The Value to the Nation of Veterinary Schools

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President Eloit has said: "It is a disgrace to organized education that any nation should refuse, as our own people are so apt to do, to learn from the experience of other nations; the schools must have failed to teach history as they should have done."

The American people have been so greatly favored by a virgin, fertile soil, by great natural stores of wealth, by kindly climates and by the absence of a hostile frontier that, as a nation, they have not yet been driven to a severe struggle for existence and to the development of habits and practices of economy, or to careful husbanding of their resources. The typical American method is that of the miner rather than that of the husbandman. The husbanding of one's estate—husbandry—is in direct contrast with the exhaustion of the rich stores of nature without replacement—mining.

Our great progress as a nation is largely due to the profits derived from turning into cash the bounteous products and stores of nature, the furs, timber, oil, coal, iron and other minerals and, above all, the surplus plant food accumulated and waiting in the soil for the pioneer farmer. These riches, some of which have been gathering thousands of years, and some of which were deposited ages ago, are rapidly being transmuted into fluid capital and some are already well-nigh exhausted. The fur-bearing animals are almost gone, the end of our timber resources can be seen in the near distance, and the limits of the soil areas characterized by surplus fertility are contracting at a startling rate.

The gold dollars that nature scattered so bountifully and covered so lightly throughout the length and breadth of our country have nearly all been gathered. They were gathered by the lumbermen who chopped down and marketed the noble forests of Maine, of Pennsylvania and of Michigan; they were garnered by the tobacco growers and the cotton planters who formerly tilled the virgin fields of the South, many of which
are now half exhausted and some of which are barren; they were gathered by the early settlers on the rich and seemingly exhaustless lands of the middle West, where it was possible to grow wheat or corn on the same land year after year, without intermission, for a generation, but where it is now necessary to follow an appropriate rotation of crops and to have a care for the restoration of the elements of fertility; they were gathered by the cattlemen and sheeplemen who owned the vast herds and flocks that formerly ranged over the unoccupied lands of the far West, great areas of which have so suffered from exhaustion from over-stocking that they are now practically useless, and the grasses of some districts are believed to be permanently destroyed. This system of mining natural resources is very different from the art of the husbandman, who makes restoration, in the form of material or tillage, for all that he removes, and under whose skilful hand nature continues permanently to yield her fruits.

All permanent civilization depends on the conserving work of the husbandman. This fact is gaining recognition in our youthful country. The barren, fire-swept, flood-breeding, drouth-encouraging mountain sides are gradually being reforested, the depleted lands of the East and South are being restored to fruitfulness under scientific and conservative systems of agriculture that have been worked out in the experiment stations and agricultural schools. The semi-arid cattle ranges of the West are being cut up into farms which will yield bountifully.

With all of this development, is it not strange that our country continues to tolerate a loss of from $200,000,000 to $250,000,000 each year from diseases of animals that ought to be prevented? Why is this loss permitted to continue? Why is this tremendous leak unchecked? In the first place, there has been in this country such an unparalleled amount of natural wealth that, with all of our wastefulness, enough has remained to meet the requirements of our population, and so a continuing loss great enough to seriously incommode, if not to distress, one of the great powers of Europe, has been permitted to go on year after year without hindrance. In the second place, the loss has been so scattered that it has not often fallen with crushing
force upon a single locality, although great numbers of individuals have been sadly injured. *Thirdly*, the veterinary profession has not been sufficiently insistent on the importance and advantages of its work, and so the public has not been strongly enough impressed by the importance of veterinary work to furnish, or to demand from the public treasury, adequate funds for its proper support and development.

Another reason for the tardiness of our development as a profession, and of our institutions, is that on account of our distant position with relation to the old centres of civilization, we have a natural barrier against infections from abroad that has protected us to a large extent from some of the more prominent and striking, the explosive, animal plagues of the old world. Indeed, cattle owners have generally failed to recognize the gravity of the dangers that have actually confronted them until the blow has fallen, as, for example, when contagious pleuro-pneumonia and foot-and-mouth disease have prevailed in this country. Livestock owners were so inclined to accept losses from diseases of animals as a matter of course that they did not organize and demand relief from this source of injury. After contagious pleuro-pneumonia had prevailed in this country for ten years, had been rather extensively distributed, threatening the cattle industry of the United States with the direst calamity, even with partial extermination, as had so recently before occurred in Australia, where it ruined cattle breeding, transforming cattlemen into shepherds; even then the cattlemen made no strong or organized demands for protection until the disease had extended to the West and had reached Chicago, the greatest of our cattle markets. Still the recommendations by veterinarians of the measures that finally prevailed and that were so brilliantly successful, were, in many instances, opposed by the interests to be benefited and so sorely in need of help.

When foot-and-mouth disease appeared in New England a few years ago, the representatives of the cattle industry were more willing to heed the recommendations of veterinarians and the calamity was averted of loss of foreign trade in live animals and of incalculable damage to our domestic animals at home.

These are achievements that are not fully enough discussed
and that are not sufficiently appreciated. The saving resulting from the extermination of foot-and-mouth disease alone is great enough to build and endow a veterinary college in every state of the Union and to repay, manyfold, all of the funds that have been expended on the work of the Bureau of Animal Industry and the Livestock Sanitary Boards of the various states.

In European countries, where an animal scourge, as rinderpest, occasionally swept across the land, destroying a large proportion of the horned cattle, or almost completely exterminating them, and where other explosive plagues prevailed widely, there has always been both a keen realization of the destructiveness of infectious diseases of animals and appreciation of efforts directed toward the prevention of such diseases.

And so it was, that one of the earliest measures adopted by the governments of Europe for the relief of agriculture and for the improvement of animal husbandry consisted in the establishment of veterinary schools. The veterinary schools antedate the agricultural schools for the reason that the first step in the improvement of animals is to protect them from disease, and agriculture rests largely upon animal husbandry. Some years after schools and laboratories were organized for the development of knowledge concerning diseases of animals, and for its dissemination, agricultural schools came into being.

This country has been very tardy in its recognition of the importance of the veterinary sciences, being, in this respect, more than eighty years behind Germany, France, and the lesser countries of continental Europe. Perhaps a reason for the slow development of state veterinary schools, in spite of the great need of the country for the work of such schools, may be found in the unprecedented development of schools of agriculture and of agricultural experiment stations. Institutions of these classes were organized in every state, and the impression seems to have prevailed that it would be possible for them to take care of the needs of the country with respect to veterinary development and teaching. This, however, has not been the case, and it has long been clearly evident that veterinary teaching, if it is to amount to anything in a serious and definitely useful way, and if it is to be developed to a point at all compatible with the needs of the
country, must have its own separate and specially equipped institutions. The work of the agricultural colleges and experiment stations has developed so much faster than the income of these institutions that those responsible for their management are constantly appealing at Washington and at the various state capitals for increased revenue. Thus the veterinary sciences have remained in the background, undeveloped and unable to exert their beneficent influences for the protection and betterment of animal husbandry.

Quite recently a change of sentiment has become apparent and veterinary work is beginning to have public recognition. It is now time for veterinarians to make known publicly, generally and forcefully the advantages that will accrue to the state from the proper development of veterinary research, veterinary education and veterinary administration. The limited public veterinary work that has been authorized, has proved its value and serves as a strong argument for further development.

It is probable that in the more civilized countries, great outbreaks of rinderpest, foot-and-mouth disease, contagious pleuropneumonia, etc., etc., are as unlikely to occur as are great outbreaks of the plague or cholera under our modern conditions. New conditions develop or, at any rate, encourage new diseases. The destructive infectious diseases of to-day are more chronic and more widely distributed than the great plagues of former times. The diseases of to-day destroy more animals, but the victims are scattered. Instead of destroying half of the cattle within a limited area, they may destroy 5 per cent. of the cattle in a district a hundred times as great, or, the victims may be gravely injured and rendered unprofitable but not killed. Animal plagues in these days are not so explosive as they are erosive. Tuberculosis, abortion, and calf cholera were never before so prevalent as they are to-day. On account of their insidious nature they do not cause the alarm, but they do cause as much loss as some of the more spectacular and rapidly spreading maladies. Besides these, there are the various infectious diseases of horses: glanders, infectious pneumonia, influenza, strangles, tetanus, purpura hemorrhagica, also various forage poisonings, and osteoporosis. In addition, there are numerous infectious
and parasitic diseases of other animals and there are important veterinary problems in connection with breeding and animal production, all of which require elucidation. *The veterinarian is not only a physician for animals—he is an animal engineer.* Moreover, the work of the veterinarian is of great and increasing importance with relation to the supervision of the production of foods of animal origin.

I have referred only to such veterinary work as is of immediate public importance, but surely it is also of importance that owners of valuable animals may be able to obtain the services of skilled men to furnish advice as to the prevention of disease and to treat ailing animals, so that, so far as possible, their sufferings may be relieved and they may be restored to usefulness.

It is necessary only to turn to the experiences of other countries to learn that a large part of our great and continuing losses from animal diseases is avoidable, and is a result of neglect.

The veterinary development of Denmark furnishes a very instructive lesson. Denmark is a small bleak country, and a generation ago it found itself stripped of its fairest province, impoverished by war and confronted by changed economic conditions that made it impossible for it to continue the kind of husbandry (grain production) that had formerly sustained it. The indomitable will and resourcefulness of the people brought about a complete change in the agricultural conditions, under which dairying became the chief industry. This brought into great prominence the importance of animal hygiene. The old veterinary school of Copenhagen, established in 1773, had long before laid the foundation for a substantial veterinary development. Through the influence of the men trained in this school, one infectious disease after another was exterminated or brought under control until, at this time, there is no other country in the world with such a large animal population, in proportion to its area, where the animals are as healthy, as productive and as profitable as in Denmark. The Danish work in the development of the means of control of tuberculosis, abortion, calf cholera and milk fever has brought to the veterinarians
of that country world-wide fame. The present prosperity of the people of Denmark is due in a very large degree, to the work of the veterinarians. *One discovery by a Danish veterinarian, a cure for milk fever, has already, in the course of five years, been the means of saving to owners of cows throughout the world a sum sufficient to equal all the money that has been expended on the construction, equipment and maintenance of all the veterinary schools established since the first one, at Lyons, in 1762.*

Belgium is the most thickly populated country in Europe, but, notwithstanding this, it has an extensive and highly developed live-stock industry. In draft horse breeding, Belgium has taken particularly high rank, and the farms yield astonishing quantities of dairy products. This would not be possible if the health of the domestic animals were not carefully and successfully guarded. The quality of the service rendered by the veterinary profession of Belgium and the public appreciation that this work has received are shown by the fact that the veterinary school in Brussels, founded in 1832, is now being re-equipped with a group of nine school, laboratory and hospital buildings, beautifully placed on large, park-like grounds, at a cost of about 6,000,000 francs.

In Germany, there is a veterinary system that has been developing since 1778, when the first German veterinary school was established in Hanover. Other schools have been established until there are now six, all well equipped and adequately supported. The German organization for administering the veterinary laws is interesting because it shows the results of a natural development, in accordance with the needs of the situation; the development being guided by a well-trained profession. The central administration of veterinary laws in Prussia, for example, is in the branch of government presided over by the Minister of Agriculture. The Minister of Agriculture is advised in all technical veterinary subjects by a board of veterinarians. All rules and regulations for the control of diseases of animals and for the guidance of official veterinarians are made by this Board. The Board also subjects to a written, a practical and an oral examination all candidates for appointment to the posi-
tions of department or district veterinarian. In each local district there is an official veterinarian known as the Kreistierarzt, whose duty it is to exercise local supervision with regard to infectious diseases of animals, to advise and encourage breeders, to supervise horse-shoeing, to enforce quarantine laws, and, in general, to look out for and to improve the health, quality and usefulness of the domestic animals of the district. The Department Veterinarian has somewhat larger jurisdiction; his field includes many local districts. The department and district veterinarians are subject to regulations from the Minister of Agriculture and from the chief executive officers of the departments and districts.

The result of this arrangement has been to bring the whole of Germany under such veterinary supervision as to lead to the great restriction of infectious diseases and greatly to improve the live-stock industry. This benefit to the country is reflected in the adequate generous support of the veterinary schools, for it is clear to every one who has looked into the subject that the real value and the permanence of the system must depend on the schools.

It would not make the case stronger to go on and to pile up example upon example of the public advantages from veterinary work or to show that a country cannot reap these advantages without fostering the development of the veterinary sciences.

Surely, it should be possible for our country to learn this lesson from the experience of other countries. The leading facts are that the losses from preventable diseases of animals are great, and they are avoidable. Why continue to suffer them? Let us profit by the experience of others. Franklin said, "Experience keeps a dear school, but fools will learn in no other, and scarce in that." Let us not be fools. The tide appears to be turning in our favor. Let us take advantage of it, accelerate it and endeavor by united effort to hasten the day when the benefits that come from the development and the teaching of the veterinary sciences shall more fully contribute to the happiness and prosperity of our country. This can be done by making clear the necessity and the benefits of veterinary work — and this task rests upon us.