when books were printed by carving a complete page on a block of wood and printing from it. The block of wood was useful only for printing that particular book. By the 1500's many types of books, including textbooks were widely published. The wealthy developed private libraries of their own throughout Europe.

## Libro De Albeyteria (1547)

This is the only known printed copy of the first edition, in which Reyna, who postulated the circulation of the blood eighty years prior to Harvey's famous discovery. One must note, with careful examination of the title page, as this was printed from a woodcut. This book was printed roughly 100 years after the Gutenberg Press was invented.


A copy of the first edition of the veterinary manual *Libro De Albeyteria* (1547) by Francisco de la Reyna. The cover of this book is of plain vellum, with no writing or illustrations.






Veterinary medicine, for example, before the development of the veterinary sciences during the eighteenth century, was called the veterinary art.

An art is the development of skill along certain lines by means of experience, study or observation. This all changed with the Age of the Enlightenment (1650 -1789). As science, on the other hand is knowledge based upon discovered facts, systematically arranged. Education in all phases of life grew.



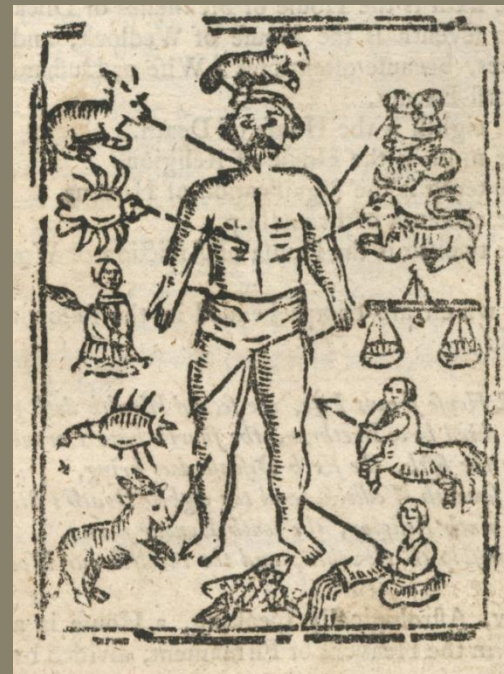
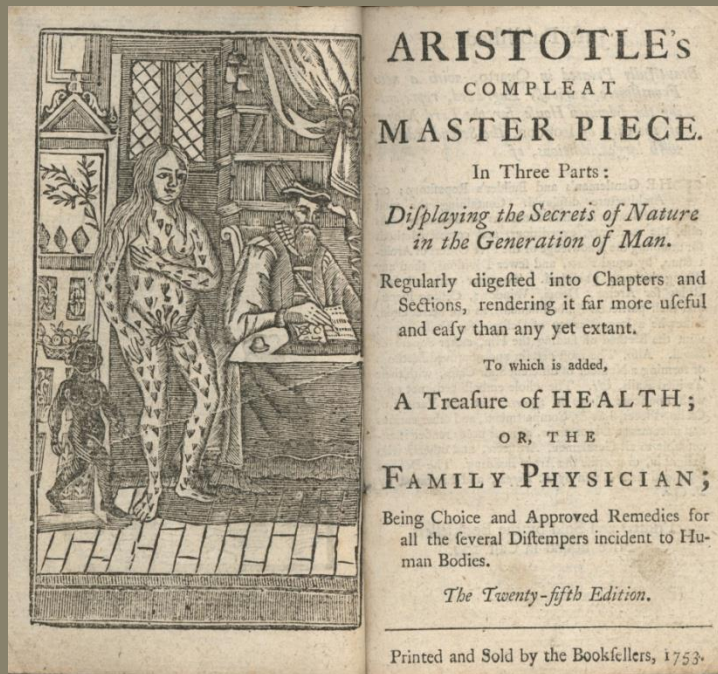
Veterinary medicine remained in the hands of farriers until the latter half of the eighteenth century, when great animal plagues in Europe made reforms in the system of veterinary education necessary.

It was realized then that the system of apprenticeship training for farriers could not meet the demand for well-trained veterinary professionals.



We must remember that many of these farriers were still practicing by the principles of Galen (131 – 201 AD), over 1500 years ago. By using these Galenical medications as “lunar medicines” that were prepared according to formulas that owed their potency to the phase of the moon or the signs of the Zodiac.

In 1753, Aristotle's Compleat Master Piece, the Twenty-fifth Edition (including The Zodiac Man) was printed, just eight years before the first veterinary school was founded.



Reference: <http://www.library.usyd.edu.au/libraries/rare/medicine/aristotlecompleat.html>



Ecole Nationale  
Vétérinaire  
de Lyon

The first veterinary school was  
founded in Lyon, France in 1761

**Reference:** Written permission from the General Director of VetAgro Sup on 1/14/2011



The first veterinary school in the world was founded by Claude Bourgelat (1712 - 1779) in Lyon, France, in 1761 and devoted most of its attention and resources to the diseases of the horse. He obtained authorization by the King to open a school in Lyon “In which the principles and methods of curing livestock diseases would be publicly taught.” It was called The National Veterinary School of Lyon. The success of the Lyon school was immediate and became well known throughout the world. Bourgelat was a member of the [French Academy of Sciences](#) (1752) and the [Prussian Academy of Sciences](#) (1763).



Claude Bourgelat in his earlier years

Resource: <http://images.wellcome.ac.uk>

## Bourgelat, equerry and instructor


Claude Bourgelat was the son of a distinguished citizen of Lyon. In 1740, when he was 28 years old, he received his warrant as Grand Equerry of France and was made Director of the Lyon Academy of Horsemanship. In his youth, he was known for his remarkable intelligence and was a great horseman.

The Academy at that time was a school where young noblemen learned the equestrian arts and swordsmanship, together with mathematics, music and 'elegant manners.'



Ecuyer .(horse master)  
of the 18<sup>th</sup> Century

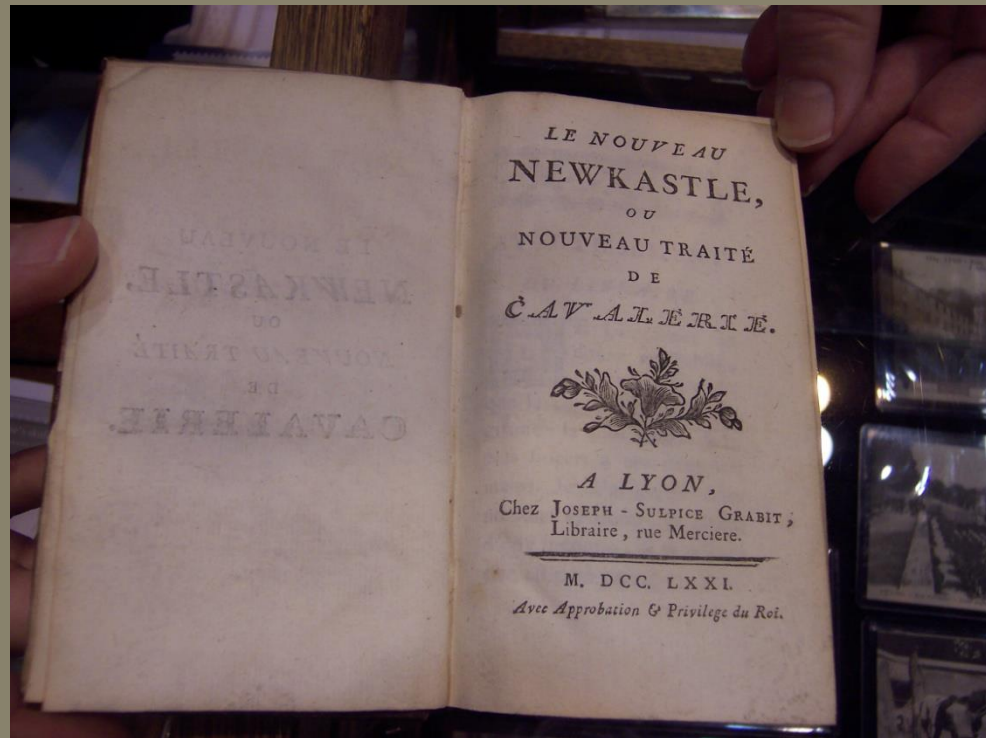
Reference: [www.vet2011.org](http://www.vet2011.org)



Four years later, [at the age of 32 yrs.] he published his first work : the 'Nouveau Newcastle ou Nouveau traité de Cavalerie' (*A New Treatise on Horsemanship*). This original, instructive publication which put forward a new approach to horsecraft quickly brought him considerable recognition, some even going so far as to call him from then on 'First Equerry of Europe.'

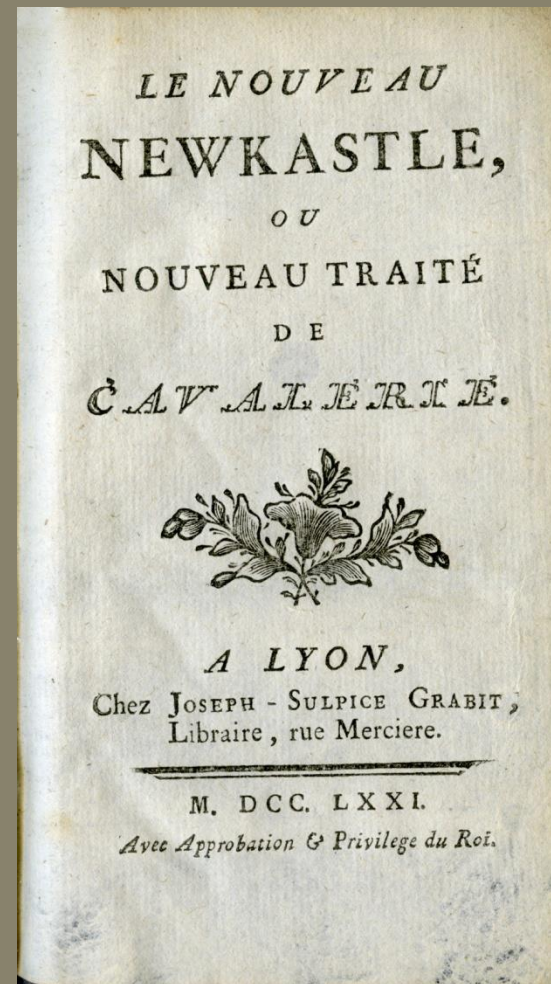
This is an original text of Claude Bourgelat's first book entitled **Le Nouveau Newcastle ou Nouveau Traité de Cavalerié** and was published in 1744.


Resource: Univ. of Missouri Veterinary Medical Library – Trenton Boyd




Here is a clearer scan of the original Bourgelat's text. This book was reprinted many times by different publishers. This copy was printed in 1771.

Resource: Univ. of Missouri Veterinary Medical Library –  
Trenton Boyd





Bourgelat had a riding school and greatly admired the equine training methods used by the William Cavendish (Duke of Newcastle of Great Britain) which Cavendish's described in his book entitled **A New Method, and Extraordinary Invention, to Dress Horses** published in 1667. So, Bourgelat's book was an abridged translation into French adding some of his own theories.



His skill with the whip and being an international renowned horseman, with his practical experience in equine economics, distinguished him as the man of choice for founding a new and strange departure in the educational system in France. It was obvious that there was no other figure in the animal industry of France that was as well qualified to develop the first veterinary school in the world.

Reference: Veterinary Military History of the United States Volume I by Louis A. Merillat, Lt. Col., Vet.-Res. and Delwin M. Campbell, Lt. Col., Vet.-Res. Sponsored by the AVMA The Haver-Glover Lab. Kansas City, MO 1935



## Bourgelat, man of science

Bourgelat took an active part in the scientific affairs of France during the second half of the 18<sup>th</sup> century.

The publication of the 'Elémens d'hippiatrique' (the 'Elements of Horsemanship') raised him to the forefront of the writers of the time. His superlative scientific methodology made him outstanding. He had acquired this through his association with surgeons in Lyon; while learning to carry out dissections with them, he reviewed the anatomy of the horse.

Because of this work, he was called to be a corresponding member of the Academy of Science in Paris.



Resource: [www.vet2011.org](http://www.vet2011.org)

Diderot and d'Alembert then asked Bourgelat to work in collaboration on the Encyclopaedia, for which he was to write all the 'articles on horsemanship and farriery, and their related crafts.' After rectifying the contributions of preceding writers, he signed the first of some 250 articles in 1755.

Because of these works, Bourgelat extended his acquaintances beyond the circle he knew in Lyon. He won the friendship and sometimes the support of Malesherbes and Voltaire.



Voltaire

Resource: <http://en.wikipedia.org/wiki/Voltaire>



The European Enlightenment of  
the eighteenth century was grounded  
in the *freedom to think*.

It's motto was "Think for yourself!"

## Denis Diderot

Denis Diderot (October 5, 1713 – July 31, 1784) was a French philosopher, art critic, and writer. He was a prominent figure during the Enlightenment and is best-known for serving as chief editor of and contributor to the creation of the Encyclopédie. The first volume was published in 1751. Bourgelat also contributed to Denis Diderot and d'Alambert's Encyclopédie.



Resource: <http://en.wikipedia.org/wiki/Diderot>

Jean-Baptiste le Rond d'Alembert  
(1717 – 1783)

was a French mathematician,  
mechanician, physicist, philosopher,  
and music theorist. He was also co-  
editor with Denis Diderot of the  
Encyclopédie. D'Alembert's  
formula for obtaining solutions to  
the wave equation is named after  
him.

[http://en.wikipedia.org/wiki/Jean\\_le\\_Rond\\_d'Alembert](http://en.wikipedia.org/wiki/Jean_le_Rond_d'Alembert)



## The *Encyclopédie*

The *Encyclopédie* was an innovative encyclopedia in several respects. Among other things, it was the first encyclopedia to include contributions from many named contributors, and it was the first general encyclopedia to lavish attention on the mechanical arts.

Still, the *Encyclopédie* is famous above all for representing the thought of the Enlightenment. According to Denis Diderot in the article "Encyclopédie", the *Encyclopédie's* aim was "to change the way people think."

Resource: [http://en.wikipedia.org/wiki/Denis\\_Diderot](http://en.wikipedia.org/wiki/Denis_Diderot)

# ENCYCLOPÉDIE, OU DICTIONNAIRE RAISONNÉ DES SCIENCES, DES ARTS ET DES MÉTIERS, PAR UNE SOCIÉTÉ DE GENS DE LETTRES.

Mis en ordre & publié par M. *DIDEROT*, de l'Académie Royale des Sciences & des Belles-Lettres de Prusse; & quant à la PARTIE MATHÉMATIQUE, par M. *D'ALEMBERT*, de l'Académie Royale des Sciences de Paris, de celle de Prusse, & de la Société Royale de Londres.

*Tantum series juncturaque pollet,  
Tantum de medio sumptis accedit honoris!* HORAT.

TOME PREMIER.



A PARIS,

Chez { *BRIASSON*, rue Saint Jacques, à la Science.  
*DAVID* l'aîné, rue Saint Jacques, à la Plume d'or.  
*LE BRETON*, Imprimeur ordinaire du Roy, rue de la Harpe.  
*DURAND*, rue Saint Jacques, à Saint Landry, & au Griffon.

M. D C C. L I.

AVEC APPROBATION ET PRIVILEGE DU ROY.

## Bourgelat, the humanist

Claude Bourgelat was a contributing member of the Paris Academy of Science, a writer for the Encyclopedia, the Censor and Inspector of Publishing in Lyon. He was a multitalented person. Therefore, it was not only his value as a scientist that won him the esteem and friendship of an important politician like Bertin and of great thinkers like Malesherbes, Diderot, d'Alembert and Voltaire. Bourgelat was profoundly imbued with the values of the great currents of thought of his time. In every one of his publications there are reflections which go far beyond technical and medical interests which may mark his quest for Truth.

'After all, we are simply opening the route. Others will go on beyond the limits at which we will have stopped.'

'Only by opening the book of Nature and turning its pages will we attain certain knowledge ; as soon as knowledge is revealed, all prestige and illusion will cease ; we will strive to act only upon truths, to grasp the thread, to follow it to the utmost limit.'

What greater tribute could he have received than these words which Voltaire wrote to him in 1771:

'I admire above all your enlightened modesty. The more you know, the less you affirm. You do not resemble those physicians who put themselves in God's place and create a world with words. Through your experience, you have opened a new field ; you have rendered society true service: that is the right physik.' (medicine)



In 1751, he published “Elements of Hippiatry and New Knowledge of Equine Medicine” (translated titles) in three volumes, in which he encouraged the founding of a veterinary educational system.

For Claude Bourgelat was not just any French veterinarian, he was well grounded in the true knowledge of veterinary medicine of that time.

In 1761, Bourgelat was named inspector of the library of Lyon. His selection as librarian for the cultured city of Lyon, would open many doors. With his books on veterinary medicine and his association with local celebrities of the medical profession, this was just a start.



Front piece of Claude Bourgelat's  
“Elements of Hippiatry and New Knowledge of Equine Medicine”

Resource: [www.vet2011.org](http://www.vet2011.org)

In 1757, the “New Practical Dictionary of Veterinary Medicine, Surgery and Hygiene,” (also in three volumes) by Bouley and Reynal was published in Paris. With the combination of these six books, they became the first veterinary classics. Bourgelat was well known for having furnished healthy and excellent remounts for the King of France. He had also eradicated Glanders from many other regiments. With his reputation in equine husbandry, the government sent him to Lorraine to develop a breeding stable for the King of Poland.

## Bourgelat and Henry Bertin

When Henri-Léonard Bertin was the Administrator of the region of Lyon from 1754 to 1757, he and Bourgelat became close friends. From then on Bertin gave Bourgelat his influential and unfailing support.

When Bertin left Lyon, he was made Lieutenant General of Police in Paris, and came under the protection of Mme de Pompadour. The same year, Bourgelat was made Inspector with responsibility for the horse-breeding establishments in the Lyon area.

In 1759, Bertin was made Controller General of Finance. The following year, once again through the intervention of Malesherbes, Bourgelat was made Censor and Inspector of Publishing in Lyon.



Henri-Léonard Bertin

Reference: [www.vet2011.org](http://www.vet2011.org)

In 1761, the government of Louis XV wished to promote the prevention of cattle disease, the protection of grazing land and the training of farmers. Bertin became the agent of this agricultural reform initiated by the King. He proposed that a veterinary school should be founded in Lyon, and that the director should be Bourgelat.

In 1762, Bertin was made Minister of State by Louis XV, which gave him access to the Royal Council of State. Two years later, Bourgelat was designated 'Director and Inspector General of the Lyon Veterinary School and of all such schools which exist or which shall exist in our Kingdom', and 'Commissioner General of the Royal Horse-breeding Establishments'.

In 1765, Bertin gave his consent to the founding of the school in Alfort. He can therefore be considered as the co-founder of the veterinary profession.



King Louis XV

Reference: [www.vet2011.org](http://www.vet2011.org)

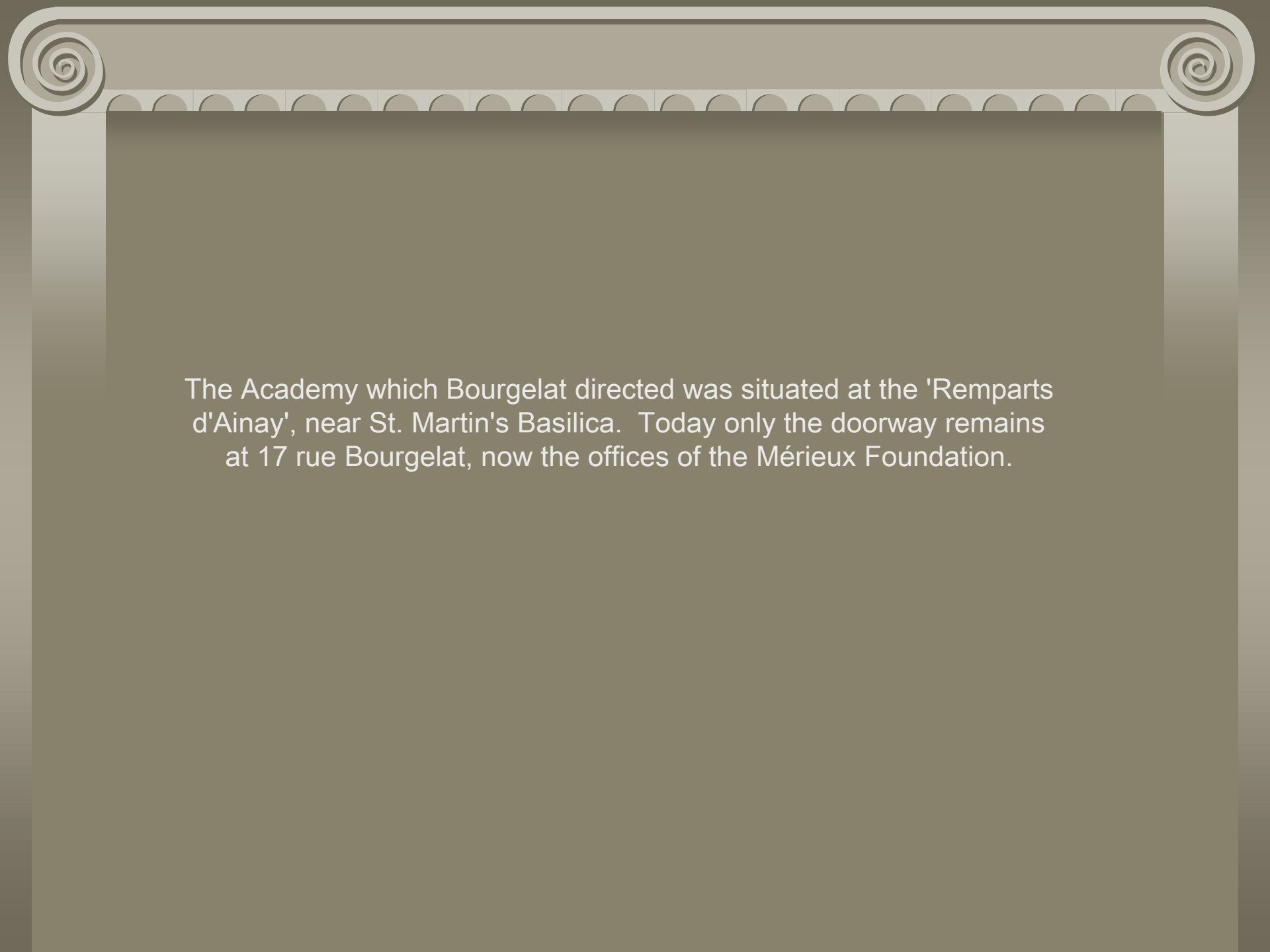
## Lyon in the 18th century

This was a period of rapid expansion for the city. The silk industry was at its most prosperous. The population of the city increased greatly as a consequence. The plans drawn up by Morand, the architect, meant that the city would be extended on the land to the east of the Rhône. Marshland was drained for building. The Brotteaux and Guillotière districts spread out between the old town and the great agricultural plains of Dauphiné. It was at this time that the Hôtel-Dieu, like a temple to Medicine, was built as we still see it today. There, Claude Pouteau led the team of surgeons with whom Bourgelat would study Anatomy.



Hotel-Dieu, on the right in the above picture

Reference: [www.vet2011.org](http://www.vet2011.org)

The image features a decorative frame with two columns on the left and right sides, each topped with a scrollwork capital. The top of the frame is a horizontal band with a repeating pattern of small, light-colored circles. The background is a solid, muted olive-green color.

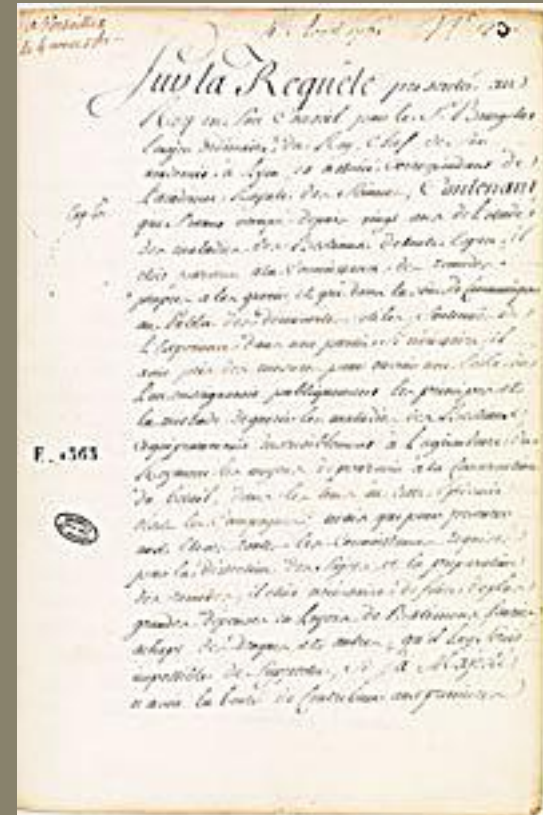
The Academy which Bourgelat directed was situated at the 'Remparts d'Ainay', near St. Martin's Basilica. Today only the doorway remains at 17 rue Bourgelat, now the offices of the Mérieux Foundation.


## The beginnings of the School

During the time Bertin spent in Lyon, Bourgelat had brought him to believe that a veterinary school should be founded in Lyon.

In July 1761, he submitted the project to La Micholdière who had succeeded him as Administrator of the region of Lyon. His opinion was favorable. Bertin then used his high position to plead the case with Louis XV.

On August 4th, 1761, an order of the King's Council authorized Bourgelat to 'open a school in which the principles and methods of curing livestock diseases may be cured will be taught in public'. Its first students, a total of 38, were admitted in February 1762.





As Bourgelat felt some concern about the financial future of his institution, he expressed the wish that it might be given yet more official recognition. Bertin, however, waited for the school to prove its worth. Won over by the first instances of the students' success in preventing epizootic diseases, Bertin requested the King to bestow on the institution a further token of confidence.

On June 3rd, 1764, the Royal Council of State decreed that the Lyon institution be given the title 'Royal Veterinary School'. It would later become the 'Imperial School', before becoming the National School.



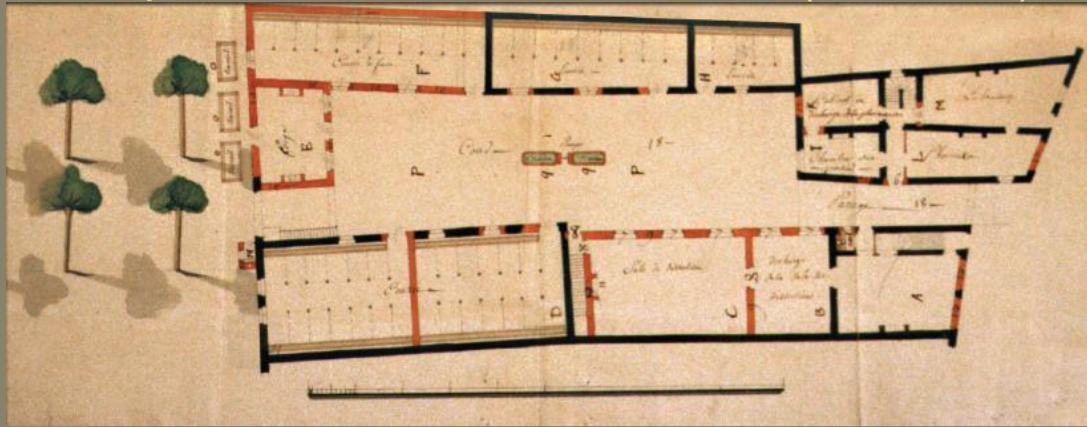
## The School of la Guillotière in Lyon

In 1762, Bourgelat signed a 6-year lease with the Rectors of the Hôtel-Dieu for a former inn in the Guillotiere district, called 'the House of Plenty'. After some alterations, the School was able to open its doors in February 1762.




Resource: [http://en.wikipedia.org/wiki/File:Lyon\\_la\\_Saone\\_et\\_fourviere.JPG](http://en.wikipedia.org/wiki/File:Lyon_la_Saone_et_fourviere.JPG)

## Map of the Guillotiere's school (first floor)



Reference: [www.vet2011.org](http://www.vet2011.org)

The premises, two buildings, overlooked a large courtyard. The south side of the courtyard was closed by a porch which faced the street; the north side opened onto a large meadow. The dissecting room and a large stable for 28 horses bounded the courtyard to the west. Two small stables to the east made possible the isolation of sick animals.



By crossing the meadow, the botanical garden could be reached. This garden, under the care of Abbé Rozier, was greatly admired and attracted many visitors.

On the upper floor were a large demonstration room, the Demonstrator's room and that of the Director. The students were housed in dormitories above the stables.

The school occupied this site until 1796. As the premises had become both insalubrious and too small, the School was moved to what had been the Convent of the Two Lovers, near the Vaise Gates on the banks of the Saône. There it remained until moved to its present site in 1978.

## Bourgelat, the pioneer of professional ethics

Without ever having taught or practiced, Bourgelat bent his energies to the administration of the veterinary schools, down to the smallest detail. He drew up many sets of regulations. The good conduct of the students was one of his priorities. He aspired to make honest, educated men of them, and repeatedly underlined the good that the country could expect from them.

A quotation taken from the 'Rules for the Royal Veterinary Schools', which could opportunely be used as an introduction to our modern Code of Practice, reveals the ethical preoccupations of this visionary founder of the veterinary profession :

'Securely anchored in honourable principles which they have prized and of which they have seen examples in the schools, they will never stray from them; they will distinguish between rich and poor; they will not put too high a price on talents which they owe only to the beneficence of the King and the generosity of their country. In short, they will prove by their behaviour that they are all equally convinced that riches lie less in the goods one possesses than in the good one can do. '



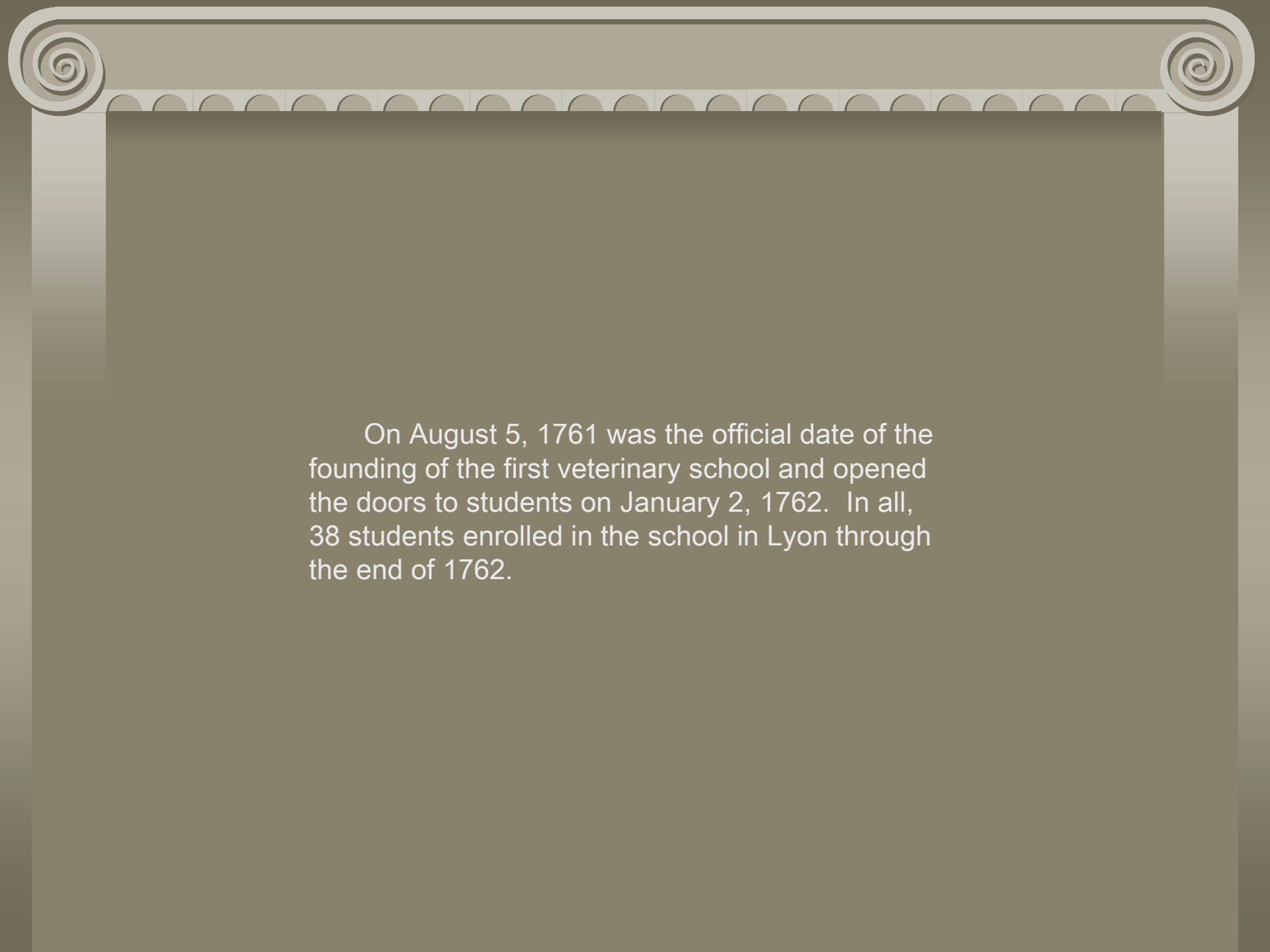
Reference: [www.vet2011.org](http://www.vet2011.org)

This text was written 123 years after The National Veterinary School of Lyon was founded. Within the pages of this book, the author describes in detail the veterinary programs in both of the French schools.


THE RELATION  
OF  
ANIMAL DISEASES TO THE  
PUBLIC HEALTH,  
*AND THEIR PREVENTION.*

BY  
FRANK S. BILLINGS, D. V. S.,  
GRADUATE OF THE ROYAL VETERINARY INSTITUTE OF BERLIN; MEMBER OF THE ROYAL VETERINARY  
ASSOCIATION OF THE PROVINCE OF BRANDENBURG; HONORARY MEMBER OF THE  
VETERINARY SOCIETY OF MONTREAL, CANADA, ETC.

NEW YORK:  
D. APPLETON AND COMPANY,  
1, 3, AND 5 BOND STREET.  
1884.

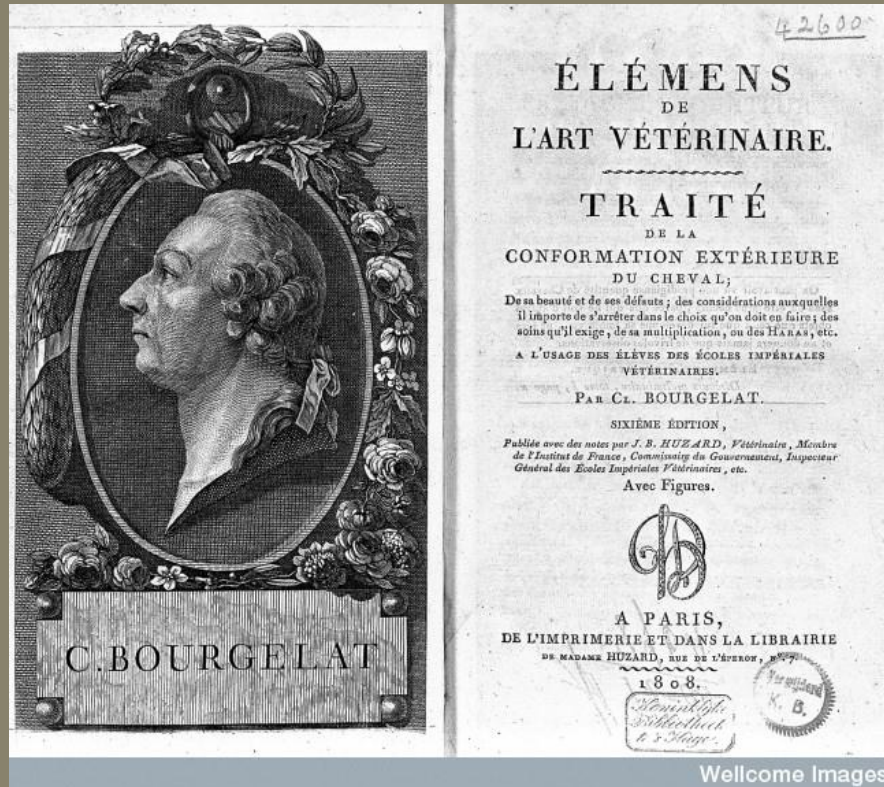
A decorative frame with two columns on the left and right sides, each topped with a scrollwork ornament. The top edge of the frame features a series of small, repeating circular motifs. The background is a solid, light gray color.

On August 5, 1761 was the official date of the founding of the first veterinary school and opened the doors to students on January 2, 1762. In all, 38 students enrolled in the school in Lyon through the end of 1762.



The only textbooks that were used in these classes were the ones that Bourgelat himself had written on the subjects. All of the students were required to know verbatim, the complete text from these books from beginning to end.






Wellcome Images

Resource: <http://images.wellcome.ac.uk>

One of many veterinary text books written by Bourgelat



Students were required to practice horseshoeing and the use of the forge. The instruction of making of horse shoes and farriery work was conducted by a “chief,” who was an upperclassman.

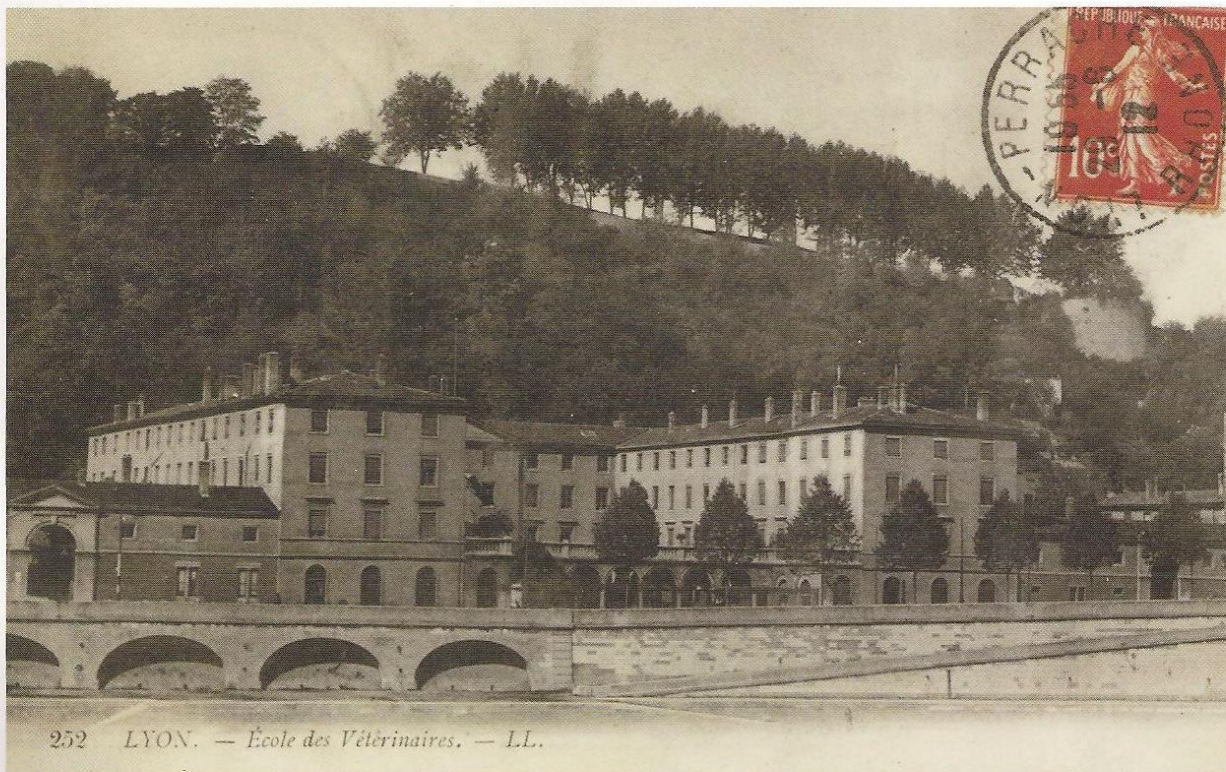
A beautiful statue of  
Claude Bourgelat  
on the campus of the  
Ecole Nationale Veterinaire,  
Lyon, France




Resource: Personal correspondence from Dr. Claude Grandmontagne

This postcard was mailed in 1912 by a soon-to-graduate veterinary student from the National Veterinary School in Lyon. The postcard informs a prospective employer that the student would arrive for an interview within one day after graduation.

Resource: JAVMA, Vol. 239, No. 7, October 1, 2011 – page 871.

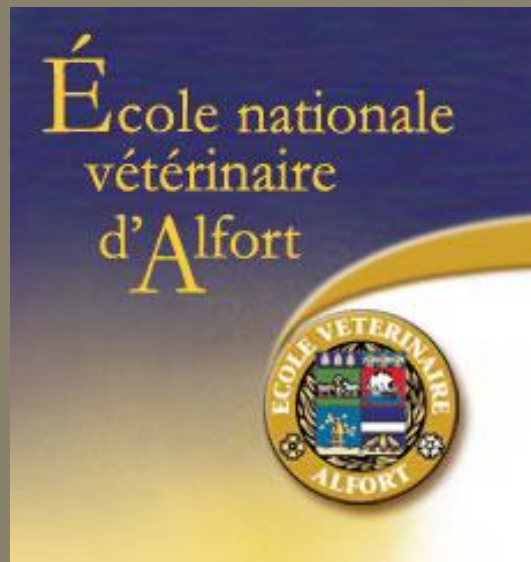


252 LYON. — École des Vétérinaires. — LL.



The second school was built in 1765 at Alfort, France, became known as the National Veterinary School. The School of Alfort displayed three different curricula: the classic one for the future veterinarians, similar to Lyon, the curriculum for the inspectors of the stud farms and finally a specific teaching intended for the military veterinarians.

It is still today the location of the Alfort Veterinary School, the oldest school in the world remaining on its original site, on the outskirts of Paris. It also houses the Musee Fragonard, which dates from 1766 and contains an impressive collection of anatomical items.



The second school was  
built in 1765 at Alfort, France

Resource: <http://www.worldvet.org/taxonomy/term/16?page=51>

## Paris Veterinary School, Bourgelat's final creation

For the minister Bertin, the school of Lyon foundation was only one step in its project of cleansing the French breeding. Bourgelat hoped to create other veterinary schools in the French provinces but also wanted to spread his ideas across the borders.

In 1765, Bertin ordered him to create a school in Paris. The new school was set up in Alfort, located just at the junction of the rivers Marne and Seine. The estate included a castle and its outbuildings in a ten hectare park. It was converted by the architect Soufflot.

The new school opened its doors in October 1766 and Honoré Fragonard became its first director, while Bourgelat was assigned as the General Inspector of both French veterinary schools.

The School of Alfort displayed three different curricula: the classic one for the future veterinarians, similar to Lyon, the curriculum for the inspectors of the stud farms and finally a specific teaching intended for the military veterinarians. It is still today the location of the Alfort Veterinary School, the oldest school in the world remaining on its original site.



The Paris Veterinary School would be Bourgelat's final creation. This new school would be set up in the Alfort castle and its outbuildings would be on an approximate twenty-five acre park.



The city map of Paris (currently 2010), showing Alfort (in red), located at the junction of the rivers Marne and Seine.

Maisons-Alfort is in a southeastern suburb of Paris, just 5.2 miles from the center of the city.

During the later part of eighteenth century, the population of Paris was est. at 600,000, compared to the present day population of 11.8 million people in the metropolitan area (2007).



Resource:

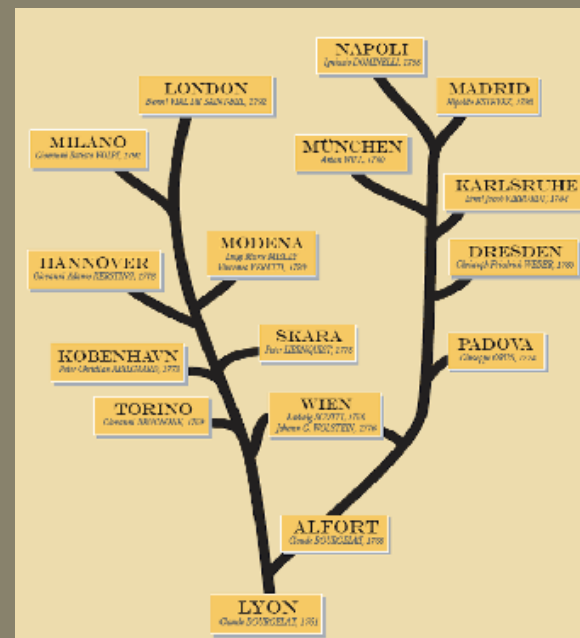
[http://en.wikipedia.org/wiki/File:Maisons-Alfort\\_map.svg](http://en.wikipedia.org/wiki/File:Maisons-Alfort_map.svg)

## Lyon, mother of the world's veterinary schools

All the founders of the European veterinary schools trained in Lyon and Alfort towards the end of the 18th century; they were either French and went to live abroad, or foreigners sent to learn the fundamental tenets of the new art of veterinary medicine.

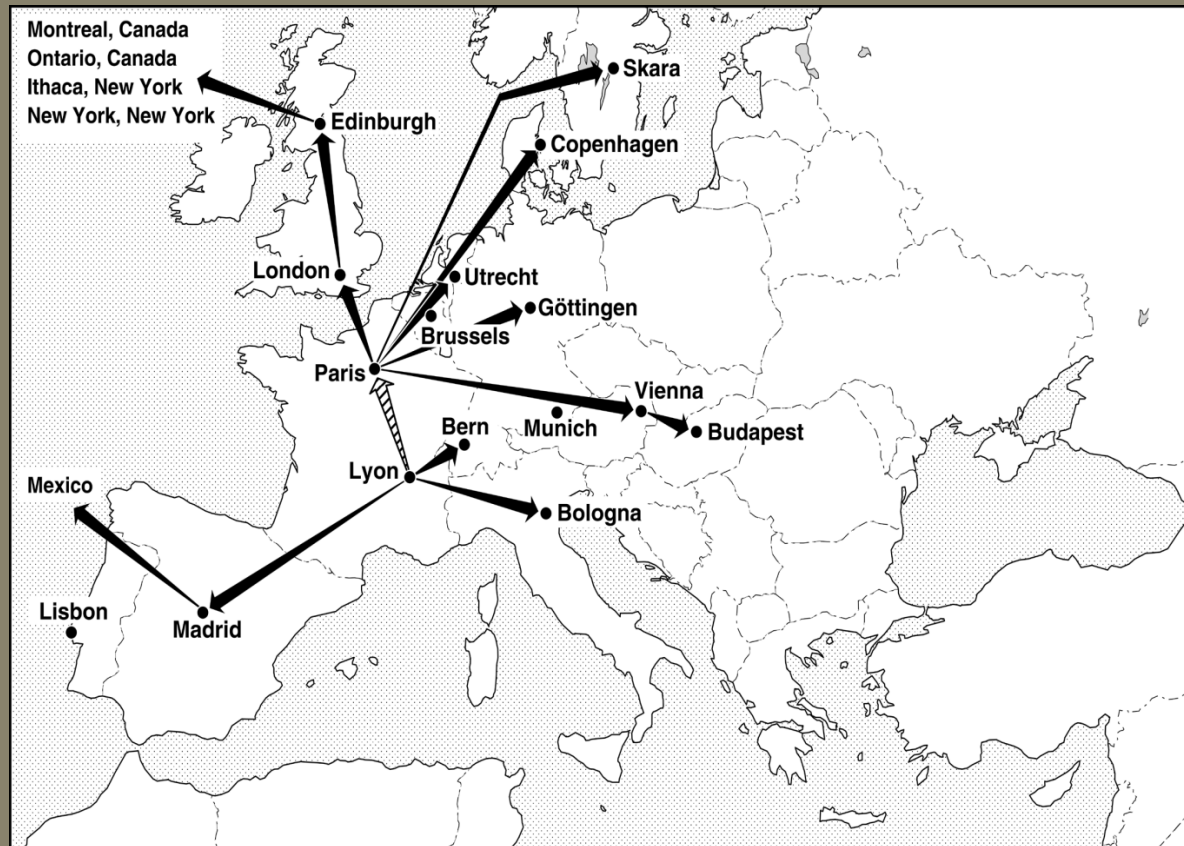
Later, more distant descendants of Bourgelat would found the first schools in other continents, often at the whim of zones of influence of these countries.

Fifteen veterinary schools were developed over the next thirty-seven years. With the formation of the Royal Veterinary College in London (1791) and establishment of the Naples Veterinary School in Italy (1798).




Reference: [www.vet2011.org](http://www.vet2011.org)

This remarkable map of Europe, shows the path of how the veterinary schools developed and the connection to North America



Resource: <http://www.utpjournals.com/jvme/tocs/314/310.pdf>



The reputation of these two schools attracted students from all over Europe, who in turn became the first leaders of veterinary schools in their countries. Thus, other European countries soon recognized the value of university-level education for veterinarians and also began to establish schools.

The school at Toulouse, was the 30<sup>th</sup> veterinary school to be developed in 12 countries over the next sixty years. The National Veterinary School of Toulouse was founded in 1828 at The University of Toulouse (the second-oldest university in France). All three of these veterinary schools are still in existence.

## Bourgelat, the inventor of comparative biopathology.

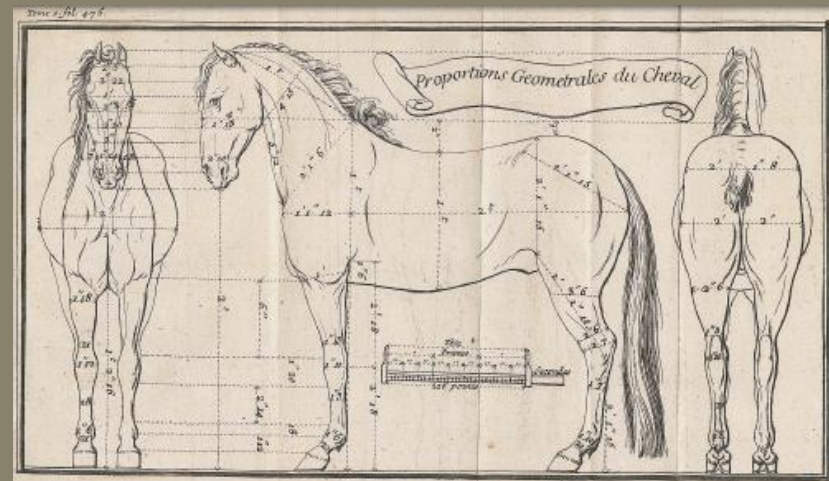
Nearly a century before Rayer founded 'comparative pathology', Bourgelat, enlightened by the thinking of the naturalists of his time and inspired by his collaboration with the surgeons of Lyon, had already set the foundations of the modern concept of 'comparative biopathology'.

Drawing by Leonardo da Vinci



Reference: [www.vet2011.org](http://www.vet2011.org)

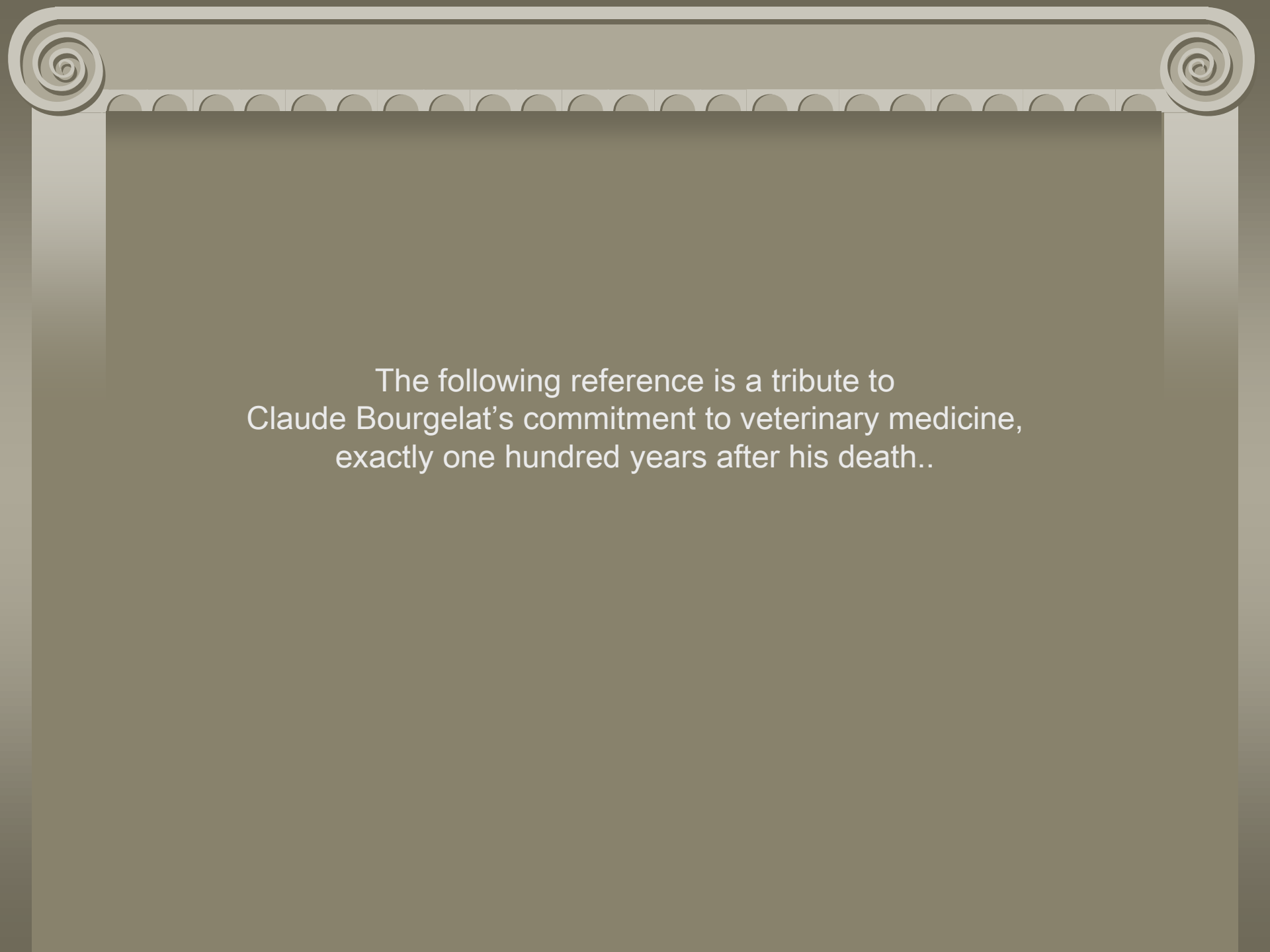
Anatomical plate drawn by Claude Bourgelat



Two quotations from his 'philosophical testament', the 'Rules for the Royal Veterinary Schools', (published in 1777, two years before his death) will suffice to demonstrate this :

'The doors of our Schools are open to all those whose duty it is to ensure the conservation of humanity, and who, by the name they have made for themselves, have won the right to come and consult nature, seek out analogies and test ideas which when confirmed may be of service to the human species.'

'We have realised the intimacy of the relation which exists between the human and the animal machines; this relation is such that either medicine will mutually enlighten and perfect the other when we discard a derisory, harmful prejudice. Then we shall no longer fear that we may degrade or debase ourselves if we study the nature of animals, as if this same nature and truth were not always and everywhere worthy of exploration by whoever is able to observe and reflect.'



The following reference is a tribute to  
Claude Bourgelat's commitment to veterinary medicine,  
exactly one hundred years after his death..

According to : “J.L. Lupton, MRCVSL, In "Modern Practical Farriery", 1879, in the section: "The Diseases of Cattle Sheep and Pigs" pp. 1 states:" -- Bourgelat, a French barrister, observing that certain maladies were devastating the French herds, forsook the bar and devoted his time in seeking out a remedy for the then pest, which resulted in his foundig a veterinary college in Lyon in 1760, from which establishment he despatched students, with weapons in their hands all-necessary for combating disease by science with practice; and in a short time from this period, the plague was stayed and the health of stock restored, through the assistance rendered to agriculture by veterinary science and art.“ The plague to which Lupton referred was Cattle Plague, also commonly known by its German name, Rinderpest.”

[http://en.wikipedia.org/wiki/Claude\\_Bourgelat](http://en.wikipedia.org/wiki/Claude_Bourgelat)



AS WE REFLECT ON THE HISTORY OF VETERINARY  
MEDICINE FROM OUR CONTEMPORARY PERSPECTIVE,  
WE CAN VIEW IT IN THREE DEVELOPMENTAL PHASES:

The first phase of the development was the study of veterinary art, ranging over some 2200 years of progress with Greek and Roman civilizations and characterized as 'one medicine' insofar as both humans and animals were concerned.

The second phase of the development, begins 250 years ago with the founding of the veterinary profession and veterinary science, with the establishment of the first veterinary school in 1761 in Lyon, France and one medicine reaching a pinnacle about 1870-1920 with the work of Pasteur, Koch, MacEachern, Liautard, Osler, Law, Salmon, T. Smith and others.

The third phase is an increased emphasis today on specialization in veterinary medicine, public health, zoonotic diseases, and genomics, resulting in an increased focus on one health and one medicine.

# Bibliography

- ◆ The Teaching Company – [www.teach12.org](http://www.teach12.org)
- ◆ Wikipedia, the free encyclopedia – [www.wikipedia.org](http://www.wikipedia.org)
- ◆ Katic, Ivan, *Historia Medicinae Veterinariae*, 2006 Vol. 31.1
- ◆ The U.S. National Library of Medicine web site - <http://www.nlm.nih.gov/hmd>
- ◆ Haas, Kenneth B., “*Animal Therapy over the Ages: 15 Astrology and Biorhythm*,” *Veterinary Heritage*, Vol. 30 No.1
- ◆ Durant, Will, *The Story of Civilization IV-The Age of Faith*
- ◆ Smithcors, J. F., “*Chiron, Apsyrtus & Carlo Ruini*,” *Modern Veterinary Practice*, June 1978
- ◆ New World Encyclopedia – [www.newworldencyclopedia.org](http://www.newworldencyclopedia.org)
- ◆ The Museum of Wisconsin Art, West Bend, WI – [www.wisconsinart.org](http://www.wisconsinart.org)
- ◆ Langer, William, *Western Civilization – Paleolithic Man to the Emergence of European Powers*

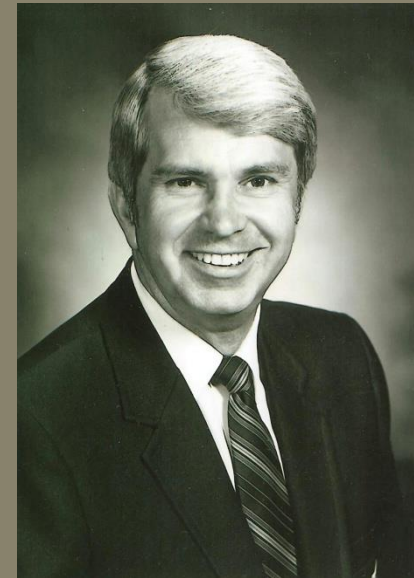
## Bibliography (continued)

- ◆ Massengill, S.E., *A Sketch of Medicine and Pharmacy* – 1943
- ◆ Vet2011 web site – [www.vet2011.org](http://www.vet2011.org)
- ◆ Cybele Productions SA - <http://memo.fr/en/article.aspx>
- ◆ University of Sydney - Rare Books Library  
[www.library.usyd.edu.au/libraries/rare/medicine/aristotlecompleat.html](http://www.library.usyd.edu.au/libraries/rare/medicine/aristotlecompleat.html)
- ◆ Special Collection, Michigan State University Libraries
- ◆ World Veterinary Association – [www.worldvet.org](http://www.worldvet.org)
- ◆ Wellcome Images, Wellcome Library - <http://images.wellcome.ac.uk>
- ◆ Merillat, Louis, *Veterinary Military History of the United States*, 1935 Vol. I
- ◆ Billings, Frank S., *The Relation of Animal Diseases To Public Health* - 1884

## The Author

Fred J. Born, DVM graduated from Michigan State University in 1962. He is a Life Member of the American Veterinary Medical Association and the Wisconsin Veterinary Medical Association (WVMA). Until his retirement in 1998, Dr Born was the senior partner of a six veterinarian mixed animal practice based in Fond du Lac, Wisconsin. During his career, Dr. Born authored three visual-aid veterinary textbooks and in 1971, received the “Veterinarian of the Year” Award from the WVMA that represents the highest award of the association based on peer selection.

In related professional activity, Dr Born, for the past 34 years, has served as Director of the WVMA’s “Turn of the Century” Veterinary Museum at the Galloway House & Village in Fond du Lac, WI. He is currently serving his second term as a very active and contributing member of the Board of Directors for the American Veterinary Medical History Society. Fred Born and Joyce - his wife of 53 years - have two married daughters and five grandchildren.



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