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IT IS A SPECIAL HONOUR indeed to have been asked to present this Centennial Convocation Address, not only because of the signal privilege of a graduate returning to his *alma mater* but also because of the challenge the name "School of Veterinary Medicine of the University of Pennsylvania" conveys.

First, may I speak on behalf of my fellow graduands, for I am sure they would want me to extend their great appreciation of the high honour conferred on them at this special convocation and, as graduands *honoris causa*, they would most heartily congratulate the School of Veterinary Medicine on its Centennial and wish it good fortune and God-speed for the future.

Further, I bring you greetings President Hackney and Dean Marshak from the Officers of the British Veterinary Association and of the Royal College of Veterinary Surgeons, of which I have the privilege to be President; they congratulate you on your centennial and, being conscious of the important contributions the School of Veterinary Medicine of the University of Pennsylvania has made to the advancement of knowledge in the field of veterinary medicine, they sincerely and earnestly hope you will continue to provide leadership in the advancement of teaching, learning and research.

Celebrations such as these are times for looking back with pride at the events that led to the establishment of the School and its success and development over the years, and also it is a time for looking to the challenges of the future with an assessment of the preparedness for that future.

In looking back, memories become blurred and the precise events become distorted into dramatic episodes presented in eloquent eulogies of the past as serendipitous thoughts, words and deeds which created an institution. The actual events are often quite different! It took substantial effort to establish the teaching of veterinary medicine in the University of Pennsylvania and,

though Benjamin Rush championed the cause in a speech in 1806 in which he urged the Philadelphia Society for the Promotion of Agriculture to support veterinary education in the University, it was to be some 70 years later that the new Department opened its doors to students.

North America was somewhat slow to establish schools of veterinary medicine and well behind the movement in Europe. In the latter part of the eighteenth century in Europe, schools developed apace, the first in Lyon in 1763 and, within the span of thirty-seven years, twenty other schools had been established, including the first in the United Kingdom, in London, in 1792.

The pressure in Europe came from the need to provide medical and surgical care to the horse, an essential component of armies and the main source of draft power in civilian life. The pressure came also from the devastation of the cattle population caused by plagues such as Rinderpest which swept across Europe at that time.

By the mid-eighteenth century, for example, in the United Kingdom, a Royal Charter was granted in 1844 and with it the establishment of the governing body of the profession, the Royal College of Veterinary Surgeons. An act of parliament, the Veterinary Surgeons Act of 1881, permitted only qualified persons to practise the art and science of veterinary medicine.

In tracing the early history of veterinary medicine in the English speaking world, an interesting association between the UK and Pennsylvania is evident. It was due largely to the efforts of Granville Penn, the grandson of William Penn, the founder of Pennsylvania, that the veterinary school in London came into being. Granville Penn, a man of leisure, fond of good claret, fast women and faster horses, nevertheless persuaded the Odiham Agricultural Society to establish a veterinary college in London.

It says little for the United Kingdom, that the first professor in the London School was a Frenchman trained in Lyon.

Some interesting rules were established for the London Veterinary School at that time:
—students had to be able to read and write
—all grooms and professors would be sober and diligent during the day

—professors were paid according to the success of the School.

Pennsylvania, therefore, can claim some relation to, if not credit for, the advent of veterinary science in the English speaking world.

However, veterinary medicine had developed only slowly in the USA; by 1800 there was no formal educational system and foreign veterinarians were the only trained personnel available. Schools of veterinary medicine came and went, languishing for lack of government support, not an unfamiliar story even today! But by the late 1800's permanent schools were established and, it was the effort of a Mr. Horace Smith, manager of a local horse farm, that helped establish the first professorship in veterinary medicine in the University of Pennsylvania in 1878, a fact often attributed to Dr. Benjamin Rush following an address sponsored by the Philadelphia Society for Promoting Agriculture in 1807; some seventy years earlier. As the number of schools has grown, so has the graduate mass, and so has the concept that the profession is one that is alert and responsive to the needs of the coming decades.

Why can I claim such an ability for the profession? Because I believe veterinary education has become more prospective in its outlook and has ceased to be purely vocational in endeavour. The turning point was the need for veterinary schools to establish reputations in universities based on research and scholarship: this was a spontaneous movement in many countries some 30 years ago. The man who spearheaded that movement in the University of Pennsylvania was Dr. Mark Allam, who shared with the first dean of the veterinary school, Dr. Rush Shippen Huidekoper, a sense of challenge, and was an accomplished horseman and ran a practice in Media.

The recent decades have seen far reaching developments in veterinary medicine. The major infectious diseases of livestock have been controlled, many have moved to status of exotic diseases, but not without constant vigilance against their reintroduction; major developments have taken place in animal breeding and recent techniques of *in vitro* fertilization and embryo transfer and cloning will rival the important role of artificial insemination in improving the world's livestock resources; and the increasingly high quality medical and surgical care available to all species, are but a few of the advances in the veterinary field.

The University of Pennsylvania has played a significant role in the advancement of veterinary knowledge, of recognising the importance of the comparative medical approach and of adopting rigorous standards for self criticism of its education, research and scholarship.

And what of prospecting? It was John Senders who said "I've looked at the future and it doesn't work!" But it will work, inexorably so and, as a profession, we must play a role in making it work.

One dare speculate that up to now life has been somewhat easy. There have been practical problems to solve, they have been solved, but now we move to an era in which answers will not come so easily. Looming ahead are issues on which the veterinarian must take a stand and on which research and scholarship will be demanded of the academic, as well as participation by the practising arm of the profession. These include environmental issues, industrialization of livestock enterprises, welfare considerations, especially those concerned with man's use of animals for the advancement of knowledge and the role of animals as companions and the spin-offs of the human-companion animal bond. These several issues pose challenges different from previous experience and we shall need all our wit and wis-

dom to meet those challenges. In the challenge there is a blurring of boundaries between professions and disciplines and the "one medicine" approach, which has been a key issue in research in the School of Veterinary Medicine, will, I believe, prove to be the appropriate method.

This blurring of boundaries implies also that we, as a profession, must compete in the scientific market place for research and funding and perform at the same high level as other professions and disciplines while retaining our responsibility to address the issues pertaining to animals.

Considerations of animal health and productivity must loom large in the future. Already intensification of livestock management and improvement in productivity have produced remarkable results, but political direction has also produced surpluses of remarkable size in a world where hunger and famine are daily occurrences. Livestock production will need to respond to dictates of the political scene as well as the changing pattern of human nutrition where the consumption of livestock products may change markedly owing to new findings of dietary associated disorders.

More and more, the profession will need to consider the issues of animal welfare in the production of food and fibre for man's use. It is an area about which we know little, but we must know more and one in which the veterinary profession must accept leadership. It is no longer permissible to avoid issues such as "stress" in animal production systems or the question of "animal rights" in man's exploitation of animals or the parallel existence of "human nature" with "animal nature" in considerations of animal welfare.

The University of Pennsylvania has been the leader in the field of companion animals in society; interest has spread rapidly and now many western countries pay particular attention to this field. It is a field dismissed by many in our profession as of concern only to the medical profession, but not us—be that as it may, interest is growing in this field and if we do not respond to this growing interest, others will.

While we in the Western World perceive the tasks ahead as applying the new technologies, let us not forget the other parts of the world—the Third World. There the needs differ somewhat

and survival is a key issue. The W.H.O. has declared an aim as "Health for All by the year 2000" and health is defined as a state of physical, mental and social well-being and not merely the absence of disease and infirmity.

Animals inextricably are a part of this total health picture in the Third World. The veterinary profession has played a very significant role already in the gaining of this goal—though at times it has received precious few thanks for it. Control of animal infectious disease by vaccination has been outstandingly successful to the extent that the major scourges are now absent from major areas. Entities such as contagious pleuropneumonia, Rinderpest, African Swine Fever etc, have been controlled in the majority of tropical countries but problems of international finances and the indigenous politics of several countries threaten the international animal disease control scene at this time.

Various international authorities have called for vigorous steps to raise the efficiency of meat, milk and egg production in developing countries. The animal, especially the ruminant, can convert the most inhospitable flora into useful products, but as well as providing food, animals provide power and draft animals such as the ox, zebu, buffalo, horse, camel, yak, llama, elephant etc,

still provide 80% of the world draft power, despite the advances in design of the internal combustion engine and of electrical power. To the peasant farmer in so many countries, the draft animal is critical for family survival. Should the animal go sick or die, then disaster faces that family. The veterinarian is an essential person in a society so precariously balanced between survival and calamity.

I am particularly pleased to note that the School of Veterinary Medicine of the University of Pennsylvania is increasingly concerned with the Third World and its problems. These countries are our neighbours and, what happens there, is of importance to all.

As science expands and the needs of society grow, I believe the veterinary profession will be presented with great opportunity and great challenges. Shall we be able to contribute in a meaningful way? We *must* do so!

In its modern context, veterinary medicine, has responsibility for the health and welfare of all animals except one, man. Within this context I believe the art and science of veterinary medicine must flourish, and I can think of no more appropriate place to look for leadership in this than at the University of Pennsylvania School of Veterinary Medicine.

CONGRATULATIONS

I am pleased to send my warm greetings to the students, faculty, and alumni of the School of Veterinary Medicine of the University of Pennsylvania as you celebrate the centennial of your distinguished institution.

The founding of your school one hundred years ago was a noble response by a private university to a critical need of our country. At a time when our growing urban population was overtaxing traditional local food supplies and demanding both qualitative and quantitative increases in food production, your university recognized the necessity of applying the methods of medical science to the raising and care of livestock. Since that time, the School of Veterinary Medicine has remained at the fore-

front of scientific and educational programs in the effort to protect and improve America's food supply and public health.

Nancy and I send our congratulations as you celebrate this important anniversary, and we offer you our best wishes for another century of outstanding achievement.

Ronald Reagan

The School also received a congratulatory message from Dr. Shuichiro Kubo, dean of the veterinary school at Hokkaido University, Japan.

Congratulatory scrolls were presented at the Centennial Medal ceremony. They came from the Royal Veterinary College, London, Royal (Dick) School of Veterinary Studies, University of Edinburgh, and the Tierärztliche Hochschule, Hannover, Germany.

"Duncan's Horses"

Professor Lance Lanyon of the Royal Veterinary College, University of London, presented a maquette of "Duncan's Horses" to the School during the convocation ceremony. The sculpture of three fiery horses is by Adrian Jones, a 19th century British veterinarian. The huge original can be seen at the Royal Veterinary School Field Station near London.

The plastercast of the group was given to the College by Jones in 1938 and it has been on display since 1967. When the piece was first exhibited in 1892 at the Royal Academy a great controversy erupted. Jones, a self-taught painter and sculptor who entered the art world after twenty-three years in the British army, was accused of having hired another sculptor to produce the work. Adrian Jones attributed his fellow artist's accusations to jealousy and the fact that his abilities developed through field work and not through studies in studios or art schools. He continued in his new career as a sculptor and was commissioned to create the "Peace Quadriga" atop Wellington Arch as well as many other works.



"Duncan's Horses" was exhibited at the Crystal Palace and remained there until fire destroyed the building in 1936. When Jones gave the piece to the Royal Veterinary College, plans were made to cast it in bronze. Jones' death in 1938 and the outbreak of war foiled these plans. The sculpture lingered in a warehouse until the sixties when casting it in bronze was contemplated once more. However, costs had risen dramatically and it was determined to coat the work with fiberglass and polyester resin to preserve it and to make it impervious to the elements. Unfortunately, this method of preservation did not work and the sculpture began to deteriorate almost to the point of no return. In 1982 it was determined that the piece should be saved; it was temporarily restored and in 1983 a fund drive was launched to raise £30,000 to make a bronze casting. Dean Robert R. Marshak has been active in the effort to save the Jones sculpture. The work will be preserved thanks to donations by British veterinarians and an anonymous American donor.

The maquette of "Duncan's Horses" will be displayed in the Jean Austin duPont Library at New Bolton Center.