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### A NATIONAL VETERINARY POLICE CODE.

With State Execution of the Laws, and a National Institute for the Study of Comparative Pathology and the Education of Scientifically-Qualified Veterinarians. An Essay read before the New England Agricultural Society, Worcester, Mass., 1879.

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#### LITERATURE.

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GENTLEMEN: It is with a sincere feeling of thankfulness to the officers of the New England Agricultural Society, that I present the following remarks to your consideration. Within the last two years public attention has been more or less actively interested in the contagious diseases of our domestic animals. A new market has been created on the other side of the Atlantic, and a new business has rapidly developed in our flesh-producing animals. Numerous outbreaks of contagious diseases threaten to check, if not entirely paralyze this, at one time, so promising venture. Thus, a great national interest, particularly agricultural, however, is endangered. You have been called here to discuss, one measure, at least, of prevention. The measure which can alone give to the country any hope of permanent success is a National Code of Veterinary Sanitary Police Laws, with State Execution of the same; and one National Institute for the Study and Development of Comparative and Experimental Pathology, and for the Education of Scientifically-qualified Veterinarians.

In opening these weighty questions to consideration we are entering a path, which if blindly trod, can lead only to error, disappointment; and, to those who undertake the guidance, animadversion and fault-finding from their fellow-men. Fortunately, however, the experiences of the past, and of other countries are before us. Let us turn to the records of history. The history of veterinary medicine may be logically divided into two periods: The ante-school, or crude empirical period, extending from the earliest antiquity to the year 1762; and the scholastic, or educational period, extending from that date to our own day. Both of these periods are capable of sub-division. The pre-scholastic period, may be sub-divided into the pre-Greekish, the Græco-Roman and the period of the "Stahlmeister," "Marechal," or Master of the Horse.

Philologists have taught us that the civilized races of the day took their rise from a people called the Aryans, who conquered the nomad tribes living on the high plateaus of the Caucasus Mountains in the north of India. These Aryans attained quite a wonderful degree of civilization, which has come down to us in records of an age some 1,000 years B. C. With their civilization was mixed an immense amount of superstition, a great awe and reverence for all the startling phenomena of nature, as well as for all natural creations. These records are engrained in the beautiful poems of the "Artharva," "Rig" and "Ayur-veda," the last meaning the "Science of Life," and the great war poem the "Mahabharata." The reverence which these people bore to their Brahmins, as the ministers of the gods, and their worship of the Sacred Cow, and tender care for all animal life are well known to every student of these early writings. With suffering comes naturally an immediate search for relief. Behold the birth of empiricism! The wealth of these early people, and also of many of their immediate descendants of our day, was their immense herds of grazing animals. Disease, then as now, especially the ravaging pests, robbed these early agriculturists, not only of their means of sustenance, but of their wealth. As to-day, when such visitations endanger the people of a country, so in those bygone days did our Aryan fathers appeal to the gods for protection, and offer of their choicest and best for their amelioration. They knew nothing of prevention in a modern sense. The gods were manifesting their anger, and wreaking their wrath on the children of men. Appeasement was their only source; and, at the cessation of the ravages, choice offerings of thankfulness betokened the gratitude of suffering man.

"Charaka" and "Susruta" are the names which have come to us of the two earliest medical writers in the Sanscrit tongue. They tell us "the wishes of man vary, that the wagoner seeks for wood, the doctor for patients, and the priests for libations."

Susruta tells us "that the medical man who does not perfectly unite in himself a knowledge of both surgical and inner diseases is a bird with but one wing."

Charaka tells us "that the student of medicine must select the best of all the text books offered him; that he must select a thoroughly qualified teacher in the scientific, technical and moral requisites of his profession. The student must unceasingly study. He must be qualified to study his profession by birth, by physique and by moral character. He must be full of dignity, respect and modesty; ever ready to learn, for, to the reflecting man the whole world is full of teachers. He who wishes a successful practice must pray daily at the rising and setting of the sun, for the health of the living, for the holy Brahmins and the sacred cow." Charaka is reported to have written upon the disease of animals, though I have been unable to find anything said to have come directly from him.

We find nothing of direct value in any of the records of the Aryans, Hindoos or Persians anterior to Greek history.

The books of Moses, however, tell the students of the Bible of the numerous animal plagues with which Jehovah punished the Egyptians. These laws warrant us in assuming that the Jewish priests of those early days were well acquainted with the lesions which disease made on animal organisms. With the blooming of Greek culture, medical art took quite an active move forward. Esculapius is said to have treated diseased animals as well as man. The sacrifices at the altars of the gods gave abundant opportunity for anatomical observations of a coarser form. Hippocrates (460-377 B. C.), the father of medicine, and the compiler of all the knowledge upon this subject up to his time, has left records of no mean degree of knowledge of the diseases of domestic animals.

Aristotle, 384-322 B. C., the mightiest intellect which graced our earth from history's beginning until long after the Reformation, and whose work will ever remain a wonder of human achievement, has given us wonderful records of comparative anatomy, and mentions some diseases of the animal world.

Celsus, Galenus and other early Roman medical men have given us some accounts of animal diseases. Galenus is credited with saying that the education of a doctor was incomplete without a knowledge of the processes of disease among the lower animals.

At this time the animal plagues caused dreadful ravages among the herds of Roman agriculturists and their tributary tribes. Virgil, in his "Georgics," has given us a beautiful yet saddening relation of these ravages, a few verses of which I transcribe from Mr. George Fleming's valuable contribution to veterinary literature, "Animal Plagues":

"From the tainted air arose  
A dreadful storm, inflamed by Autumn's heat,  
And gave to death all cattle, tame and wild,  
Corrupting lakes, poisoning the grassy food.

"Hence, midst the springing grass young cattle die,  
And yield their gentle lives at loaded stalls,  
Hence, madden, fawning dogs, and the sick swine,  
With suffocating shake and panting cough," give up their lives.

Lo! as the bull under the plowshare smokes,  
He falls, and vomits mingled foam and gore,  
And makes his final groan;  
The Plowman sad, disjoins the ox that mourns his brother's fate,  
And leaves the rooted plow, his work half done,  
Move him not now, nor stream through rocky bed,  
That pure as amber freshens all the plain.  
His flanks are all relaxed, and his dull eye  
A stupor covers, and to earth his neck  
Down rushes with the heavy weight it bore.  
What profit then their service and their toil?  
No change of food affords relief,  
And art implored, destroys.

The writings of the Romans, Cato, Varo, Columella, and Vegetius, which are mostly compilations from earlier authors, are to be found in "De Rei Rusticæ," a good edition of which was given by Gesner in 1735, which may be found in some of our medical and public libraries. These writings contain descriptions of some diseases, with treatment, much of which is absurd, mixed up with much which is superstitious and ridiculous in the light of the present day.

It is in the writings of these authors that we find the words "Veterinarius," and "Veterinaria" first appearing, indicating the Latin origin of our words, Veterinary and Veterinarian. The art was then also called "Mulo Medicinæ," and Vegetius styles himself, "Vegetii Renatii Artis Veterinariæ sine Mulo Medicinæ." It is at this period that one first finds intimations of horse-shoeing among the Romans, a practice they seem to have borrowed from the Germans and Gauls.

Veterinarii are also mentioned as attached to the Roman Cavalry, and overlooking the health of the animals used at the circus in Rome.

From the fourth century A. D., until the thirteenth, we find few books of any importance to veterinary medicine added to our literature.

In the tenth century, the Emperor Constantine Porphyrogenetus—911-951, A. D.—instigated a compilation, which included about all the works which had then appeared. It bore the title "Hippiatrica."

We have now, in a very cursory way, traced the history of veterinary empiricism to the thirteenth century, which may be said to begin the "Stahlmeister's" or "Master of the Horse" period; the same continued to the opening of the schools, and in truth may be said to be still with us, for everybody well knows the taste among men in such positions to write "practical works on the treatment and care of the horse." This period is marked by the appearance of several works of great historical importance. The first of these was the "Hippiatrica," of Jordanus Rufus (1250), Marescallus Major to the Court of Frederick II., of Sicily, who is said to have assisted in the work. Rufus seems to have known but little of previous works, and to have had a mind remarkably free from the superstitions of his day. He describes quite a number of diseases, among them laminitis, vulgarly called founder, glanders, tetanus, &c.

The discovery of printing gave a great impetus to works of all kinds. A work of rare value appeared in 1590, entitled "Dell' Anatomia et dell' Infrimita del Cavallo," di Carlo Ruini, Senator of Bologna. This work contains numerous illustrations on wood, and remained unequalled, until the great Lafosse fils gave to the world

his really magnificent "Cours d' Hippatrique," Paris, 1772.

Time fails me more than to mention the "Parfait Marechal," of Sallesel, 1664, the writings of Saunier, of Diaz, of Von Zind, of Newcastle, of Winter von Adlers Flugel, of Marx Fugger on Breeding, and numerous others of this period.

I should not, however, forget to mention the "Four Chief Offices of Horsemanship, Whereto are Added Diverse Medicines not Heretofore Printed," by Thomas Blundevill, of Newton Flatman in Norfolk; London, 1609; the "Hipponomia, or the Vineyard of Horsemanship," by Baret, 1651; "Master Piece, Containing all the Knowledge Belonging to the Smith, Farrier, Horse-Leech, &c.," the "Complete Horseman," of William Hope, 1696; the "Farrier's New Guide," by Thomas Gibson, 1719; Snapes' "Anatomy of the Horse," 1751, and last, but not least, Stubb's wonderful "Anatomy of the Horse," 1766.

During this long period, the continent of Europe had been suffering from devastations of a severity for which we have scarcely any comprehension. War on war had impoverished both governments and people. Epidemic on epidemic had almost broken ties of kindred and affection. Plague on plague had driven people almost bereft of reason, to the last verge of hope for sustenance and wealth, by the loss of their animals—most especially cattle. A competent authority tells us that between 1719 and 1769 not less than 200,000,000 cattle were destroyed by the Rinderpest alone. Ignorance and superstition prevailed. The disheartened people appealed to the all-powerful Church; but in vain. The dread fiend went on destroying, notwithstanding priestly invocation, consecrated oil, the charms of the burning cross or the heated key of the holy Saints Martin and Antonio.

Carvers, there were enough of; empirics were to be had on every side; yet the so-called veterinary profession was as powerless as the mighty church. We have arrived at the close of the eighteenth century, and found—What? That no veterinary science existed; that no veterinarians had added anything of value, other than a few things of practical import, to the treasury of medical knowledge. But the medical profession had not been idle. Vesalius, the father of modern anatomy, had broken faith with the church, and, as a Luther, was proclaiming the new truths of a practical science to an astonished world. The church shouted her anathemas, but in vain. "Truth alone is the mightiest of all things, and will live forever," said an already ancient sage. Paracelsus broke the bonds of superstition which ruled the minds of a slumbering folk, and took away the sanctity from things for centuries held sacred. The great Harvey, one of Britain's greatest sons, told us how streams were forced through the animal system. England then denied her child, to honor him in later generations. Boerham was teaching a mighty class of scholars, whose fame was to make his name still more famous. Van Zwieten laid the foundation of the first hospital at Vienna. Glisson started the doctrine of the irritability of the tissues, which found its more perfect elucidation at the hands of Haller, immortal physiologist, poet, philosopher and naturalist. Haller, Ramazzini, Lancisi, Bates and others did the work an incompetent veterinary profession could not do, in describing the animal plagues, especially pleuro-pneumonia and cattle-plague. Not only did they describe, but they also elucidated means of prevention entirely applicable to our day, and which had we ourselves seen enough to follow, would save us untold millions. Truly,

The sun of light was breaking,  
The darkness disappearing.

#### THE FOUNDATION OF THE VETERINARY SCHOOLS.

It will be observed that it was not the accidental, or, as they are technically termed, sporadic, diseases of animals, which led the continental governments to found institutions for the education of veterinarians. Empirics of great practical ability had often enough shown their impotency in combating these dread ravages.

The first veterinary institute in the world was founded by Claude Bourgelat, 1712-1779, at Lyons, in France, 1762, the French Government giving the venture material support. Bourgelat was an advocate who, having gained a case the injustice of which he became afterward convinced of, gave up jurisprudence and turned his attention to the study of the diseases of horses, animals for which he had a great passion.

The school at Alfort, a suburb of Paris, was established in 1765, Bourgelat being called to be its Director. The school at Toulouse was firmly established in 1825, though projected much earlier.

The three French schools are subjected to the same regulations, and are under the supervision of an Inspector-General, the position being at present occupied by the cultivated Mons. M. H. Bouley.

The schools at Brussels, Belgium, 1835; Utrecht, Holland, 1821; Copenhagen, Denmark, 1773; Stockholm, Sweden, 1820; Charkow, 1839, and Dorpat, 1848, in Russia; Berne and Zurich, in Switzerland; Madrid, in Spain, 1793; in Italy, Turin, 1769; Milan, 1787; Naples, 1815, and at Pisa and Bologna; the school at Vienna, established by Maria Theresa, 1775; one in Pesth, Hungary; those of Germany, established in Hanover, 1773; Dresden, 1776; Munich and Berlin, 1790, and Stuttgart, 1821, are all Government institutions.

Gentlemen, I wish to impress this upon you—all these institutions, the history of which we must for the present pass over, however interesting it would be, were founded by the respective Governments, and are controlled by them: the standard of each graduating veterinarian guaranteed to the people of the respective countries by a competent authority, and, gentlemen, they are not paying institutions, in the American sense; i. e., they do not return any direct dividends; in fact, I much doubt if any one of them covers its expenses. I know the expenses of the school at Berlin exceed its income by some 8,000 to 10,000 dollars each year.

If these schools do not give any direct returns, their indirect return through the work of their graduates has been, and is, of such a kind that millions would not cover it. To them, gentlemen, do the veterinarians of Britain, and the few we have in America, owe most of the material of which their text-books are made. To whom do we owe the greater part of our knowledge with reference to the contagious and infectious animal pests? To whom but Continental veterinarians? The

names of Hering, Hertwig, Roell, Bruckmuller, Guenther, Chauveux, Regnal, Bouley, Collin, St. Cyr, Leisering, Haubner, Wehenkel, Gerlach, Schutz, Frank, Feser and numerous others are fast becoming as well known to English-speaking people, thanks to the efforts of Mr. Fleming, as they are to those on the continent.

Some mistaken authors are inclined to assert that veterinary science began with the foundation of the schools. The truth is, the first 30 years of the schools was little more than a mere scholastic-empiric period; it is only within the last 30 years or so, that we find valuable scientific researches appearing from the side of veterinary medicine. It is within this period that Hering, of Stuttgart, established, in a measure, the velocity of the circulating blood; that Chauveux made his brilliant experiments on the circulation, and the virus of variola, and other noted researches; that Gerlach, of Hanover and Berlin, made his name immortal by his experiments on glanders, his researches into the development of the sarcoptic or mange mites, and his still more valuable, to the human family, researches with reference to the infectiousness of the milk from tuberculous cows.

Gentlemen, it is of the utmost importance to us American Citizens, to inquire, why it is that this valuable information has been gained by continental veterinarians to the exclusion of those of Britain?

The answer is simple, and one which it will do you well to take to heart.

These schools are so established, and the teachers so carefully selected, and their present and future welfare so well cared for (for they are moderately paid during active life, and pensioned when the period of decay has come on) that they can give their entire energies to the proper instruction of students, and to scientific research.

This grand result cannot be obtained by private or unregulated schools. In proof of which you may study the history of the schools of Britain.

In Britain we have directly the opposite conditions. Here we find the Government strangely blind to the interests and welfare of its people. America, the child, nobly follows the ignoble example of the mother. Britain has allowed her noted and valuable herds to become repeatedly decimated by pests, without taking a single step to educate properly-qualified men, toward their protection. Here we find no State responsibility, no State regulating the standard of education at the schools, thereby guaranteeing to the people properly-educated practitioners. We find little above scholastic empiricism. We find no critical selection of teachers, no contribution to their support; no support of scientific research, by means of which the checking of animal pests can be hoped for.

I will let another and perhaps less partial judge speak for me in this matter. Mr. George Fleming, in his "Animal Plagues," says, p. 176: "It was not, however, until 1792 that England had a veterinary school, established by Saint Bell, a Frenchman; but this was of a private and speculative character, deriving no benefit from the State, and conferring none on it, but allowed to push its own way from the fluctuating support or patronage of private subscribers and the fees of students. The Scottish capital, in the beginning of the nineteenth century, through the patient and energetic exertions of a private individual, had a school, and in recent years others, also private, have been commenced in Glasgow, Edinburgh and London." Testimony of the insufficiency of the British schools, especially of the "Dog-in-the-manger" policy of the London school, is being repeatedly given by reflecting members of the British veterinary profession in the columns of the veterinary journal of London.

These schools, especially that of London, succeed in the American sense, gentlemen; that is, they pay. The director and some of the leading teachers—they call themselves professors—enjoy fat salaries, in return for which they energetically oppose every suggestion for improvements which could only lead to the advantage of the nation and its people. What shall I tell you of our own America? Silence would perhaps best become me. Silent would I be, were it not to do justice to one noble man. Some sixteen years ago a stranger—a Frenchman—landed on our shores. Through trial and suffering, he finally gained a large and successful practice. Notwithstanding bitter opposition, slander and calumny, both private and public, he finally succeeded in establishing a school in New York City. This school is also private. It is under no State or responsible supervision. The public must depend on the honor of its principal for the educational qualifications of its graduates. Laboring under immense difficulties, with a strange lack of public appreciation, even in the city of his adoption, this noble man has worked on for the benefit of the people of this country.

Gentlemen! Whatever may be the future of the American Veterinary College, the name of Alexander Liardard must be connected with the first and only veterinary school which has existed in this country, which has been at all worthy of public appreciation.

I should be forgetful indeed, not to mention the Montreal Veterinary School of Canada, called into being by Mr. McEachran, a graduate of one of the schools of Edinburgh, Scotland.

Let us now, as briefly as possible, consider some of the contagious and infectious diseases of animals.

It is not without a certain feeling of mortification as an American that I am obliged to inform you that no reliable statistics are to be found with reference to their devastation and extension in the United States.

Mr. James Law writes me that over 500 diseased cattle have already been killed by the authorities of the State of New York, and that some 700 in addition have been slaughtered, as either suspected, or having been undoubtedly exposed to contagion. He says: "With us a case of lung plague is to kill."

With reference to the Commonwealth of Massachusetts, one turns in vain to the Report of the Cattle Commissioners, in the State Agricultural Report of 1878. All they inform us of there is that the lung plague did not exist during that year, and that while numerous cases of glanders (we should be told how many) have come to their knowledge, still in only five cases were they called upon to act.

Gentlemen! For what are the duties of a commission for animal diseases? Is it for pleuro-pneumonia alone? Have cattle no other contagious or infectious disease? Have other animals than the horse no such disease? Have we not a right to expect more than such meagre and totally incompetent information on a subject of such

personal interest to every agriculturalist, and to every citizen as well?

Gentlemen! One almost loses patience when he knows how much CAN be done, and sees how little is done in this important field.

During my two months' practice, nine cases of glanders among horses have come to my own knowledge. Some of these horses have been sold at public auction at the Brighton Market. The Society for the Prevention of Cruelty to Animals had a record of fifteen cases from Jan. 1 to July 1, 1879. This includes the nine cases known of by me. Mr. Lyman, a veterinarian at Springfield, Mass., discovered over fifty cases in that city in 1878. Numerous cases of rabies by dogs must have taken place in the Commonwealth during last year. We are certainly not without tuberculosis among our cattle.

A commission, the work of which is but killing, is certainly not in keeping with the scientific spirit of the day. An investigating commission is as necessary as one for the "stamping out" of disease. The frequent relation of animal diseases to the health of the human family is not unworthy of public appreciation and careful research. This indicates sufficiently that a separate commission with reference to animal diseases is not only unnecessary, but not probable to reach a much-desired end in its work. Such work, including all work with reference to the contagious and infectious diseases of animals, as well as to their hygienic condition, belongs properly to State Boards of Health. A State Veterinary Inspector General, with numerous sub-inspectors, attached to the State Boards of Health, are as much a necessity to the people of a State, as are State Boards of Health and local hygienic inspectors.

That some of the infectious or contagious diseases of animals are transmissible to man must be known to you all. Verchow tells us "that man is much more susceptible to infection from diseased animals than the latter from man."

Glanders is a disease of the horse and the ass known to man since the days of Greek culture. It is transmissible to some other animals and man, but not to cattle. Bollinger tells us that in Prussia alone, between the years 1863 and 1875, there were over 17,000 cases of glanders reported, and that, were the truth known, no less than 35,000 horses must have been infected with this disease. He also has collected a list of 108 cases by man, published in Ziemsson's "Handbuch of Pathologie." The State Board of Health of Massachusetts has a record of 13 cases—9 males and 4 females, among them a child of about 5 years of age—between the years 1859 and 1875. We have noticed the ravages of this disease at Springfield the past year. Within a few years the South Boston Horse-Railroad Company lost over 100 horses from glanders.

In 1831, an Englishman, Hilton, observed some strange objects in the muscles of a man who had died at one of the London hospitals. The objects were discovered to be animal parasites, and have since been named trichina. Swine and rats, and sometimes wild animals, as the fox, are the lodgers of these pests. Man becomes infected from eating unspiced and insufficiently-cooked pork. The microscope is necessary to their discovery in pork, though they may be plainly seen, when encapscled, as grains of sand, in the muscles of man. When infesting man, they cause the horrible disease known as trichinosis.

Epidemics among man have not been unknown, although the cases are generally limited to individuals or families. At Hedersleben, in Germany, a place of about 1,000 inhabitants, 337 people were infected at one time, of whom 101 died. A recent investigation instituted by Health Commissioner Wolf, of Chicago, resulted in finding 8 out of 100 swine examined as infected. Examinations made in Germany in 1877 resulted in finding 343 cases of infected American pork; 138 people were reported as being infected. At Hamburg, Germany, in 1878, 297 American sides and 85 hams were found infected.

Mankind gets its most troublesome tape-worm *Taenia solium*, from eating unspiced and improperly-cooked pork. The same is true of *Taenia mediocanellata*, obtained from beef. *Taenia echinococcus*, a very troublesome customer to the human organism, is derived in some mysterious manner from that faithful companion of man, the dog, *Cysticercus cellulosus*, the measles of swine, is occasionally found in the brain and other organs of man, who receives it in the same manner as he does the above-mentioned tape-worm. We also find numerous cases of mutual infection between different species of our animals, as the *hydatid*, *canis*, *cerebralis*, causing the well-known "turnsick" of sheep, from the ova of *taenia canis* of the dog. Dr. Stickney, of Boston, has a very interesting specimen of *Pentastomonum tenuicollis* in the olfactory lobes of the brain of the horse. This is very seldom, as I have only been able to find one other instance of the kind in veterinary literature. This parasite also comes to pass by the dog.

Who does not receive a fearful shock at being bitten by a dog? Hysterical rabies is no uncommon thing in man. A very dear friend of ours—Mr. George Bauham, V. S., of the Brown Institute, London, suffered most intense mental agony the previous Summer, having been accidentally bitten by a dog, at a time rabies was very prevalent in his district. Medical journals give evidence enough of the frequency of rabies in man from the bite of rabid dogs. In Prussia, between 1820 and 1834, 71 deaths occurred from this horrible disease; in Austria, between 1830 and 1847, 58 cases; in France, between 1850 and 1862, 25 cases. (Ziemsson.)

In Massachusetts, in 1860, we had 114,000 sheep, and 112,000 dogs. In the year ending May 1, 1875, 11,489 dogs are reported as having killed sheep valued at \$10,584.53. (Flint.)

The Foot and Mouth Disease of Ruminants and Swine has been known since antiquity. Valentine (1695) noticed the synchronous appearance of this disease among milk cows, and an eruption in the mouth by man. It is transmitted to the human family by the use of uncooked milk from diseased cows, or the milkers become infected when having abraded hands.

A cargo of sheep was recently landed at Liverpool from Boston having this disease. Yet no one knows from whence they came, and furthermore there is no competent authority to investigate the question. Such things repeatedly occurring can but materially influence our promising trade in these products with Britain.

*Anthrax Charbon*, vulgarly termed Black-quarter, is a disease more particularly of ruminants, capable, however, either by accidental or experimental inoculation, of being transmitted to some other animals and man. It is almost invariably fatal. It is this disease, as some of you may know, which gives the greatest support to the vegetable or fungous germ theory, with reference to the cause of some diseases. The cases of blood-poisoning at Walpole, and more recently at Hyde Park, Mass., among girls working on curled hair, were, it is highly probable, due to infection from these germs. An infinitesimal amount of material introduced under the cutis is almost sure to lead to a rapidly fatal end. I myself saw the results of a very interesting case—by a tanner, from carrying South American dried hides from a corinto to a tannery at Berlin. The man had simply a slight razor scratch on his face, which coming in contact with a hide, bled a little. The man died in 48 hours, his body literally filled with these fungi, as was microscopically demonstrated at his autopsy. I can show any one interested, a specimen from the kidney of this man, at my residence in Boston.

I have already said I could give you no statistical information with reference to the extension of lung plague among the cattle in this country. It is certainly pretty well extended along our Atlantic States. You know, however, that it was "stamped out" some years back in Massachusetts, at an expense of not far from \$100,000. Mr. John Gamgee tells us, in a "Report on the Diseases of our Cattle," by the Commissioner of Agriculture, Washington, 1871, that England loses two million pounds sterling from this disease yearly.

In fact, hundreds of millions would not cover the losses its ravages have caused on the continent since its history began. Millions will not cover the losses we shall ourselves incur, unless a more united and effectual method for its extinction comes into active operation than at present exists. Immediate slaughter, and redemption by the respective governments is our only recourse.

We have thankfully not yet been visited by the rinderpest. Should that day ever come, there will be

mourning in the House of Israel. Columbia weeping for her property, and little comfort will she find from Church or State.

Gentlemen—You do not know what the meaning of contagious animal disease is until you have seen and lived through the ravages of this fell destroyer. It is not like the lung plague. It steals through in a night, like some foul fiend, and like a demon incarnate it goes on sweeping the bovine family before it. Official reports say that in Russia—it's home—it causes a loss of at least twelve millions a year. England lost cattle to the value of five million pound sterling in the last great invasion she had. In 1876 we lost swine from the so-called hog-plague alone to the sum of twenty millions.

Gentlemen—Think what a tax this is on a nation's prosperity. Remember that if not absolutely preventible, yet it is possible for a competent veterinary police to reduce these losses to a very low minimum.

Germany with its efficient veterinary police system is continually proving this, while Britain and ourselves are giving a living proof of the incapacity of our respective governments in this regard.

Massachusetts makes an honorable exception to this rule, with reference to the lung plague in 1860, and since then.

I should make a serious mistake indeed, did I fail to call your most earnest attention to the tuberculosis of cattle, more especially of the milk cow. The tendency of this disease is transmissible, a fact which too often escapes the observation of an incompetent medical profession, only true, in too many instances, to itself, in making money. Ignorant and unreflecting men and women are continually damning children to an early death, or a miserable, sickly life by inconsiderate intermarriage, which will only be prevented when the medical profession advances to a scientific preventive institution, entering our families as advisor of all advisors, and with startling warnings, tells men and women that they have some other duties in marrying, than satisfying their lusts. Stock-raisers have become aware of this fact, and are applying principles of exclusion in breeding, which, some day, the human family will learn to apply to itself.

It is to the great and lamented Gerlach, late Director of the Royal Veterinary Institute, Prussia, that the human family owes the first positive and experimental proofs of the infectiousness of milk and other materials from tuberculous cows by means of the intestinal track of young animals.

Think! ye advocates of the nursing bottle, and have the "single cow," from which your child is to be nourished, carefully inspected by a competent veterinarian, before subjecting its young life to preventable dangers. Was I not right in saying that "the State Boards of Health should supervise the diseases of the animal, as well as those of the human family?"

The educated veterinarian is the only person capable of offering us this protection. Empirics, no matter how great their practical reputation may be, always have been, and always will be, useless to you in this regard.

Gentlemen—I have, I know, called largely on your patience, but must, nevertheless, ask for further indulgence on your part, that we may consider the two questions toward which the foregoing has been but the preparation. Let us consider, first, the question of a National Veterinary Police Code, with State execution of the laws.

The word "national" appears to many to be but another name for centralization. Many seem to think that national and oligarchy are one and the same thing. Without centralization, that is, without some one controlling, inciting, directing power, nothing was ever yet accomplished. The question of regulation is, to find the proper relation of such a power to the other elements or powers by which it is surrounded, that the greatest good for all concerned, may result from their united action. This is true democracy or republicanism, as you will. The family cannot exist without its head. The ship cannot pursue her course over the seas without her responsible captain. No business has ever succeeded without its accountable and competent head. "Too many cooks spoil the broth," is a homely, but true, saying. In the foregoing we have briefly noticed some of the most devastating of the animal pests. Every reflecting man must admit that at present we stand, as a nation, almost impotent before their ravages. Almost every day our papers chronicle the news of the devastations caused by the so-called "hog-cholera" among the swine of our Western farmers. In a large percentage of our States there exists neither appropriate laws nor a competent and authorized force for their suppression and prevention. Nowhere in the broad expanse of this country is there a properly funded and regulated institution, properly supplied with critically selected teachers, capable of educating men suitable to this necessary work, and capable themselves to carry on those researches into the generative causes of these diseases, by which alone their ravages may be checked or their prevention hoped for. Dr. Bowditch, in a valuable and interesting work, published in 1876, entitled "Public Hygiene in America," only too well testifies to our incompetency in this respect. He tells us, that we have twenty-one States without either law or regulation. Ten States have some, and sixteen States are reported to him as indefinite, while one noble State was so ignoble as not to respond to his desire for information. Our markets are all without the supervision of competent inspectors, notwithstanding the great danger—to the poorer classes more so than the well-to-do—of disease of a disturbing if not mortal form, from the consumption of diseased meat. In all of our States, agricultural fairs collect the finest specimens of our herds and flocks, but I have yet to learn of a single State which demands the presence and active supervision of a competent veterinary inspector for the protection of these valuable animals from contagious diseases.

And this takes place notwithstanding the well-known fact that such gatherings are frequented by the lowest and most irresponsible of our dealers in domestic animals. Such persons are allowed unconditional entrance, and often bring with them animals (especially horses) of a very questionable appearance. These men are about their animals, mutually looking over each other's, and frequently go the rounds inspecting and handling the most promising of our foals, the most valuable of our brood mares and stallions, the most blooming of our heifers and precious of our cows. The same is true of our race-tracks.

In this respect, a law should be made in each State, that no such gatherings should take place without the presence and active supervision of a competent Veterinary Inspector, and, if necessary, sub-inspectors. The first should be invariable be a State veterinary official.

Furthermore, such stock is often transported a great distance, and subjected to the numerous dangers of transportation, the changes of location, food, water and stabling, all causes which may and do frequently lead to acute diseases. By such a course as the above, not only the State, but the officers of such associations are doing no more than their duty in supplying the people with a competent veterinary adviser and helper. Such an official should be positively forbidden to leave the grounds by night or day, unless a properly acknowledged and competent substitute be present to act in his place. Every animal entering the gates should be subjected to a revision, and such authorities should repeatedly inspect the animals of visitors!

We also have no national laws or regulations toward the suppression and prevention of said diseases. We have no National Veterinary Inspector, attached either to the Board of Health or Agricultural Bureau, to act as counselor to the government or chief regulator or supervisor of the work of suppression and prevention. Our people are almost totally ignorant in reference to this question; and it is with the hope of adding one mite to their knowledge, be it as small as the widow's, that this address has been written.

Gentlemen—I desire for a moment to call your attention to the doctrine of State-Rights, and its absolutely certain results if adhered to in this regard. We are a large country, formed of many governments, yet we acknowledge the necessity of a central government, to act as regulator and umpire between all these powers and interests.

It must be acknowledged that the manner of viewing questions is not the same even among a few individuals.

How much less is this likely to be the case among large bodies, jealous of each other's interests. These great differences of opinion are largely dependent on a difference of information and education in the individuals; secondarily, in our case, in their differing appreciation of the threatened danger. A large amount of reading and reflection is necessary before men are competent to logically legislate on any given subject, and on none more so than the one we are now considering.

Hence, it is that in some States we should have suitable laws, and reasonably exact execution of the same, while in others we should have unsuitable or no laws, and a lax or no execution, to the great danger of the property of the first-named States. Only when danger becomes imminent to all, or when there is some central and controlling power to spur men on to their duty, and warn them of their danger, do we have energetic and uniform action.

We have to-day a most striking example of the truth of the above in two States bordering on one another. It is known to most of you that the lung-plague of cattle has acquired no inconsiderable degree of extension in many of our Atlantic States, especially New Jersey and New York. The latter State, mindful of the danger her bovine population is exposed to, and not unmindful, I hope, of her duties to her sister States, has made ample provisions of money and drafted appropriate regulations for "stamping out" the disease. She has selected special and competent men to execute her regulations.

On the other hand, her sister State, New Jersey, is handling the disease on the temporizing system. Her law-makers seem to fear primary outlay, not appreciating that a small outlay at first may save an immense loss in the future. Her regulations, and the execution of the same, are of the "do not harm," "let him down easy" sort, having more regard to Fall elections than the welfare of the people. She seems to utterly ignore her duty to her sister States. She makes herself a hot-house, from which pestilential germs may be disseminated, not only to her sister State, New York, but accidentally to States more distant, possibly causing infection along the route such diseased cattle may be transported.

Of what use, then, is all this outlay of money and labor by the State of New York? To prevent the disease extending over her borders, she must treat her sister State as an enemy. She must place an embargo, not only on all cattle from New Jersey, but on all passing through that State. No cattle must be allowed across her New Jersey frontiers without subjection to inspection, and frequently, quarantine. What an interference with the cattle trade this would make! What an outlay of means and labor! Yet it may be her only recourse.

What would you think, gentlemen, of our government, if, on a serious outbreak of small-pox in Britain, especially in the large emigrating sea-ports, it should place all our ports except Boston under most stringent quarantine regulations, but at this port allow everything and everybody free entrance? What a hue and cry we should hear from all parts of the country! Should we be any less careful in protecting our animal property?

Gentlemen—In all earnestness, supported by the testimony and example of the best governments on the face of the earth, I say to you, the only means by which a proper protection of the individual property of every owner of domestic animals in this country from the ravages of these pests is a National Veterinary Police Code, with State execution of the laws, and a National Veterinary Inspector-General as incitor and general watchman for the whole country.

Gentlemen—You all know that the Empire of Germany is made up of numerous petty kingdoms, each having far greater jealousy of its individual rights and dignity than any of our States. Up to the present time they have each had their special laws and regulations for the suppression and prevention of these pests. These laws, while having much in common, still have here and there points of less stringency, which time and experience have shown, have resulted to the injury of the animal property of adjoining States. This fact has been recognized by these governments, and for some time a commission of able veterinarians and legislators has been at work drafting a code of laws and regulations for the nation, and I am daily expecting to receive a copy of the same.

The German Minister of Agriculture acts as head of the veterinary police, but is counseled by a special department, composed of leading veterinarians and medical men, among them Prof. Virchow.

The question we are now considering has at present, received its most complete development in Germany. Although that form of government is not our own, still, in these things, we can do well to learn of them, and apply the results obtained there to our own needs and conditions, with such modifications as time and experience may prove necessary.

To this end our National Congress should either select a commission of honest men, or authorize the President to select such from the leading stock-raisers of the country, one from each of our great geographical sections. This commission should select three of the ablest veterinarians in the country, and two of the most able and non-partisan lawyers. The five should draft a code of national police laws and regulations, in strict accord with the results of the best scientific research, and with exact regard to logic and explicitness in their language. These laws should be accepted by Congress, and ratified by the respective State legislatures. Such a plan in no way interferes with the right of States to make such special laws, in addition to the same, as their local needs, positions, or other requisites may demand, and furthermore, as will be presently seen, our plan will provide each State with a competent and trustworthy body of men to execute the laws. From these three veterinarians one should be selected, to be known as the Veterinary Inspector General of the United States.

Gentlemen—I desire your earnest attention. I am going to advocate something decidedly anti-American, but which is, however, decidedly in the interest of every one of you. Science is but another word for the search after truth. Science is not politics, as we see them displayed in America. Her great men are, and have been, the truest servants of our race. Scientists are patriots, not demagogues or political hucksters, ready to sell their birthright for a mess of pottage.

This Inspector General should hold his position until sixty years old, unless incapacitated for work by sickness. He should be liberally paid, and, in case of retirement, his pay should be continued to him for the remainder of his days.

We want his whole energies and time. On his death, if leaving a widow, or minor children, the same should have at least two-thirds of the father's pension during her life, and the children a proportionate share until 18 years of age.

We want the best man in the country, and a man full of knowledge and energy for such a position.

This office should be conferred for the first time, by open competition of the three veterinarians selected above, before the same Commission which appointed them. After that he should be selected by the teachers and trustees of the National Veterinary School.

Each State should have a Veterinary Inspector-General, to be selected by open competition before the State Board of Health, or a commission of five stock-raisers selected by the Governor. The terms of office should be the same as above. It is only by removing such men from anxiety for their own future and that of their immediate dear ones, that the State can get the best men to devote their entire energies to a given work. In each State there must be county, district, market and other local inspectors. These men should all have passed certain examinations in veterinary police law and contagious diseases; for the time, before State Boards of Health; in the future, at the National Veterinary School, where courses of lectures should be arranged especially for such candidates. They should receive pay only for official work, but in no case should they hold office after 60 years old. They should be allowed to practice. Local inspectors, while belonging to the force, such as market and milk inspectors, should be paid by the respective localities. State inspectors, ordered to attend fairs or markets, should be paid for the time of service by the respective associations.

Returns should be made quarterly, by the district, county and local officers, to their respective State In-

spectors, and semi-annually, by the latter, to the National Inspector. The latter should yearly give a summary of the work done in the whole country—the extension of the various diseases, the conditions under which such have taken place, with appropriate remarks—to Congress, which should print it, to become the property of the nation. States should publish annual reports, in connection with those of the State Boards of Health.

Every State should sell licenses to practice, and no man allowed to use the title "veterinary surgeon" or letters "V. S.," unless possessing such license. This does not interfere with an individual's free right to patronize an empiric or quack, if he chooses. But it does protect honest men, and supplies the people with a means of knowing who is an accredited man. Empirics and quacks should be held as responsible to the law for the proper notification of the existence of suspicious diseases as the licensed practitioner.

We must start right: "Be sure you are right, then go ahead," is as right now as ever it was. The above plan interferes in no way with State or individual rights, in the best sense. It seeks to protect the animal property of every man, as if he were the government itself. No other plan can ever offer to you the same general and special results.

Let us see for a moment how such a plan would work. We will assume that an isolated, sporadic, case of rinderpest breaks out at Columbus, O. The local veterinary official becomes cognizant of the fact. He notifies his State Inspector, who notifies the various Inspectors of his State, who notify the public in a way fixed by law. At the same time, he notifies the General Inspector at Washington, who notifies the several State Inspectors, who in their turn follow the same course. What is the result? Every head of cattle, every marketable animal, is placed under inspection. Not one can be moved without its accompanying "clean bill of health" from place of shipment to point of destination. Inspection follows it or them along the route; consequently local infection, or secondary extension of the disease, is reduced to the least degree possible. It affords a like degree of protection to every animal owner in every State, a result it will be impossible to receive from State laws, with the necessary want of uniformity both in text and execution.

Gentlemen—I appeal to your honest reason; to you, as Americans, as men interested in the welfare of all, is there a trace of oligarchism, demagoguism, or undue centralization in the above plan?

We come now to the consideration of the final topic of this essay:

A National Institute for the study and development of comparative pathology, and for researches into the causes of contagious, infectious and other animal diseases, the relation of animal diseases to human health, and the education of scientifically qualified veterinarians.

It is an unfortunate truth that all legislation in this country with regard to the establishment of schools for medical education has been woefully incompetent. It finds its cause in the utter ignorance of the subject on the part of our legislators.

I have previously said that "no good legislation can be expected unless our legislators are competently educated in the history and details of the subjects upon which they are called upon to act. No greater mistake can be made than to think that successful worldly experience qualifies any man to become a competent representative of the people.

Education and reflection are as necessary as mere worldly success. We too often mistake the outward glitter for the pure gem. The glass fragment in the rays of the sun is often mistaken for the pure yet unpolished diamond.

With reference to legislation on the important subject of medical education, we have unfortunately had a ruinous example before us, which we have implicitly followed. I refer to England. We owe much, especially here in New England, to our English descent. It would have been, however, better for the American people had we entirely ignored her example in this particular. As in that country, so in this, we find no regulation on the part of the government, of the medical schools. The government, while purporting to be a government of the people, for the people, entirely overlooks the fact that all governments exist for the protection of the people. It is just as necessary that a government should protect its people from the interference of incompetent and incompletely educated medical men, as from frauds in other departments of life. This we have utterly neglected to do. Our legislators are absurdly obstinate and absurdly ignorant when called upon to legislate on these matters. They seem to think that when the best men in the medical profession ask them for laws to prevent empirics and quacks from assuming the name and title which the medical man has won by hard work and earnest reflection; that the profession desires to become tyrannical, and to interfere with the individual right of selection, on the part of the patient or his or her family. This is entirely wrong. The representative men of the profession, do not care a fig about their protection in order that their fees may be larger. They do care, and rightly, that the public may know who is a properly qualified man, and who not. Nothing more. They have an unquestionable right to such protection as the individual has to call in the services of a veritable quack or empiric if he chooses.

While this may be true of the matured individual, it is questionable if such have a right to trifle thus with the lives or health of their children, or irresponsible persons over whom the accidents of descent have given them charge. The processes of health and diseases are of so mysterious a nature, so much takes place in the living organism which is as yet beyond our present means of investigation to unravel, that the greatest and best medical men are only too willing to acknowledge their own insufficiency and want of infallibility in judgment, when called upon to face these difficulties and to treat them properly. Only the quack has sure and infallible means to health. Much of our treatment is, of necessity, of a hypothetical nature, and were it not that the scientifically educated medical man can fall back and treat your troubles symptomatically, that is, according to the chief phenomena which are present to his view, much of our treatment would be lame, indeed. How many cases come up in the active life of a practitioner, where he does not know what the actual causes of the phenomena he sees are? He may "guess," as we call it, yet it is not until the *post-mortem* is made that the true nature of the disturbances is revealed. This is a great reason why, in such cases, people should always consent to *post-mortem* examinations. It is only by the accumulation of carefully detailed histories of the phenomena seen during life, in union with carefully executed *post-mortem* examinations, that we are finally enabled to gather such evidence, that, one by one, we are enabled to discover causes of disease during the life of individuals, which have escaped the knowledge of our predecessors.

With reference to legislation on the establishment of medical schools, we have gone on the same ground that we take in reference to the establishment of our public schools. It is assumed that the more schools we have, the better for the community. But unlike its department toward the public-school question, our governments have taken no regulative control in this matter. They have utterly neglected their duty by not regulating the quality or quantity of the education given. The result is, we are overrun with cheap and incompetent practitioners. There is little or no uniformity in the education given, not only in the schools of one State, but of different States. While some States, as Massachusetts, have but one medical school, others, like New York, Ohio and the District of Columbia, have seven, three or so. There is little or no uniformity in the quality of education given at these schools, as I have before stated, but wish to impress upon your minds. There is no means by which the public may judge of the competency of two different graduates from different schools who may settle in their midst.

It requires no Websterian brain to see that such a principle is absolutely false, degrading to the stand of the profession, and equally unjust to the people.

The law requires no absolute testimony of ability on the part of men desiring to establish an institution for medical education. It does not ask: Have we enough such schools in a given State? It looks upon such institutions from the same stand-point it does on institutions for general charity.

Chapter 32, Section I. of the Massachusetts General Statutes reads: "Seven or more persons within this State, having associated themselves by agreement in writing for educational, charitable or religious purposes, under any name by them assumed, and complying with the provisions of this chapter—which say nothing about their qualification—shall with their successors be, and remain a body politic and corporate."

Gentlemen—As I have repeatedly said, and shall keep on obstinately affirming, this is all wrong when applied to schools for medical education.

One medical school in each State is sufficient. It should be regulated by the State, by means of the State Board of Health, or some competent body appointed by the Governor of the State, as State Examiners. The standard of medical examination should be the same in all States, and should be fixed by delegates appointed by the Governors of the different States. States should sell licenses to practice, and if such a uniform agreement between the different States should prove impossible, then graduates from an inferior school in any State, should not be allowed to practice, as recognized M. D.'s, in any given State, until they had passed the standard examination fixed by law in said State.

We had in 1876 fifty-nine medical schools in active operation in this country. At many of these the conditions to obtain a diploma are "one year's study." It means generally a Winter's course of six months at said institution, and two years' reading, loafing, or riding about with any Doctor who is willing to give such a certificate to an applicant.

The injurious results of such a system; the interesting race and rivalry after students by starving institutions; the great number of thoroughly incompetent graduates which are thrown out on an unreflecting public, must be apparent to every one of you, if you will but give the subject a moment's earnest reflection. It is to avoid these evils forever, that I suggest to you and publicly advocate a National Veterinary Institute.

The word "National," when used in reference to such a school, seems frequently to excite doubt as to the possibility of keeping such a school free from the degrading influences of American politics. I willingly admit the justness of such assertions, and would be the last man to affirm such a project possible, had not careful observation and earnest reflection taught me that such an institution is not only possible, but that it is possible to keep it free from political machinations.

The plan I am going to propose to your earnest consideration is the following: In no country in the world is there so great an amount of good, sound, common sense and open-handed generosity and true patriotism as among the agricultural yeomanry of America. The yeomanry of America is her backbone. It is from our yeomanry that the country exists; that our cities are supplied with able merchants, our parishes with noble and self-denying pastors, our bars with astute lawyers and our legislative halls with patriotic statesmen.

When political intriguers have placed the country in danger, and almost shaken our confidence in human principle, it is our honest yeomanry, our brawny sons of toil, under America's burning sun, that by their honest vote, as an indignant army come to the polls, and march to her salvation. Gentlemen—I propose that a society be formed in the United States to be known as the United States Society for the Promotion of the Study and Development of Comparative Pathology, and for the foundation and building of a National Veterinary Institute. I propose that it be chartered by the National Government. I propose it include in its membership every man and woman in this country, whose brain thrills with patriotism, with interest in the scientific stand of their native country among the nations of the world; whose heart goes out to the domestic animals when suffering with disease; who has sufficient self-interest to wish for the protection of his or her animal property from the devastations of disease. I propose that membership in this Association be fixed at one hundred dollars, with no limitation to the number of memberships taken by one person.

I propose to take the position of secretary and do the work free of charge until such a school is founded, if such be the pleasure of the members of the Association. I propose on the formation of such a society, and after the election of proper trustees, to present it on my part as my subscription, a deed of the best veterinary medical library in this country, and all additions which may be made thereto, said library costing in Europe not less than two thousand dollars, they to come into actual possession at the opening of the institution. I propose further to add to my deed of gift all my instruments, costing in Europe over six hundred dollars, and suitable to the hospital of any school however great it may be. I propose that said institution be located in that city whose citizens shall donate the most money for its foundation, and indirectly connected with that college or university which shall offer it the best gift of land and situation. The management of said institution shall, however, remain under its own Board of Trustees. The same shall be elected once in ten years by delegates, chosen by the subscribers, from the different States, they to choose their own President and officers.

I propose that when we have raised sufficient funds to warrant the location of said institution and its erection, that the National government be asked to contribute thereto. In return for which I propose that the acting Commissioner of Agriculture and the National Veterinary Inspector have a seat upon the Board of Trustees. I propose that, with the teachers of said school, the National Veterinary Inspector be one of the examining body. I propose that the diploma of graduation be signed by the President of the Board of Trustees, the acting director of the school, and the National Veterinary Inspector, as representative of the government and people.

I propose that the course of study extend over four years, of ten months each, and that the price fixed for tuition be one hundred dollars for each year's study, and that the sum paid in for the four years—four hundred dollars—be refunded to those students who graduate at their first examination; all others to forfeit the whole of the same. The teachers should be selected by open competition before the Board of Trustees in the first place, and in future years, all vacancies should be filled by open competition before the teachers of said Institute, and the Board of Trustees.

The teachers should hold their positions until sixty years old, unless otherwise incapacitated. They should be moderately paid, and on retirement, pensioned in the manner previously suggested in this essay. The director should be elected by the teachers and Board of Trustees, for the term of two years, and should be open to repeated re-election. During the directorship, he should receive \$1,000 extra pay, that he may attend to the hospitalities of the school in a becoming manner. All teachers should live upon the grounds, in apartments to be provided for them. As we have said, special courses should be arranged for the candidates for official positions in the different States. The examinations for these positions should take place at the School. The National Veterinary Inspector should be elected by the trustees and teachers of the School, either from their own number, or from the prominent State Veterinary Inspectors.

To the several teachers should be attached competent assistants, under moderate pay, who on the breaking out of animal plagues, when the occasion required it, should be subject to the order of the National Inspector to proceed to such localities to make those experiments and observations by which alone the cause of these diseases may be determined, and their suppression and prevention hoped for. The work of the principal teachers must never be interfered with, as students suffer much thereby.

The institution should be emphatically one for research, where agriculturists and animal owners may send suspected food, new foods, patent medicines, the organs of diseased animals, or other material, which they might desire investigated. The results of the same with the results of the experimental researches, and other information should be published at stated intervals in an archive given out by the institution. State licensing of graduates should be strictly adhered to, in the same manner as we have indicated above.

Each State should be provided by the Secretary of the School with a list of each year's graduates, giving name, age, residence, &c.

The above plan interferes in no way with the right of States to charter State institutions. But the results would soon be such that a comparison with the results in the medical schools, would lead every reflecting farmer and owner of animals to earnestly oppose State schools, as institutions not liable to contribute to their interests.

Each State should, however, have an experiment station, under control of the State Board of Health, where necessary food, inoculation or other experiments could be conducted.

The above plan requires money. But when we consider that no less than fifty million dollars' worth of animals are yearly swept away from us by contagious and other animal diseases, not including the losses occasioned by unmitigated quacks, the amount required is very small. If you ask me how much is required I must say, perhaps one million dollars.

The institution would, however, pay for itself in a few years, in the protection, the character of its graduates, and the result of its researches would throw over your animal property.

Gentlemen—I am done. I have given you the merest outlines of all the subjects we have touched upon. It would give me pleasure to enlarge upon any one of these you might select at a future time. I thank you for your patience. I hope that I have not only interested you, but that some seeds have fallen which will in time bring forth rich fruit.

Do not look upon me as a visionary dreamer, but rather as one deeply interested in yours and our country's welfare; as one who has fitted himself for the task he has set before him, by hard study and earnest reflection.

Gentlemen—The cause of a national veterinary school; the cause of the health and preservation of our domestic animals, the means of prevention to many human diseases, rests in your hands. Who of you all will be the first to set this wheel in motion? Gentlemen—your country await your pleasure.

BOSTON, Aug. 1, 1879.

### The Game of Billiards.

FRANK B. HOGEBOOM is reported "way down in Maine."

HARRY, otherwise known as "Baldy" Cole, accompanied champion Schaefer to this city.

It is lively now among the billiard table salesmen throughout the country. They are all looking cross-eyed at one another.

CHAMPION SCHAEFER exhibited last night at Geary & Lenahan's Academy of Billiards, 384 Third avenue. Ex-champion Deery assisted, and was announced to give his repertoire of fancy shots.

JACOB SCHAEFER, after six months' practice, manipulates what are known as small pool balls with great dexterity. Outside of cushion shots, he executes many of the shots of the renowned billiard necromancer, "Yank" Adams.

PHILADELPHIA friends of their old pastor, E. P. Simpson, will be pleased to hear that he is doing well in his new parish at Chicago. His flock is increasing daily, and nightly, too, for that matter. May success attend him!

JOHN FRAWLEY, of Cleveland, O., recently visited this city. Frawley is now selling billiard tables, and "whoops them up" lively in the state of O-hi-o. Frawley wears the watch and chain which he won in tournament of State champions, held some years ago at the iron building in Fourteenth street, known as the Hippodrome.

HARRY EUBERT, so long and favorably known to the billiard profession of this city proposes on Sept. 20, to throw out his own banner to the breeze. Said banner will be flaunted in front of the late room of which Albert Garner was the proprietor, in Broadway, near Thirty-fourth street. Extensive alterations will be made, and the old stand will "boom" up with new departures.

AN INFANT PRODIGY.—Senator Mike Geary rejoices in the possession of a promising boy, by name Cassius, who is four and a half years old. By much coaxing, Cassius induced his father to get him a billiard table suitable to his size and years. We were favored with a seance a few days since by Cassius, and must confess we were astonished at his execution. Although only in possession of the table for a little over a week, he hits the balls with a precision that many a beginner of riper age might well feel proud of, and the bridge he makes with his hand is nearly perfect. While pardonably proud of the boy's proficiency, the Senator says the young scion shall never, with his consent, adopt the billiard business as a profession.

LOUIS A. GUILLET, who will be remembered by many as a partner of the Dion Brothers—Joseph and Cyrille—at a billiard-room in Vesey street, this city, has secured the billiard-room of the Richelieu Hotel, at Montreal, Can. The hotel, which is one of the most popular in that city, is conducted by I. B. Durocher. Mr. Durocher is a thorough business man, and manages his hotel on the American plan, which augurs well for the success of the billiard-tables as handled by Guillet. The room was opened on the 22d inst. The introductory overture consisted of two games between Guillet and Louis Gohier. The first, a game of 900 points, 4 balls, was won by the former, with a score of 900 against 186, and the second, a three-ball game, fell to the same victor by a majority of 75 in 150, and an average of 10. Billiards in Montreal should meet with a fresh impetus by reason of Guillet's locating there.

A FATAL CAROM.—Marion, O., was the scene of a tragedy last week wherein a billiard cue was the death-dealing instrument. Thos. Taylor and Jay Randall got into a dispute as to the number of games lost and won at fifteen-ball pool, when Taylor struck Randall over the head with the butt-end of his cue. Here is material for John Creaham to make another tirade against 4 1/2 x 9 pool tables. Instead of stating that the difficulty arose owing to a difference of opinion as regards the number of games lost and won, he can, by a slip of the pen, give a heading something after this style: "Horrible Murder in Ohio—The Victim Slain while Playing for Drinks on a 4 1/2 x 9 Table—That Size Table Must and Shall be Abolished." To make the crusade still more binding, he can, by another stretch of imagination, picture the tragedy as taking place on the Sabbath. We shall look with anxiety for an article from the prolific pen of the President of the Society for the Suppression of 4 1/2 x 9 Billiard Tables.

### The Rifle.

Col. John Bodine has been appointed an officer of the court over which Judge Gildersleeve presides.

Major Henry Fulton has embarked into business again, and now represents the company which manufactures the successful invention and wonderful stylographic pen. The office is 291 Broadway.

The Secretary of the Victoria (Australia) Rifle Association, expresses regret that it was unable to send a team this year to shoot for the Palma. An invitation was received by the N. R. A. from the New South Wales (Australia) Rifle Association to participate in an international rifle match at Sydney, Australia, this Fall.

Gen. Wingate, of the Range Committee, has reported that the butts at Creedmoor, as well as the iron targets, are in a poor state, and require the outlay of at least \$1,000 to put them in a serviceable condition. The necessary repairs were ordered to be carried out, and a committee has been appointed by the National Rifle Association to provide the funds for this purpose.

The "Omnibus," or everybody's match, which took place at Creedmoor on the 27th inst., (through individual efforts, proved one of the happiest and most satisfactory events of the rifle season, and, from a financial point of view, also one of the most successful. Capt. C. F. Robbins, of the Seventh Regiment, who was mainly instrumental in inaugurating the match, turned over \$300 to the Treasurer of the N. R. A. as the net proceeds of the venture.

The seventh annual Fall prize meeting of the National Rifle Association will commence at Creedmoor on Tuesday, Sept. 16, and continue the remaining days of that week. A resolution has been adopted which requires that the marking, as signalled by the markers in the butts, shall not, in the future, be challenged. Another resolution, which also received the assent of the Board, at the recent meeting, provides that every man shall be required to shoot with his own rifle in all matches of the National Rifle Association. A committee of five, with Mr. Schermerhorn as chairman, has been appointed to revise the regulations of the Association. That part of the regulations which requires ten or more entries before a match of the Association can come off was repealed. The executive officer has been empowered to hire a telephone for the coming Fall meeting, and the lessee of the club-house is to have all the details of his building in good running order.

### The Turf.

#### MONMOUTH PARK RACES.

THIRD DAY OF THE SECOND SUMMER MEETING—THURSDAY, AUG. 28.

The day was a delightful one, the track in good condition but not fast, the attendance quite good, and the racing excellent. As usual there were six events on the cards, the first being the Moet & Chandon Stakes, for two-year olds, three-quarters of a mile, with penalties for the winners of stakes and allowances for maidens. Grenada, notwithstanding his impost of five pounds, was the favorite in the pools, Victory selling almost even with him. Neither secured a place, Beata winning after a close and exciting finish with the Macaroon filly, in 1:18 1/4.

The second race was the ninth renewal of the West End Hotel Stakes, for three-year-old fillies, with penalties for winners of stakes and allowances for beaten maidens. Ferida, with an impost of 5 lbs., was the favorite, and won handsily in 2:47, Scotilla second.

The third event was a free handicap, for all ages, one mile and five furlongs. Gov. Hampton was the favorite, but was easily defeated by Lou Lanier—she being much favored in the weights—in 2:57 3/4.

The fourth race, mile heats, was won handsily by Jericho, in 1:50, 1:52 1/4.

The fifth event, a selling race, one and an eighth mile, was won by Una, in 2:01 3/4, with Pilot second. The day's sport terminated with a handicap hurdle-race, one and three-quarters mile, over seven hurdles, which Judith won in hollow style, in 3:36 1/4, Coronet second. The following are the correct details of the racing:

MONMOUTH PARK RACES.—Third Day of the Second Summer Meeting—Thursday, August 28.—First Race.—Inauguration of the Moet & Chandon Stakes for two-year olds, three-quarters of a mile. Starters: Beata, Carita, Diana, Grenada, Victory, Ferncliffe, Paratonnerre, brown filly by Macaroon out of Dawdle, and chestnut filly by Macaroon out of Castagnette. Betting at the start:

Victory	.....	\$300	\$300	\$320
Grenada	.....	300	300	300
Belmont's	.....	150	155	155
Withers'	.....	180	105	90
Field	.....	50	40	40

THE RACE.—At the third attempt the flag fell to a fair start, Diana, attended by her stable companion, Ferncliffe, leading, Carita third, Victory fourth, the others well up, with Grenada last. Running through the back-stretch, the Castagnette filly reached the front, leading a neck at the half-mile pole, with Diana second, and Beata and Ferncliffe close up, in front of Victory and Paratonnerre, the favorite improving his position. Running around the turn, the Castagnette filly drew clear, and as they rounded into the home-stretch she led Diana and Beata, who were lapped, a length, with Grenada fourth, the balance beaten. There was no change until passing the furlong pole, when Beata, under the vigorous riding of Ringo, caught the Castagnette filly and beat her three-quarters of a length, in 1:18 1/4; Carita third, followed by Diana and Grenada, the others beaten off.

SUMMARY—MOET & CHANDON STAKES—3/4 MILE.

THIRD DAY OF THE SECOND MEETING OF THE MONMOUTH PARK ASSOCIATION Thursday, Aug. 28.—First Race.—The Moet & Chandon Stakes, for two-year olds, 3/4 mile, play or pay, with \$500 added by Messrs. Moet & Chandon, of which \$100 to the second; a winner of a stake of the value of \$1,000 to carry 5 lbs.; twice, 7 lbs.; thrice, 12 lbs. extra; maidens allowed 5 lbs.; three-quarters of a mile. A. Belmont's ch f Beata, by imp. The Ill-Used, dam Beatrice, 107 lbs., by imp. Macaroon, dam imp. Ringgold 1 D. Withers' ch f, by imp. Macaroon, dam imp. Castagnette, 102 lbs. Carita, by imp. The Ill-Used, dam imp. A. Belmont's ch f, by imp. Macaroon, dam imp. Diana, 107 lbs. W. Astor's ch f Diana, by imp. Glenelg, dam Annie Bush, 102 lbs. G. L. Lorillard's b c Grenada, by King Alfonso, dam Mattie Gross, 115 lbs. D. D. Withers' br f, by imp. Macaroon, dam imp. Dawdle, 102 lbs. P. Lorillard's b c Victory, by imp. Billet, dam Lady Vic, 105 lbs. J. F. Pursey's c Paratonnerre, by imp. Macaroon, dam Parapluie, 105 lbs. W. Astor's ch c Ferncliffe, by imp. Leamington, dam Nellie Ransom, 105 lbs. Time, 1:18 1/4.

SAME DAY.—Second Race.—Ninth renewal of the West End Hotel Stakes, for three-year-old fillies; one mile and a half; closed with 25 subscribers. Starters: Ferida, 118 lbs.; Scotilla, 113 lbs.; Audax, 113 lbs.; Lulu, 110 lbs.; Fiddlingstrig, 110 lbs.; Wissahickon, 110 lbs., and Belinda, 113 lbs. Betting at the start:

Ferida	.....	\$225	\$200	\$250
Belinda	.....	225	225	170
Lulu	.....	150	155	100
Scotilla	.....	130	80	85
McGrath's	.....	135	110	105
Fiddlingstrig	.....	35	40	35

THE RACE.—The flag fell to rather a poor start, with Fiddlingstrig in the lead, Wissahickon second, Belinda third, the balance in a bunch led by Scotilla, with Lulu last. Passing the half-mile pole, Wissahickon went to the front, followed by Belinda and Ferida. They came up the front stretch at a strong pace and passed the stand, Wissahickon three lengths in front of Fiddlingstrig, Belinda and Ferida lapped, Lulu, Audax and Scotilla following well up. Running around the club-house turn, Belinda and Fiddlingstrig were back, Wissahickon leading at the quarter pole, with Ferida second, Lulu third, pressed by Audax. When well in the back-stretch, Ferida went to the front, and at the half-mile pole was a clear length in front of Audax, with Lulu third, lapped by Scotilla, the balance out of the race. Ferida increased her lead to two lengths at the three-quarter pole. Coming to the finish, Ferida won handsily by two lengths in 2:47, Scotilla beating Audax four lengths for second place.

SUMMARY—WEST END HOTEL STAKES—1 1/2 MILES.

SAME DAY.—Second Race.—Ninth renewal of the West End Hotel Stakes, for fillies 3 years old, \$50 each, play or pay, with \$200 added by the West End Hotel; the second to receive \$200 out of the stakes; winners of one three-year-old stake to carry 3 lbs. extra; of two or more such stakes, 5 lbs. extra; beaten maidens allowed 3 lbs.; one mile and a half. G. L. Lorillard's b f Ferida, by imp. Glenelg, dam La Henderson, 118 lbs. J. McManon's b f Scotilla, by imp. Bonnie Scotland, dam Juanita, 113 lbs. H. P. McGrath's ch f Audax, by Tom Bowling, dam Crescent, 113 lbs. W. Astor's ch f Lulu, by Harry Bassett, dam Sarah B., 110 lbs. A. Belmont's ch f Fiddlingstrig, by Kingfisher, dam imp. F. Iggree, 110 lbs. H. P. McGrath's b f Wissahickon, by imp. Leamington, dam Sarong, 110 lbs. D. D. Withers' ch f Belinda, by imp. Glenelg, dam Madame Dudley, 113 lbs. Time, 2:47.

PREVIOUS WINNERS OF THE WEST END HOTEL STAKES.

1871—T. W. Doswell's	.....	3	3:43 3/4	Mary Clark.
1872—A. C. Franklin's	.....	3	3:30 3/4	Jury.
1873—W. Cottrill's	.....	6	3:18	Minnie W.
1874—W. Cottrill's	.....	3	3:13 3/4	Regardless, Bannerette.
1875—W. Cottrill's	.....	5	3:11 3/4	Gyptis.
1876—A. Belmont's	.....	5	3:14 3/4	Mary.
1877—P. Lorillard's	.....	3	3:18	Aunt Betsy.
1878—G. L. Lorillard's	.....	7	2:44 3/4	J. Belle filly.
1879—G. L. Lorillard's	.....	7	2:47	Scotilla.

[NOTE.—In 1871 and 1872, the distance was two miles; from 1873 to 1877, inclusive, it was a mile and three-quarters; in 1878 and since it has been a mile and a half. From 1871 to 1877, inclusive, the weight was 107 lbs., with 5 pounds extra for the winner of the Monmouth Oaks, which penalty Ascension, Patience and Zoo-Zoo carried in 1875, 1876 and 1877. In 1878 the weight was increased to 113 pounds, with 5-pound allowances to starters that had not won a three-year-old stake, which made the weight on Balance All 108 pounds. In 1879 winners of any three-year-old stake carried 3 pounds extra; of two or more such stakes, 5 pounds extra; beaten maidens allowed 3 pounds.]

SAME DAY.—Third Race.—Free handicap sweepstakes for all ages; one mile and five-eighths. Starters: Lou Lanier (4), 103 lbs.; Gov. Hampton (5), 108 lbs.; Gen. Phillips (5), 112 lbs.; Invermore (4), 103 lbs.; Bill Dillon (6), 108 lbs.; Brother to Grinstead (4), 102 lbs. Betting at the start:

Governor Hampton	.....	\$500	\$900	\$600
Invermore	.....	520	680	500
Lou Lanier	.....	300	320	300
Brother to Grinstead	.....	170	200	220
Field	.....	50	100	100

THE RACE.—At the first attempt the flag fell, with Hampton in front, Invermore second, Phillips third, the balance all close up. Before reaching the half-mile pole the Brother to Grinstead was leading a clear length, with Phillips and Invermore lapped, second, followed by Lou Lanier and Hampton. Going around the upper turn Phillips passed the

Brother to Grinstead, and led him up the stretch and past the stand nearly a length, with Invermore and Hampton close up. Rounding the lower turn, Invermore went up and passed the quarter-pole half a length in front of Phillips, he two in front of Lou Lanier. Invermore held her advantage to and past the half-mile pole, Phillips second, Lou Lanier third, Hampton fourth. Phillips, Lou and Hampton being lapped, they ran around the turn to the home-stretch, Phillips led Invermore a neck, Lou Lanier well up in front of Hampton and Dillon. At the furlong-pole Invermore dropped back, Lou Lanier passing Phillips, followed by Hampton. Lou holding the lead to the finish, won by a scant length from Hampton in 2:57 3/4, Phillips, three lengths away, third.

SUMMARY—FREE HANDICAP.

SAME DAY.—Third Race.—Free handicap sweepstakes, of \$30 each, if not declared out, with \$600 added; the second to receive \$150 out of the stakes; one mile and five furlongs. G. L. Lorillard's ch f Lou Lanier (4), by Lever, dam Lady Hardaway, 103 lbs. W. P. Burch's ch h Gov. Hampton (5), by Planet, dam Merry Wave, 108 lbs. S. D. Bruce's ch h Gen. Phillips (5), by imp. Glenelg, dam La Polka, 112 lbs. D. D. Withers' b m Invermore (4), by Lexington, dam imp. Invercauld, 103 lbs. Ayres & Sutcliffe's b g Bill Dillon (4), by Tipperary, dam by Oliver, 108 lbs. Thomas Puryear & Co's b c Brother to Grinstead (4), by Gilroy, dam Sister to Ruric, 102 lbs. Time, 2:57 3/4.
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SAME DAY.—Fourth Race.—Mile heats, for all ages. Starters: Jericho (3), 103 lbs., and Bonnie Oaks (3), 103 lbs. Betting at the start, 5 to 1 on Jericho.

THE RACE.—First Heat.—The flag fell with Bonnie Oaks three lengths in front of Jericho. The latter pressed Bonnie all the way to the half-mile pole, when Bonnie quit. Jericho, coming on, won easily by eight lengths, in 1:50. Second Heat.—10 to 1 on Jericho. He took the lead and was never lapped, winning the heat and race by eight lengths, in 1:52 1/4.

SUMMARY—MILE HEATS.

SAME DAY.—Fourth Race.—Purse \$500; winners of \$1,000 (handicap excepted), to carry 7 lbs. extra; maidens allowed, if 3 years old, 3 lbs.; if 4 years, 7 lbs.; if 5 years or upward, 12 lbs. D. J. Crouse's ch c Jericho (3), by Revolver, dam Sky-light, 103 lbs. P. Lorillard's br c Bonnie Oaks (3), by imp. Billet, dam dam Experience Oaks, 103 lbs. Time, 1:50, 1:52 1/4.
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SAME DAY.—Fifth Race.—Selling race, for all ages, with price allowances; one mile and an eighth. Starters: Una (3), \$1,000, 93 lbs.; Virginian (3), \$1,000, 98 lbs.; Speculation (4), \$300, 93 lbs.; Susquehanna (5), \$750, 109 lbs.; Eunice (3), \$1,000, 93 lbs.; Jackscrew (4), \$300, 93 lbs., and Pilot (4), \$300, 93 lbs. Betting at the start:

Una	.....	\$300	\$400	\$400
Speculation	.....	65	100	100
Pilot	.....	75	100	100
Susquehanna	.....	75	90	85
Eunice	.....	30	35	40
Field	.....	35	45	50

THE RACE.—The flag fell to an excellent start. Una at once rushing to the front, was two lengths in front of Jackscrew at the stand, Pilot third, Speculation fourth, balance well up, led by Susquehanna. A held her lead around the turn, and at the quarter-pole was half a length in front of Pilot, lapped by Jackscrew, with Speculation at his heels. Una increased her lead in the back-stretch, with Pilot, Jackscrew and Speculation lapped; she rounded into the home run with a good, clear lead, and came on and won by two lengths, in 2:01 3/4; Pilot beat Jackscrew half a length for second place. The winner was bought in for \$1,300.

SUMMARY—1 1/4 MILES.

SAME DAY.—Fifth Race.—Purse \$300; the winner to be sold at auction for \$1,000, if entered to be sold for \$1,000, allowed 5 lbs.; if for \$200, 10 lbs.; if for \$500, 17 lbs.; if for \$300, 22 lbs.; one mile and an eighth. G. L. Lorillard's ch f Una (3), by War Dance, dam Georgia Wood, \$1,000, 93 lbs. A. Taylor's ch g Pilot (4), by Planet, dam Sally Lewis, \$300, 93 lbs. Thomas Puryear & Co's b g Jackscrew (4), by Narragansett, dam Pasta, \$300, 93 lbs. J. F. Carter's m g Speculation (4), by Daniel Boone, dam Lizette Stoghill, \$300, 93 lbs. A. Belmont's ch m Susquehanna (5), by imp. Leamington, dam Susan Beane, \$750, 109 lbs. F. Stearns, Jr.'s ch c Virginian (3), b Alroy, dam Mary Minor, \$1,000, 98 lbs. F. M. Hall's b f Eunice (3), by Vauxhall, dam Eugenia, \$1,000, 93 lbs. Time, 2:01 3/4.

SAME DAY.—Sixth Race.—Handicap hurdle-race, for all ages, one and three-quarter miles, over seven hurdles. Starters: Coronet (aged), 154 lbs.; Redding (aged), 144 lbs.; Dandy (5), 140 lbs., and Judith (4), 140 lbs. Betting at the start:

Judith	.....	\$200	\$200	\$400
Coronet	.....	80	90	150
Dandy	.....	60	70	115
Redding	.....	65	75	80

THE RACE.—The horses started from the quarter pole in the regular track, Judith leading, she taking the first hurdle in the lead, and was then pulled to the rear, where she waited until near the last hurdle, when she went to the front and won easily in 3:36 1/4. Coronet beat Redding for second place half a length.

SAME DAY.—Sixth Race.—Handicap hurdle-race; purse \$600; of which \$100 to the second; entrance free; three horses, the property of different owners, to start, or no race; one mile and three-quarters, over seven hurdles. The Newport Stable's b f Judith (4), by imp. Glenelg, dam Madame Dudley, 140 lbs. P. Nolan's b h Coronet (aged), by Jonesboro, dam Garland, 154 lbs. L. Hart's ch h Redding (aged), by Harry of the West, dam Ida, 144 lbs. J. Henry 3 Bennett & Co's ch h Dandy (5), by Oysterman, Jr., dam Bet Arlington, 140 lbs. Time, 3:36 1/4.

French mutuels paid for each \$5 invested:

First Race	.....	\$29.40	Fourth Race	.....	\$6.05
Second Race	.....	16.90	Fifth Race	.....	7.65
Third Race	.....	20.35	Sixth Race	.....	8.15

CONCLUDING DAY—SATURDAY, AUG. 30.

The day was all the most enthusiastic admirer of turf sports could desire, the track in the best condition and the attendance quite good. The racing was excellent, but, as usual, the good young horses were so favorably handicapped that they went with ridiculous ease. The first race on the programme was the selling race, for