

IMPORTATION OF WILD AND DOMESTIC ANIMALS.

COMMITTEE ON AGRICULTURE,
HOUSE OF REPRESENTATIVES,
Washington, D. C., Thursday, March 24, 1910.

The committee met at 10.30 o'clock a. m., Hon. Charles F. Scott in the chair.

The committee thereupon proceeded to the consideration of the bill (H. R. 23261) to import wild and domestic animals into the United States.

[H. R. 23261, Sixty-first Congress, Second Session.]

A BILL To import wild and domestic animals into the United States.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Agriculture be, and he is hereby, directed to investigate and import into the United States wild and domestic animals whose habitat is similar to government reservations and lands at present unoccupied and unused: *Provided,* That, in his judgment, said animals will thrive and propagate and prove useful either as food or as beasts of burden; and that two hundred and fifty thousand dollars, or as much thereof as may be necessary, is hereby appropriated, out of any moneys in the Treasury not otherwise appropriated, for this purpose.

The CHAIRMAN. The committee has met this morning, pursuant to the request of Representative Broussard, of Louisiana, to consider H. R. 23261 (of which he is the author), a bill to import wild and domestic animals into the United States. The committee will be very glad to hear any statement Mr. Broussard has to make, and will ask him to introduce any other gentlemen whom he would like to have address the committee.

Mr. BROUSSARD. Mr. Chairman and gentlemen of the committee, I shall not make any statement with regard to the bill this morning, because I can come here at any time and appear before the committee. I was anxious to get a meeting as soon as possible because of the fact that three gentlemen who probably have devoted more time than almost anyone else to this matter, both from the scientific and from the practical standpoint of investigating the matter, happen to be in Washington to-day. I refer to Mr. Irwin, of the Bureau of Plant Industry of the Agricultural Department; Captain Duquesne, an Afriander who has taken part in various campaigns and is a hunter of great note; and Major Burnham, who has kindly come from New York this morning to appear before the committee, and who has given a great deal of thought and study to this subject. All three of those gentlemen are here, and I want them to be heard, so as to properly present to the committee the importance of this subject.

With the permission of the committee, I will ask Doctor Irwin to address the committee.

STATEMENT OF MR. W. N. IRWIN, OF THE BUREAU OF PLANT INDUSTRY, DEPARTMENT OF AGRICULTURE.

Mr. IRWIN. Mr. Chairman and gentlemen of the committee, in studying the resources of our country for a good many years I was led to the conclusion that we ought to have more creatures than we are raising here. It seems rather strange that for four hundred years we have continued to use three animals for our meat supply—cattle, sheep, and swine. Why that has been I am unable to say; but we continued that down to 1900, when one more—the goat—was added to our list. These four were imported from Europe, only one native American, the turkey, being under domestication. We have resources through the South and through the West and on the high mountain ranges where we can add a great many more species that will be of immense benefit in the way of strengthening our meat supply.

We all realize that the meat question is one of the important questions to-day before our country. The prices are going beyond the reach of ordinary people. We can help in that direction if we will get at the matter and bring in the useful animals that we can feed without taking away from the animals we already have.

My idea is that in the South we have the greatest undeveloped resources in the water courses there and in the lakes and ponds there, where I think it is easily possible to add 1,000,000 tons of meat a year to our supply if we will get the right animals. The feed is there now, going to waste. It is alarming the people in that country. It is giving them great inconvenience through stopping up their waterways, their navigable streams, and I believe there is a gold mine there if we will adopt the right measures to utilize the value of it. That is why I have prepared this little paper on this subject, suggesting that we get the hippopotamus here—an animal whose flesh is excellent in quality and that is easily kept in suitable locations; an animal that would turn the plague that they now have in the South into good, wholesome flesh for our people.

Then there are many other animals. There is the Cape buffalo, and there are a number of the smaller antelopes that could be added there, that will work right with the others, and can be fenced right with them; and we could soon build up a valuable addition to our animal list in this country. There is not any reason why we can not find a place in the United States for every one of the more than 100 species of animals that are in existence to-day and not domesticated. Many of them would prove very valuable additions to our list.

I have suggested quite a few of the smaller antelopes as an adjunct to the farmers' poultry yard—little bits of fellows that weigh from 5 or 6 to 20 or 30 pounds. The farmer could kill one of those and he could use up the meat before it would spoil. He can not do that with any of our domestic animals during the warm weather. He could do that with these antelopes if he had a herd of them.

The CHAIRMAN. Can those little antelopes be domesticated?

Mr. IRWIN. They become very tame; they are easily tamed. There is no trouble whatever, I am told, in taming any of them, if you catch the fawns. As in the case of our native deer and elk, if you catch the fawns and pat them a few minutes, they will follow you anywhere. They become great pets. In fact, like most domestic animals, they

get too tame. The bucks become dangerous, as do our bulls and some of our other animals.

I do not think there is any question about the certainty of our domesticating any of these great animals. Probably the rhinoceros would be the most difficult of all. But we have plenty of open, wild desert country where he would live for months without a drop of water; and that is something that nothing we have here can do. We ought to have the camel down on our southwest desert country. It is a good meat animal; it is a good draft animal; it is a good saddle animal; its flesh is good, and it is a good dairy animal. There is not any reason why we should not have them.

When Mr. Davis introduced the herd of camels here in 1853 or 1854, the only mistake about it was that he did not have enough of them to make the test a certain one. The boys that were assigned to use camels were in the minority, and the boys on the horses made sport of them to such an extent that the whole thing was thrown overboard. They would not use them. They practically rebelled against it. But that would have been a great animal for this country. Those animals traveled all over the southwest deserts and lived, while the horses that they started out with perished.

Those are lessons that I think we ought to look at rather seriously, because our country is growing so fast that we ought to adopt every possible means of strengthening our meat supply. There is not any reason why we can not raise meat for every person, if we will get at it and get the right animals here. We have animals in South America, like the llama, that would live all the way up to the tops of our mountains. The yak from Thibet would live on the highest Rockies and succeed well. In his native country he is domesticated. They use him for a saddle animal, for draft purposes, for milk, and for his flesh; and his hair is of no inconsiderable value.

There is a variety of breed of pigs over in northern Manchuria that would be of great value to all the northern section of our country. They are valuable for their meat and for other purposes as well. They make a good yield of meat on rather coarse kinds of feed—millet, distillery refuse, etc., and such feed as that—and attain a weight of 400 pounds. The yield of the bristles from those hogs is of very great commercial value over in that country. A few years ago, according to the last figures I have, there were 75 tons of bristles sold in Newchwang at from 12 to 18 cents a pound, I believe; and the statement from the consular agent for Great Britain was that that was a small proportion of what had been sold out to Tientsin, I believe it is called—another port where those bristles are shipped.

If these great porkers will make so much pork on such unpromising feed in that far northern country, it seems to me that all through our Northern States they would be a much more valuable animal than our European pigs. We could get them here at slight cost and could have them at our experiment stations in Minnesota, in the Dakotas, in Montana, New York, and the New England States; and they ought to prove of very great value to this country.

Mr. BROUSSARD. Doctor, do you want to pass these papers around?

Mr. IRWIN. Yes; I have a little paper here that I would be glad for each member of the committee to have.

The CHAIRMAN. If you have finished your statement, Doctor, I should like to ask you one or two questions.

Mr. IRWIN. Certainly.

The CHAIRMAN. First, in regard to the hippopotami: Are they easily domesticated?

Mr. IRWIN. The people who have handled them tell me they are very easily tamed, and become very much attached to man.

The CHAIRMAN. In case they were introduced into the Southern States, would there be no danger that they would turn wild and that they would become a pest?

Mr. IRWIN. I think perhaps if they were loose there they would. They would annoy the people who have crops, because they will go as far as 15 miles in one night, and destroy gardens and things of that kind. It is not my idea at all to turn them loose. That animal is easily controlled. It would be my idea to domesticate them. There would be no trouble in fencing them and controlling them.

The CHAIRMAN. Are they prolific breeders?

Mr. IRWIN. They breed once a year, according to the best records that I can get hold of. The only record that we have in this country is in regard to the cow in the Zoological Garden in New York, which produced eight calves in nine years, I believe, and raised seven of the eight.

The CHAIRMAN. What does the flesh most nearly resemble?

Mr. IRWIN. It is a kind of combination of pork and beef in taste.

The CHAIRMAN. Do white men like it?

Mr. IRWIN. Many of them do. Many writers say that it is not edible at all, for this reason: When those big animals are killed in the water, their specific gravity is so great that they immediately sink to the bottom, and lie there until putrefaction sets in and the gases cause them to rise. Naturally, our people here would not like that kind of meat. We would not like it in the case of beef, either. But where they are killed on land and dressed at once, those who have tasted them say that the flesh is delicious; it is excellent. I have letters right here explaining the matter that I would be glad to have read, if you would like to have that done—letters from gentlemen who have been over to Portuguese East Africa, directing the agricultural problems there, and so on.

Mr. CHAPMAN. The hippopotami grow to a great size, do they not? They become very large?

Mr. IRWIN. The largest estimate I have had was four and a half tons. They gain about 100 pounds per month, according to the estimate of the people in New York. When about 3 years old they weigh about 3,600 pounds.

Mr. HOWELL. What do they subsist upon?

Mr. IRWIN. I am told that they will eat anything that cattle will eat, and many things that the cattle can not get to—the water plants. They will eat all kinds of water plants that cattle can not get at. That is what first attracted my attention to these animals. I thought they would be very useful in the Florida and Louisiana streams, to clear them out.

The CHAIRMAN. How would you expect to control them in those streams?

Mr. IRWIN. I would fence off a margin along the stream, and pull the hyacinth in for them to eat.

The CHAIRMAN. What would you do downstream or upstream? You would not cross-fence the stream?

Mr. IRWIN. No, sir; not at all. But you could drive piling around five or six acres along the water front of a man's farm, and place a gate there, and take that material in for them to eat, so that any man fronting a stream would have a valuable farm there.

The CHAIRMAN. Would it not be a good deal of a chore to hunt provision enough for them if they were kept in that way?

Mr. IRWIN. I think not. In Louisiana, where the soil is very fertile, it would not be any trouble to raise plenty of forage outside of the water for them; but then they could raise so much more, from thirty to fifty tons to the acre, in the water. The water hyacinth yields from thirty to fifty tons to the acre, I am told by people who have studied it closely; and that is a good deal of feed in one acre.

The CHAIRMAN. We are very much obliged to you.

Mr. HOWELL. Do you know of any animal that you think could live in the Great Salt Lake?

Mr. IRWIN. I do not know of any animal that will live in salt water, sir.

Mr. HOWELL. Any water animal, or any fish?

Mr. IRWIN. I suppose the manatee might live there if it is not too cold for it; but I expect it would be rather cold there.

I have one picture here that I should like to have you gentlemen see. [Exhibits photograph to committee.]

The CHAIRMAN. I think it would be a good idea if the reporter would include this paper at the close of Mr. Irwin's remarks.

Mr. BROUSSARD. I was about to ask the chairman to do that. (The paper above referred to is as follows:)

ANIMALS THAT SHOULD BE INTRODUCED AND BRED FOR ECONOMIC AND PROFITABLE MEAT PRODUCTION.

[From the proceedings of the meeting of the American Breeders' Association, held at Columbia, Mo., January 6, 7, and 8, 1909.]

One of the great problems with which our country is confronted is that of providing an adequate meat supply for our rapidly increasing population. In the last decade, as shown by the United States Census Report of 1900, our population increased 20.7 per cent. One, only, of our meat-producing creatures enumerated in 1890, showed an increase—swine increased 8.6 per cent. All of the others decreased in numbers, the falling off being for cattle, 8.9 per cent; sheep, 2.2 per cent; chickens, 9.7 per cent; ducks, 36.2 per cent; geese, 32.7 per cent; turkeys, 38.6 per cent, and other fowls, 36.1 per cent.

For many decades our meat supply kept pace with the increase in population. It was easy and profitable work to move a little farther out on our great prairies and produce more meat. About 1890, however, we had reached the limit of easy production. The great prairies are being cut up into farms, and as our population increases the size of the farms will be reduced in proportion. In 1850 the farms in the United States averaged 202.6 acres; in 1900, 146.6 acres. If our population reaches 200,000,000 by 1950, as predicted by some of our wisest heads, the farms will probably average less than 95 acres. These conditions will mean a less number of animals and an increase in the cost of meats.

We are consuming now an average of 8 ounces of meat per day for each inhabitant, or 15,000,000,000 pounds per annum. At the same rate of consumption as now, in 1950 it will require 100,000,000 pounds per day, or 40,000,000,000 pounds (20,000,000 tons) per annum. With a greater variety of meats to choose from this daily average would be considerably increased. Can we produce this amount of meat? Certainly not along the lines we have been following. We must secure animals adapted to areas that are now nonproducing.

To the cattle, sheep, and swine that our forefathers introduced, and which from custom and convenience we have continued to use, we have added tw

other species—the goat, enumerated in our census report for the first time in 1900, and the reindeer, whose introduction began with 16 head in 1891. In 1892, 171 were brought in, and varying numbers yearly until 1902, when the Russian Government withdrew its permit to ship reindeer out of that country. In all, 1,280 reindeer were imported, and these had increased to 19,322 by June 30, 1908. These two species, using different provender (of which there is an abundant supply) from our three older kinds of domestic animals, promise to be valuable aids in the solving of our meat problem.

In selecting other species for introduction, it is very important that we consider the food supply that they will require. We have several large areas well adapted to certain kinds of animal life, and not now producing, for the reason that the animals are not there. The area of greatest promise is in our Gulf States, and consists of over 10,000 square miles (6,400,000 acres) of water and marsh surface, with a sufficient quantity of marsh grass, water hyacinth, and other aquatic plants now growing, to support thousands of animals adapted to these conditions. If properly seeded to water hyacinth and other aquatic plants, this vast region would be capable of producing 1,000,000 tons of meat per annum, worth \$100,000,000. This area should be stocked with hippopotamus (*Hippopotamus amphibius*), the flesh of which is highly esteemed, and when salted and cured, is known in the Cape of Good Hope as "Zee-koe speck" (Lake-cow bacon). The fatty mass lying between the skin and the flesh or muscled is considered one of the purest of animal fats, and is in great demand among the Cape Colonists. These massive animals were to the English settlers in Cape Colony what our buffalo was to the pioneers in the settlement of our great prairies, and like the buffalo were heedlessly almost exterminated.

The African buffalo (*Bos caffer*), situtunga (*Tragelaphus spekei*), bush-buck (*Tragelaphus sylvaticus*), reed-buck (*Cervis capra arundinum*), and nsunu (*Kobus kob*), would also be valuable additions for this region.

We have abundant room in our Southern States and Territories for many of the great African animals now nearly extinct. Of these, the giraffe (*Giraffa camelopardalis*) and the white rhinoceros (*Rhinoceros simus*) are two of the most valuable. The flesh of the giraffe is of the highest quality, and evidently quite free from uric acid, since it will keep without putrefaction much longer than any known flesh. This valuable animal should without delay be placed under domestication both in this and its native country, its food requirements not conflicting with those of any other species. Its gentle disposition would make it an exceedingly desirable domestic animal. The white rhinoceros, differing in temperament from the black species, as do our shorthorns and Herefords from the Spanish type of cattle, and with the capacity to produce an enormous quantity of excellent meat from the coarsest and most unpromising kinds of provender used by any of the herbivore, should become a most valuable acquisition for our desert country. Where now the Gila monster and the diamond rattler hold sway we might in a few decades have great herds of these ponderous animals weighing 3 to 4 tons each.

A profitable industry could be easily and economically built up by introducing some of the smaller antelopes, to be used as an adjunct to the farmer's poultry yard. Our domestic animals are too large for the farmer's family to use up without loss during the warmer months, and it is not always convenient to go to the city butcher shop for fresh meats. As it is now, the family have to be content with salted meats or poultry. With a small herd of these little antelopes the farmer's family could enjoy better meats than their city cousins, and any surplus would command fancy prices. The small antelope of northern Manchuria, weighing from 25 to 40 pounds, being extremely hardy, easily tamed, and producing delicious venison, would be well adapted to all our northern sections of country. The red duyker (*Cephalophus natalensis*), weighing from 25 to 30 pounds; the little blue duyker (*Cephalophus monticola*); the Kleene-boc (*Cephalophus pygmaea*), and the tiny pah, or dik-dik (*Madoqua saltiana*), measuring from 10 to 13 inches in height and weighing six to ten and a half pounds, would be most desirable animals for this purpose. All bush feeders (browsers), being easily tamed, thrive well in captivity and produce most delicious venison. These are adapted to our Central, Southern, and Pacific Coast States. It may be questioned by some whether these animals would succeed in the regions mentioned. The peacock, and most of the larger varieties of chickens from India; the guinea fowl, and the thousands of negroes from Africa, have sufficiently proved their adaptation to other climates than that of their native country. Few cattle breeders in New York can show a better record with the domestic cow than that made by the Central Park Zoological Garden in New York City with the famous hippopotamus cow,

"Miss Murphy," from which they successfully reared 7 out of 8 calves. With intelligent care in their introduction and handling, the risk would not be great. The benefits to our country in strengthening our meat-producing capacity would be of great and constantly increasing value. The profits in the breeding and dissemination of these animals offer a fine investment either for our Government or for the individual.

Because these animals have not been introduced is not a sound reason why they should not be. Seriously, we need every additional species that it is possible to secure before its extermination takes place. Of the more than 100 species whose flesh is both palatable and nutritious we can find a place somewhere in our great country that will be adapted to the successful propagation of each. Our people will never accept kindly the conditions that according to press reports exist now in Germany, where during 1907 there were slaughtered and the meat sold for food 38,000 horses and 14,000 dogs.

The serious condition of our American fishing industry and the decrease in numbers of seven out of our ten meat-producing creatures should cause every thoughtful person to render immediate aid in preserving and adding to our meat-producing creatures. It is a duty we owe to our country, to ourselves, and to our posterity. It will require time, skill, patience, and money to get our meat production on a basis where it will again keep pace with the increase in population.

It is a sad commentary on our twentieth century civilization that instead of preserving the wild mammals wherever found, at least until a sufficient number may be brought under domestication to insure their perpetuation and propagation as a heritage for our posterity, we are relentlessly hunting and shooting them down without the slightest regard as to whether the animals at which our guns are aimed are the last of their sex or species. The conservation of mammals useful as food to man is infinitely of greater importance than is that of many other resources now receiving earnest consideration.

The CHAIRMAN. If there is nothing further from Mr. Irwin you may present your next speaker, Mr. Broussard.

Mr. BROUSSARD. I now desire to present to the committee Capt. Fritz Duquesne, formerly in the Boer army, who is lecturing and writing on this subject in this country.

STATEMENT OF CAPT. FRITZ DUQUESNE.

Captain DUQUESNE. Mr. Chairman and gentlemen of the committee, I speak from another point of view than Doctor Irwin. Of course he speaks from the point of view of the scientific man. I speak from the point of view of one that is practical in the matter. I was born in Africa, and bred among these animals that he has been speaking of. I am as much one of the African animals as the hippopotamus. I would be a dead animal if it were not for the hippopotamus, because most of my early life was spent eating hippopotamus.

As to the quality of this animal as food, I just want to call your attention to the vigorous race of Dutchmen that were in the Boer war. There was nothing mentally or physically defective about them; and they lived on hippopotamus. It was the easiest animal for us to get. It is a rather shy animal, and confines itself to where it can get food. Doctor Irwin said it will go 15 miles after food. It does that in Africa. It will go even farther than that, because it has kept the streams clear of water vegetation.

In Louisiana the streams are being completely stopped by water vegetation. The fishing industry on the rivers is being ruined; the water is polluted, dirty, and practically useless as a means of drainage to the country. If any of you have looked at the pictures of Africa, where Roosevelt has been, you will find that all of our rivers are clean. They have clean surface water. It is only in the shallowest streams that the lilies will grow.

Why do not lillies grow in Africa? We have the hyacinth down there, but it does not grow over the country like it grows here. You have nothing to destroy it. The hippopotamus will eat all water plants, all the aquatic plants. It lives on them. It will never leave a river where it can get food. According to Mr. Broussard, with whom I have spoken about the matter, there are millions and millions of acres of that stuff down there that could be used for hippo food.

As far as the domestication of the hippo is concerned, it is bred in the Pretoria Zoo and in the different zoological gardens—in Mozambique, in your own New York here, and in various other places; in Antwerp, in Berlin, etc. Hagenbeck breeds the hippopotamus for exportation. He sells them to circuses, and charges \$8,000 apiece for them. It is a very profitable undertaking. The animal can be led; you can feed it on a milk bottle, like a baby. It can be led. It is absolutely not dangerous. Of course if you take an express rifle and put a bullet into it, no animal will stand that. It might turn on you then. But you must remember that in Africa the animal is fighting the crocodile and the human being—the white man, especially. The crocodile follows the hippopotamus; it will follow the lady hippopotamus when she is going to increase the family, and gobble up the young one before the mother sees it. Naturally the animals are a little bit vicious under those conditions. But where the crocodiles have been exterminated, the hippopotamus is as tame as a common garden cow.

As far as the commercial value of the animal is concerned, it is considerable. As Doctor Irwin says, it runs from three to four and a half tons in weight. Some of them go up as high as 5 tons. They are the greatest food-producing animals in the world. Living on cheap fodder, as he said, they will gain a hundred pounds of flesh a month after birth until they reach the weight of 4 tons. They have a fairly valuable ivory. Of course it is not as valuable as the ivory of the elephant; but when they are 3 or 4 years of age they have fairly good teeth, which are valuable. The bones are very valuable; and the skin is one of the most valuable things that the Boers have in Africa.

The CHAIRMAN. How is it used?

Captain DUQUESNE. It is used for every purpose that leather is used for. We have sent the skin to France and to Germany. It is "kipped"—that is, it is split and made into ordinary leather. It is almost as transparent leather as greenhide. It is very valuable for the covering of automobiles and automobile wheels. During my boyhood days the French soap manufacturers used to come down there and pay us all sorts of prices, competing with one another, to get the fat of the hippopotamus; and we made a considerable amount of money from saving the fat when we killed a hippo. The Boers were in the habit of going down to the river and killing a hippo and bringing it in and dividing it among the different families in the district. It is pretty hard to get rid of four and a half tons of meat. In the case of the bones of the animal, we would take an ordinary wood saw and saw them in halves, and make a great pot of soup for a large number of people, including the Kaffir servants on the ranch or the farm, as we call it.

There are a good many hippos in Cape Colony. There are a few in Zululand. They have been practically exterminated there. There is no danger of the animal becoming a pest by natural increase, for the simple reason that it is too big. It breeds only once a year. If you

will look into the history of animal life you will find that there is no animal that breeds only once a year that can not be easily exterminated. That has been the fault with your own country. You have exterminated even the birds that have dozens of young a year. You have wiped all of those animals clear off the face of your map. Of course the English sparrow and the rabbit are quite outside that category, for the simple reason that the rabbit will breed 120 young a year from its own stock.

Besides the hippopotamus there is the African buffalo, that would live in marshes that at present have nothing on them, according to the people who are thoroughly familiar with your marshes. At the best you breed crocodiles. The African buffalo will live in the marshy country. The leather of the African buffalo is far superior to any domestic leather now made or used. The hide brings a very high price in Africa. So much do we think of those hides—and, mind you, we have every domestic animal that you have in America, besides all our wild animals—that we always use the hides in Africa. We never let the buffalo hide go out of the country if we can help it. It is the strongest leather for harness and the strongest shoe leather.

Then there are all the different animals that we have—especially the eland. The eland is an animal that runs from 800 to 1,500 and 1,600 pounds in weight. Its habitat is the desert country, where no domestic animal at present known will live. These animals shun farms. They do not hang around farms and hang around human beings; so they will be no menace to the farms. They are not fence-climbing animals. The difficulty we have had among the Boers is to keep those animals in our country. As fast as we settle it, they have retreated into the interior. You have a vast expanse of dry interior in your West and in your South where those animals could live.

We also have down there the water buck, another valuable animal for flesh and for its skin.

To go back to the hippopotamus for a moment, remember that the hippopotamus has a very excellent flesh. If those animals were castrated and treated the way you treat your domestic animals, I think their flesh would be equal to anything you have in the world. We have tried that; we have castrated them and we have used them. We have used them at 2 and 3 years of age. They have made splendid food—excellent food. They could not be better.

All of our animals down there are harmless when they are domesticated—that is, if you breed them around the farm. The springbok, the trekbok, the duyker, and the koodoo are all fine, big animals. Then there is the giraffe. The giraffe is one of our best African animals for food and for leather. The beauty of the giraffe is this: It is called by us the “kameel”—“camel” in English. Of course it is not a camel; it is a camelopard. That animal lives in the desert. It selects the desert as a home, and it lives on the scrub of the desert. It does not live around water. It does not want water. It is constructed somewhat after the fashion of a camel, and its flesh, on scientific examination, is found to be the very purest flesh. It has absolutely no uric acid, which the other animals all contain. That animal can be domesticated. It is most harmless and it is almost childlike. Its only defense is to run, and it is something of a runner, I will tell you. Of course it has a large watchtower neck, which preserves it in Africa.

There are a great number of other animals that it is unnecessary to go into, because they are all more or less the same in this respect; they are all the same because they are different. The animals in Africa adopt different habitats. The klipspringer, for instance, will adopt rocky country as a home. It lives in the rocky country and it will spring from rock to rock. The word "klipspringer" in our language means a "stonespringer"—springing from stone to stone. That animal lives in a character of country where no domestic animals live. The eland lives where domestic animals can live, but do not live. The same is true of the koodoo. The same is true of the reedbuck. The duykerbok is the same. All of these animals have selected as habitats places that will protect them, where they can get away from the lions.

As you know, Africa has millions and millions of game animals running wild. They are alive to-day because they have selected habitats that are a natural protection to them. They would all be dead if it were not for that. You know we have lions, leopards, cheetahs (a sort of wolf), jackals, the hyena, and the crocodile, besides a great many other animals that are preying on our wild game—that is, on our ordinary quadrupeds, the mammals. And yet to-day they are alive in thousands, and in some places it is estimated that they exist in millions between Abyssinia and Mozambique—all down that stretch of country, in the lake country.

Those animals are alive only on account of their fighting qualities and their protective qualities. They are very fleet runners. You could put them out West, where the mountain lions and wolves and other animals have exterminated the game. According to the reports from one of your committees or one of your bureaus here, it cost \$15,000,000 in loss of cattle and sheep and to hunt down wolves and mountain lions last year. I do not know whether that is true or not; but that is according to a statement that appeared in one of the papers. Now, a mountain lion or a wolf would not worry the animals of Africa. We have an animal down there, the oryx, which can not only destroy an American mountain lion, but it can destroy an African lion. Yet it is not an enemy of man.

In the case of most of our animals, the only enemies they have are the lions or the other carnivorous animals and man. They would not conflict in any way with the habitat of the present domestic animals in this country. They are all good food, and they are all excellent for leather. The Boers have proven that. It is only recently that we have gotten domestic animals into Africa. We have lived and our race has been built up on the wild animals, notwithstanding the fact that we have had perhaps more wars than any other race. We have been fighting the Zulus and the Kaffirs in general; and we lived on the wild game of Africa without any help from the outside. We have produced a pretty sturdy and strong and intelligent race—I think they are intelligent—just on these animals.

If these animals are good to build up a white race in Africa, why are they not good to use in this country? They are good. You have here hundreds of miles of country that is exactly like the habitat of our African game, and would breed those animals, which can all be domesticated. Every desirable animal we have in Africa can be domesticated. King Menelik domesticates the lion. I would not recommend bringing the lion into this country, of course; but it

stands to reason that all these other animals, if introduced into this country and put into a suitable climate, could be bred here.

My father was instrumental in sending the camel to Australia from Africa, and also in introducing it into the Kalahari Desert. The German Government now uses the camel exclusively for its cavalry in the Kalahari Desert, which is practically the counterpart of the deserts in this country, according to what I understand from people who are familiar with your deserts and the Kalahari Desert. Major Burnham, here, can testify as to that. He has been all through that country, and knows it thoroughly. Many of these camels were taken from Afghanistan and north Africa to south Africa and Australia. My father had the contract to take them over to Australia for the Western Australian government, and I took them over there. To-day camels and ostriches from Africa are being raised in Australia.

To-day camels are used exclusively in the Kalahari Desert and all through the great African deserts, where men died with thirst and hundreds of people were lost. To-day the Afghans and the whites take the camels and use them as pack animals; and not only that, but they are good draft animals. Bred as we breed them, scientifically, and not the way the Afghans breed them, they carry 800 pounds. One man can drive a string of a thousand of them. He only has to lead the first one, and the others walk after it. No roads are required. They make their own roads, and they require practically no food. Wherever there is desert, and a little cacti, or anything like that, the camels will eat it; and they will go for seven days without water. They are excellent food; and as Doctor Irwin says, they are fine milkers. The natives of the desert in Africa and Asia not only milk the camel, but they make butter of its milk, just the same as we do of cow's milk.

That is about all I have to say on the subject.

The CHAIRMAN. We are very much obliged to you.

Mr. COCKS. I should like to ask the gentleman a question or two. How about the matter of temperature?

Captain DUQUESNE. The temperature apparently makes very little difference. You see, although Africa is right under the line—the equator goes through it—when you take a train into the country, it is going up hill all the time. Africa goes up this way [indicating]. It is practically a mountain with a flat top sticking up through the sea. The farther you go into the interior of Africa, the higher you get. If you have ever read about the Kongo, you know that the Kongo River runs a little way and then drops. It is a succession of cascades or waterfalls—cataracts, we call them. There are 200 miles of cataracts here and there. That is where the water runs down hill.

Mr. CHAPMAN. Do you think animals such as you have mentioned could become acclimated here without difficulty?

Captain DUQUESNE. Yes. I was over there recently in one place where Colonel Roosevelt passed through, and the frost was that thick [indicating about one inch]. That is where he went to get some of his best animals.

Mr. HAWLEY. Whom did you say?

Captain DUQUESNE. Mr. Roosevelt.

Mr. HAWLEY. I thought he was called "Bwano Tumbo."

Captain DUQUESNE. The white men do not like to call him "Mr. Big Belly;" for that is what it means, you know. [Laughter.]

Referring to the matter of temperature, up in the high country where the Victoria Nyanza is—and, by the way, "Nyanza" means "lake"—it is very cold; so cold that the people and animals that live there have to come out of the places where they live and sun themselves before they can move around. They come out and lie on the rocks until the sun practically melts them into life. Early in the morning you can pick up a python about as long as this table with comparative ease, and it will not hurt you until it gets melted a little; and then it is another python. It is resurrected every day. It is a common thing to see a thin skim of ice, perhaps from an eighth to a quarter of an inch in thickness, over the shallow pools. It just freezes, even up there, and right down into the country. It gets very cold down in South Africa in the Kooroo land, where the elands—large herds of them—were first seen by the Boers. To-day there are a great many elands on the Kalahari Desert. Anybody that has done any traveling on the desert knows that as soon as the sun goes down, and the sands radiate the heat, it gets so very cold that you nearly perish; it makes one tremble. So we have every kind of temperature in Africa.

Mr. COCKS. You have not much snow, have you?

Captain DUQUESNE. We have on Mount Kilimanjaro. We have perpetual snow there.

Mr. COCKS. But how is it where these animals live that you are speaking of?

Captain DUQUESNE. There is a considerable amount of winter, but little snow falls in the desert country; and there are stretches of it where the animals will migrate as it gets cold. They go from place to place.

Speaking of the eland, I will state that just before the Boer war there was a member of the New Zealand government over there buying elands. There is a great deal of snow in New Zealand; and I understand that the elands have increased and are thriving wonderfully in that country.

There is another animal that would be very valuable here that a number of the Congressmen have spoken to me about, and that is the large zebra—the big zebra. If you cross it with your mares it produces a very fine style of mule.

Mr. HAWLEY. How many hands high?

Captain DUQUESNE. A big zebra runs from 14 to 16 hands high.

Mr. COCKS. Have you seen our breeding stock out here at Bethesda?

Captain DUQUESNE. No; I have not.

Mr. COCKS. You ought to go out and look it over.

Captain DUQUESNE. I should like to look it over. I can give you an expert opinion on that subject.

Mr. HAWLEY. Is the zebra docile, or has it a vicious strain?

Captain DUQUESNE. There is nothing wrong with the animal. The English in Africa want to get percentage, you know. They put an animal out, and they want to break it in right away, and they want to get some money for it right on the spot. That is what they are in Africa for. They want to take the animals and break them in at once. The Germans are more scientific than the English. In Ger-

man East Africa they are making a great success of domesticating all these animals I have spoken of, and crossing the zebra. Not only that, but I have photographs of the zebra in harness, being driven like an ordinary horse—a pure-blooded zebra being driven like an ordinary horse.

Mr. LAMB. I wish you would go out there and tame that one for those people. He simply "eats them up."

Captain DUQUESNE. Perhaps they wait until the animal grows up and then they try to do it. The wild horse is a pretty tough proposition, you know. It takes time to do these things. In three or four generations I think you will find that the zebra will be so tame that you can not keep him out of your bedroom.

Mr. COCKS. Have you ever had any experience with the cross-bred animal?

Captain DUQUESNE. Yes, sir; we have bred them in Africa. We have tried all those experiments.

Mr. COCKS. Are they the equal of the mule in endurance?

Captain DUQUESNE. Yes; and not only that, but they do not get sickness as quickly as any of the other animals. Major Burnham can testify to that. He has been all through German East Africa, where for six years they have carried on various experiments.

The CHAIRMAN. Are they preferable to the mule in any respect?

Captain DUQUESNE. We consider them so.

Mr. BROUSSARD. Here is a photograph of one being ridden. [Producing photograph.]

Mr. HAWLEY. Do they have more stamina than a mule?

Captain DUQUESNE. Yes. If you look at a zebra or a zebroid or a zebrule, you will find those animals have a bigger and heavier rump. They are stronger and better animals. If you were ever kicked by one, you would know all about it. [Laughter.]

Mr. COCKS. A mule does pretty well in that line.

Mr. LEE. What do you call the "cross?"

Captain DUQUESNE. "Zebrules" and "zebroids." I do not know what the special names indicate. The English give them one name; the Belgians give them another; the Germans give them another; and the Boers give them another. All the African animals have different names in the different languages that they are addressed in, so that they do not know themselves when they cross into different territory. For instance, the gemsbok is a gemsbok in one place and an oryx in another. I do not know what they call the bastard eland. What is the name they call it?

Major BURNHAM. The roan antelope.

Captain DUQUESNE. Yes; the roan antelope. The English call it the roan antelope, and we call it the bastard eland. That is another very fine animal.

Mr. HAWLEY. Is the oryx the same animal that used to be found in southeastern Europe?

Captain DUQUESNE. I have read that it used to live there, but I do not know whether it did or not. There is very little doubt about it from the appearance of it. It looks very much like the unicorn. It has a straight horn like a sword; and it is a common thing for an oryx to get away with a lion. They have a straight horn, and if they hit anything it goes through. You will notice

that all the African animals are fighting animals. They are all intelligent; their eyes stand out well; they have good, supple necks, and that is the only reason why they are alive. They would have been devoured by the lions long ago if it were not for these qualities. Lions increase like dogs, whereas these animals increase one or two a year. It is those two things—their natural selecting a habitat where they can not easily be followed, and their running and fighting powers—that leave them alive to-day. If the white men did not come in with their express rifles, they would be increasing and increasing until they would be shoved off into the sea.

I may tell you that the rivers down there where they have the hippopotamus are full of fish. The hippopotamus, you know, interferes with absolutely nothing but the vegetation in the rivers. If there is a vegetation in the river, he will never leave the river. If you had the hippopotamus in Louisiana, and it ate up all of your water vegetation, you would be quite willing to let the hippopotamus live down there. At present an examination of the rivers is being made by Doctor Estopinal to try and find out a way of getting rid of this stuff. The War Department is sending a great deal of money, and I suppose the National Government will step in to preserve the fishing industry. You see, these water plants have to live on a certain amount of air, and the fish live on a certain amount of air. Neither the plant nor the fish can live on the air that is not there. As the plant is the stronger and is able to take air from above it will draw it at the bottom and draw it from the top, and the fish is suffocated in the water. Then when a storm comes and blows the water plants, which are floating, all to one side, the fish are netted up against them and kept in one place until they die. These plants exhaust the air in the water that is passing through the fishes' gills, and that destroys the fish. Anyone who looks at photographs of that part of the country will observe that they can not see the water at all. They simply can not see it.

Mr. HAWLEY. How many of these hybrid zebras are used down in your country?

Captain DUQUESNE. I do not know how many are used. That is hard for me to say. All the Boer experiments, which were going on very successfully, were stopped by the Boer war, and most of the animals were shot during the war for food. But now the English are starting again on it, and the Portuguese are doing it, and the Germans are doing it, and the Belgians are doing it a great deal. The Belgians are not only doing that, but they are domesticating the elephant. King Leopold is the man who suggested that there should be a school for the African elephants, which are much stronger than the Asiatic elephants. The elephant was used last by Hannibal in his invasion of Europe. That shows you what an animal it is. It crossed the Pyrenees. It went right around the Pyrenees, backward and forward. Hannibal was the last man to use them. That proves that the animal can be domesticated. It is considered a very fierce animal, but it is not so fierce. It has fine ivory and a fine skin. It is easily domesticated. They start at the wrong end; that is the trouble. Other people have done it.

As I say, King Leopold has put the elephant to school. The way they do it is to shoot the mother when she has the young elephant with her and take the young one. King Leopold's school is in the

center of the Congo, with some hundreds of these animals, and he is letting them grow up. The people in India do the same thing. Of course, it is somewhat different there, because the Indian elephant does not have the courage or stamina of the African elephant. It would not be advisable to introduce the elephant into this country, but it would be a very fine thing in Brazil. But, of course, that is outside of this argument.

Mr. HAWLEY. Have they ever used the hybrid zebras in freighting teams for any length of time, to determine whether they will stand such work?

Captain DUQUESNE. Oh, yes; they have used them all through German Africa. They used some of them in Rhodesia, and they are used the same as horses. Of course a lot of them, as I say, were broken in after they were full grown. I have seen young, small zebras come right into the house. You can not shove them out. As Doctor Irwin says, the unfortunate part about it is that some of them get to be too tame.

But when you can do that with an animal you can almost do anything. I have seen a picture of Major Burnham's son riding one. When he risks the life of his son on one of these animals, it does not say much for its ferocity. I would be willing to ride one that I broke in—not one that they broke in in America—at any time.

I think I have about exhausted this proposition, and unless someone wants to ask me some questions, I have finished.

Mr. COCKS. Is there not a great deal of this water hyacinth in the Upper Nile country?

Captain DUQUESNE. No; that is not a hyacinth at all. That is the "soot" or "sud."

Mr. COCKS. Would the hippopotamus eat that?

Captain DUQUESNE. They can not eat that; no. It is practically wood. They have to use saws to cut it. It grows up close where the water is fairly swift, and the water runs under it. You can walk across some parts of the Nile without even knowing that it is the Nile at all. The papyrus and the bamboo washes down every year—that is, when the flood season comes—and it falls across the grass like that [indicating]. It falls on it, perhaps only one layer of bamboo this season, and then the stuff grows up through it, and the next season there comes along another layer. But that is practically wood. You have not got that in this country. It is built up like that [indicating], one thing on top of the other, until the river runs in a cave, subterranean channel. That exists a great deal in the Congo; but it has absolutely no relation to this peculiar vegetation here.

The CHAIRMAN. Are there any further questions? If not, we are much obliged to you.

Mr. BROUSSARD. Mr. Chairman, I should like to have the committee hear Major Burnham, who has had a great deal of experience, both in Africa, in this country, and in Mexico. He is a naturalist, and has devoted a great deal of time and study to this subject. At the conclusion of Major Burnham's hearing I should like permission to put in a short article written by him in the Independent, and have it included in the record. There are only three pages of it; and it covers this subject very thoroughly and in a systematic way.

The CHAIRMAN. We shall be very glad to hear Major Burnham.

STATEMENT OF MAJOR FREDERIC RUSSELL BURNHAM.

Major BURNHAM. Mr. Chairman and gentlemen, I will state that I am an American by birth. I have had a great deal of service in the Southwest and in our own frontiers, and also about ten years of military service in Africa, on the west coast, in central Africa, Congo, Rhodesia, and other parts.

Referring to what Mr. Irwin stated about the camel, I will say that when the herd of camels was turned loose in the Southwest, a friend of mine (a cowboy) went with me down on the Gila River, and we were five days chasing one of those animals with the best horses we could get in Arizona. We finally caught one, and it took us three days, handling it as carefully and gently as we could with ropes, before we could ride it. But we did ride it. We had plans laid out then to cross what is called the Death Valley country, and go on across into the Panamint country, and from there into the Owens River country, to Independence. That was our destination. One of the Apache wars broke out at that time, however, which was more interesting than breaking camels, and we both went off to that.

Afterwards the herd of camels increased down there and they did very well. They roamed clear down from the Gila River to Sonora, but nobody paid any particular attention to them, except to occasionally kill one for the meat. Finally a man came out from Connecticut, I believe, and gathered them all up and sold them to a circus, and that closed the chapter.

Mr. BROUSSARD. Major, would you mind telling how these camels were brought here?

Major BURNHAM. I think Mr. Beale brought them here, though I would not be positive about that. They were brought here in the early days and taken to Texas for use in connection with transportation across the desert. They made the mistake, however, of not bringing anybody who understood the camel. We think we are a very progressive people, but, as a matter of fact, when we go abroad we come to the conclusion that the Americans do not know everything. The Australians have made use of the camel a great deal better than we have. The Dutchman can handle an ox better than any American that ever lived. I had to learn that, much against my prejudices, when I arrived in Africa; and there are a good many other things that they can do better than we can.

We brought the camel over here, but we did not bring the men that could teach us how to use it. When you put camels in charge of a man who does not understand them, I am free to confess that you are doing about as sensible a thing as if you should take a man from a pile of brick and mortar and send him out West to catch a broncho and ask him to kindly go out and ride it. [Laughter.] He has several things to learn. When the camel is handled in the right way, and the men learn to handle it, it is the most useful animal that can be imagined. I can corroborate almost everything that Captain Duquesne has said with reference to it. There is no use of my repeating it.

Referring to what Mr. Irwin said about the zebra: One of the gentlemen at my left asked quite a number of questions about the zebra. I took part in the capture of 96 zebra at Nairobi—just above Nairobi,

really at Naivasha. We built a great wing, 2 miles or so in length, and we got 2,000 beaters, and we drove them in. We drove in five or six hundred head of game, and among them were 96 zebra. For several weeks I had a couple of cowboys over there, good riders, and we had some Somalis and others; and we tamed the zebra in a way and rode them. One out of the whole herd seemed to have a quiet disposition—so gentle that I have even allowed my son, who was then a little boy 5 years old, to ride it.

But the final conclusion that we arrived at in regard to the zebra question was this: It is possible to ride them; it is possible to drive them; but they are sullen and have not got the heart to pull and work that either the mule or the horse has.

It is possible that after many generations, constantly selecting the gentlest and the best dispositioned, a breed of zebra might be produced that would be valuable. We tried to produce them there on account of the tsetse fly being so abundant, and killing all domestic animals. We discovered that when we corraled the zebra and held him in a big pasture, feeding him the same grass that he ate right in his natural habitat, he developed a disease in the way of some small pinworms that worked into the aorta (the big artery coming out of the heart); and it killed a good many of those 96 that we captured. We had a very good veterinarian there from England in charge of the work—a Mr. Sturdy, a man enthusiastic in the propagation and crossing of the animals.

Another experiment was carried on in Rhodesia, when we took the American coaches from Johannesburg to Buluwayo, a drive of 500 miles, by mules; and a great many of them died of the tsetse fly. Mr. Ziebrink, a very enterprising man, introduced the zebra, and they domesticated them and hitched them into the coaches. But there, again, the animals get sulky; they refuse to pull, and you can do nothing with them. They are more like a burro—more like a donkey; they have a disposition more like a donkey. They are quite gentle. They would come up and eat out of your hand; and we had them loose, running around the streets of Petersburg there perfectly free, more like a pet burro or a donkey. But as a pulling animal the zebra is probably too closely allied to the wild. It would take many, many generations to make a success of it, and I should expect the same results in this country as in that.

The CHAIRMAN. What has been your experience with the cross?

Major BURNHAM. The cross seems like almost all hybrids; it seems to inherit the evil dispositions of both father and mother. Whether that applies to man or not (I think it does, too), it certainly applies to all the animals.

Mr. HAWLEY. Does the zebra have a characteristic gait?

Major BURNHAM. He has a swift trot. In harness he trots a good deal like a mule. Of course he can gallop. It takes a very good, quick horse to pick up a zebra. Of course a good horse will pick him up all right, right in his native habitat. I ran down some zebra on the first expedition I made into Rhodesia. A couple of well-known hunters in Rhodesia and myself ran down some zebra and captured them with our saddle horses, but they were excellent horses, brought up from Cape Town.

The experience I have had in the Southwest makes me believe there is nothing in the climate of the Southwest to prohibit the introduction of practically all the game animals that were mentioned by Captain Duquesne. I believe that is true. I think we are allowing one of our great assets to lie idle and go to waste by confining ourselves, as Mr. Irwin said, to only three or four animals, and even those animals were imported.

The original condition of this continent was that it was almost devoid of any valuable animals. We brought into the country the horse, the cow, the ass, the sheep, and the goat; and they have all gone wild and thrived. Great herds of cattle roam the western plains, and great herds of horses. The average American thinks that they have always been here and that they were found here, but it is not so. They were brought over by the Spaniards, and the Mexicans adopted them. If those animals could be adopted into our western country, I do not see why the game animals can not be adopted, too, and find the particular food which they are used to, which is more of a desert food. We know that in Africa the wild animals live where the domestic animals will not live. We know that there are probably thousands of square miles of desert land in our own country, and I believe these animals can be utilized to fill it. We may have some failures or even a good many failures about their introduction. One can not always avoid mistakes. The farmer does not take one seed and plant it and expect that from that one seed he will raise a whole crop. We must not make the mistake of taking one pair of animals and expecting that they will populate the whole territory. But with reasonable care and skill and brains, and with the Department of Agriculture having charge of the matter, I do not see any reason why we can not have great success.

I thank you, gentlemen.

Mr. HAWLEY. I should like to ask one more question on a different subject. Do you think the date palm would thrive in the Southwest?

Major BURNHAM. I believe it would, but I can not say that I am an authority on the subject. I am interested in a great irrigation reclamation scheme in the Southwest, in Sonora, where we are taking water out of the Gila River on to about 1,000,000 acres of land. The question of the date palm has come before us very strongly, and the dates there seem to thrive very well. There are several coarse varieties that grow there and mature, and are quite palatable. We have robbed the Government of what we believe to be one of their good men—a soil expert by the name of Mackay, who is in our employ. He is taking up that very question in conjunction with a couple of horticulturists of Texas, whose names have passed out of my mind for the moment. We have had quite a correspondence on it; and if we have any results of value, it will give me great pleasure to let the department here know.

Mr. BROUSSARD. Major, you own a ranch out in California, I believe?

Major BURNHAM. Yes; and I am sending some game there now from Mexico. This matter of the introduction of strange animals is a lifelong hobby of mine. I got the hobby when I helped capture that wild camel, and it has clung to me ever since. Just now I am

sending some game from Mexico into California. I have a ranch right adjoining the forest reserve under Mount Whitney; and I am introducing there the small white-tailed deer of Sonora, whose flesh is most delicious, and also some of the peccaries.

Mr. BROUSSARD. The "havinilas?"

Major BURNHAM. Yes; that is what they are—the havinilas.

Mr. BROUSSARD. Major, can you tell the committee something with regard to the government reservations and what use could be made of them in this respect?

Major BURNHAM. Yes. About three or four years ago some friends of mine and myself offered to put up \$50,000 to put some game animals into the forest reserves. We then asked that the President be given permission to set aside some of the forest reserves as game preserves also to prevent some county jumper running out with a rifle and shooting the game the next free Sunday after he heard it was turned loose. We asked that the forest rangers be made deputy game wardens, to arrest anybody that would shoot these animals for a certain number of years, leaving the matter entirely in the hands of the government department to control in the finish. But I was very busy at the time, and I had to go to Mexico; and "the child died a-borning."

Mr. COCKS. How about the hybrid buffalo? Is there any possibility of doing anything with it?

Major BURNHAM. I do not think the African buffalo has ever been crossed.

Mr. COCKS. I mean our bison.

Major BURNHAM. Our bison? There are so many men in this country that are more expert on that question than I that I do not like to be quoted at all. I am familiar with the buffalo, of course. In my boyhood days on the plains, and all that I was familiar with it. But what I know about it is more from observation and hearsay, and not from practical experience.

Mr. BEALL. It is a fact that Mr. Goodnight, up in Texas, has extensive herds, is it not?

Major BURNHAM. Oh, certainly. They have been crossed, and we have every reason to believe that they will be a success, and be of great value.

Mr. BEALL. He calls them "cattalos."

Major BURNHAM. "Cattalos;" yes. We have not made use of our own game animals. Take California, for instance: In my boyhood days the elk were there in herds. We slaughtered them. Now we are just beginning to preserve them a little bit. In the forest reserves and in the Yosemite National Park they have a few of them, and they are just beginning to breed again. Last year, down close to my place, I saw two young ones; so it is encouraging, and I know they will grow again if we give them a proper chance. In the case of the wild turkey, we are just importing a few of them from Mexico. I have just had a request from the game warden, in Sonora, asking me if we could not assist them to get some wild turkeys. They are quite difficult to get; but I believe they, too, could be imported successfully.

Mr. BROUSSARD. You live in California, Major. Have you ever been to the ostrich farms?

Major BURNHAM. Oh, yes. The ostrich farms are a success there.

Mr. BROUSSARD. They do well, do they?

Major BURNHAM. They do well. I have helped catch them, and have used lots of them in Africa. I am quite familiar with the ostrich.

Mr. BROUSSARD. They thrive?

Major BURNHAM. Oh, yes; they thrive the same as chickens.

Mr. BROUSSARD. What about the reindeer?

Major BURNHAM. The reindeer that were introduced into Alaska are all right. Mr. Jackson brought in the first herd. They had a good many difficulties and a good many things to learn about them. They brought some Lapps along, but the Lapps themselves did not know everything, because the conditions were different. But as the result of the combination of the Lapps with some scientific study of the subject, I think it is conceded by the Alaskans themselves that the importation of reindeer is now a success. I think that can be looked to as one of the great successes.

Mr. BROUSSARD. When did they commence bringing reindeer into Alaska?

Major BURNHAM. I saw the first herd of reindeer in Alaska in 1898, I think.

Mr. BROUSSARD. Do you know how many were brought in?

Major BURNHAM. I should not like to be quoted on that point. It was not a great many; I think only about 28.

Mr. IRWIN. They were brought from Siberia.

Mr. BROUSSARD. But how many were brought?

Mr. IRWIN. Twenty-eight, I think.

Major BURNHAM. You will find it all in Mr. Irwin's book.

Mr. BROUSSARD. There are quite a herd here now, I believe.

Major BURNHAM. Do not quote me on that point, please. I believe there are now something like 19,000. They have imported other herds since.

Mr. BROUSSARD. Have you ever shot pheasants in Oregon?

Major BURNHAM. Yes; I have. They are fine.

Mr. BROUSSARD. They were imported, also?

Major BURNHAM. Yes.

Mr. BROUSSARD. Do you know when they first brought them into Oregon?

Major BURNHAM. I know that in 1885 they had been in just a very short time. At that time I saw a few of the pairs that had been turned loose in 1885 in the State of Washington, in what is now Okanogan County.

Mr. BROUSSARD. They are very plentiful there now?

Major BURNHAM. Oh, yes; they are very plentiful now.

Mr. HAWLEY. The ring-necked pheasant, as we call it, is a very fine game bird.

Major BURNHAM. Yes; a very fine, beautiful bird.

The CHAIRMAN. Are there any further questions? If not, we are very much obliged to you.

(The following article from the Independent of February 10, 1910, was, by direction of the committee, included in the record at this point as a part of Major Burnham's statement:)

TRANSPLANTING AFRICAN ANIMALS.

BY MAJ. FREDERIC RUSSELL BURNHAM.

[Major Burnham writes with exceptional authority on the possible adaptation of selections of the game of Africa to the semiarid regions of our Southwestern States and Territories. From earliest boyhood the life of this remarkable son of a Protestant missionary on the Minnesota frontier has been a drama of far-ranging experience and thrilling adventure, graphically sketched by Richard Harding Davis in his "Real Soldiers of Fortune." For fifteen years he roved the West from Hudson's Bay to Mexico, until he was tempted to try his fortune as a prospector on the South African gold fields in 1893. Soon after landing at Cape Town he was induced to head the scouts in the Matabele wars and the conquest of Rhodesia, and when he sought the new field of the Klondike he was recalled by a cable from Lord Roberts to become chief of scouts for the main British army in the Boer war. His daring service made him heroic in the eye of the army and people and he was signally honored by the presentation of the Distinguished Service Order by King Edward personally. After the war he headed an expedition to explore East Africa as a director of the British East African Syndicate and spent two arduous and perilous years in determining the resources of the new province and the openings for settlement. He is now closely associated with John Hays Hammond as executive head in the reclamation of a great tract in Sonora, Mexico.—Editor.]

There is in Africa a wonderfully varied range of interesting animals. Most of the desirable ones could easily be introduced into our own Southwest. They would multiply where our own domestic animals can not live. Vast tracts of our lonely deserts could be teeming with life interesting, beautiful, harmless, very useful for food and leather, displacing not a head of our cattle or other domestic stock, offering a grand hunting ground, a true pleasure land to all lovers of animal life.

Throughout all the foothill region and far south into Mexico, the bushbuck would thrive. It is mostly a browsing animal, about the size of our deer; one variety has peculiar white markings, like a harness, and it is called the harness buck; the horns are slightly spiral, measuring about 15 inches in length. Great skill is required to stalk it, and a quick, sure shot when found, or it will escape every time. Its flesh is of a very fine flavor, and its hide makes one of the strongest leathers known. It is commonly used by the Boers to make fore-lashes on their immensely long ox whips and stage whips. Another possible importation is the oribe, a marvelously swift and graceful gazelle, weighing about 30 pounds, which ranges over the drier regions of Africa, especially in the north. The gemsbok, called the oryx in the north, is a much larger animal, which is equally adaptable to conditions in this country. Its marked characteristic is its perfect, straight, tapering black horns, that reach a length of 36 to 40 inches. The buck weighs from 200 to 250 pounds, and will fight savagely when hard pressed. It has been known to kill a lion with its dagger-like horns. The gemsbok is a true game animal, and can live out on the desert a hundred miles from water. Its eyesight is wonderfully strong, so that it is exceedingly difficult to stalk. Its meat is well flavored and its hide equal to the best calf. The gemsbok should have for a pal on our plains the speedy sesipe. I think most of the hunters of South Africa are well agreed that the sesipe is the fleetest antelope known. Some swift horses are bred in South Africa, but it is a rare one that can outfoot this game. The Posselt brothers had the only horses in Rhodesia that I ever personally saw run down a sesipe.

The springbok, that corresponds to our pronghorn, is readily bred. It is a beautifully marked antelope, and exceedingly agile. Often a whole herd in running will give a series of marvelous bounds several feet high, and, it may be, 30 feet span, apparently for sheer joy in the sport. A wagon road across the veldt will almost always tempt them to show how far they can leap. The Boers on the farms now preserve them, and have a series of great hunts every year, coming with their families and wagons and making a picnic of the chase, each farmer taking only what he needs, or what the herds can well spare, to avoid overstocking. In the hilly country the rei buck and duiker, as well as the quick darting stembok, add variety to the small game, all successfully preserved now, and adding to both the food supply and the charm of life in the African veldt.

East Africa, broadly viewed, seems designed by nature as a vast game preserve, and should be held largely with this aim in view, for the greater part of the country is of no value for settlement. The English Government, on the strong advice of its local officials, has set aside a domain that shelters every-

thing—the elephant with its valuable ivory, even the lion. Yet these officials, almost to a man, are skilled hunters and fond of sport. But they restrict themselves, as well as others, and allow in no part of the country indiscriminate slaughter. Possibly from this preserve we may, at some future time, be allowed to bring enough specimens to start a herd in our own country. We, too, have an immense area, fully 1,500 miles long and 1,000 wide, that would hold countless thousands of rare game to add greatly to our national wealth, and furnish a reserve food supply.

Take, for example, the giraffe, which is a browsing animal, living almost exclusively on a thorny scrub, like the mesquite. Its flesh is very palatable and its hide extremely tough and serviceable, making the favorite lash of the Boer, and a shield for the Somali warrior that no spear can pierce. This picturesque and harmless animal would thrive from the borders of Nevada to Texas, and far into Mexico. No enemy save man would touch it. A full-grown animal weighs over a ton, and must stoop his towering head to feed from your hand at the second-story window of a good-sized house. In contrast, there is that little fairy antelope, called the dick-dick, with sharp hoofs the size of a dime, and jet black horns about an inch and a half long. It weighs about 15 pounds and stands a foot high. It is easily tamed, and its flesh is of delicate flavor. In South Africa it goes by the name of nosebuck, as its upper lip is prehensile, though it is a true antelope. It would thrive certainly on the cactus patches in our Southwest.

There is further the lordly eland, weighing from 800 to as high as 1,500 pounds. It can go great distances from water, and would help stock many an arid range if given the chance. On our cliffs and mountains the clipspringer would be perfectly at home, and think he was again in his own Rhodesia or Transvaal. Its peculiar hollowed hoofs enable it to cling to a pinnacle of rock that would baffle a wild cat or even a goat. It weighs about 40 pounds. Its hair is hollow and very springy, making excellent paddings for saddles, and its flesh is delicate meat. Like the gemabok, it would be an excellent curative for weaklings if they hunted him in his natural surroundings. Mr. Warthog, big and ugly, would be quite happy and most useful in the everglades or swamps of the South. Many beautiful and harmless waders, flamingoes, plover, frankholins, cranes, herons, and certainly the royal bustard, could be introduced through all our southern lands very profitably. The ostrich would be quite at home in Arizona and New Mexico. It is already successfully introduced in California on fenced ranches.

In short, Africa is a wonderland of animal life to draw from. We can exclude its venomous reptiles and insects, and take the useful animals that have worked out from a hard environment a way to survive. By transportation to our land they would be delivered from their chief natural enemies. To this New World were brought the ass, the cow, the horse, sheep, goat, and hog. All of these ran wild at once and thrived, except the sheep, who is and always was a mollycoddle. Camels, valuable for both flesh, milk, and hair, grew wild in Arizona from a government herd until an enterprising Yankee rounded up every female, old and young, shipped them East and sold them to a circus. Otherwise we should have had good-sized herds long ago, and made use of them, as the Australians have, if we were equally enterprising. The Cape buffalo would thrive also, but might be considered too fierce for the rising generation to play with. Anyone hunting him will not complain of a dull time. Its flesh is very good eating, and its hide much better than that of an ox. When a Boer wants a good pair of shoes he tries, if possible, to have the soles of buffalo hide.

The zebra would dot our plains with color if we gave it the chance, though, from experience, I do not think it a valuable animal either to work or ride, and its hide does not make a leather of any value. Its flesh is good to eat, and it is one of the most beautiful of all the game animals.

These are only a few of the animals and birds that might be introduced into our own vast solitudes, where, for hundreds of miles, can only be seen a lonely raven or solitary coyote. But it can not be, although there should be nothing to prevent it. In Africa the game lives ever in dread of attack. It is haunted by lions, leopards, hyenas, cheetahs, wild dogs more savage than lions, crocodiles in every stream, eagles and vultures that prey on the young, pythons beside the trails, poisonous snakes, and other foes too numerous to mention. Yet millions survive and endure further the scourge of droughts and the hardships of the desert. Why, then, should these hardy game animals not thrive and multiply in a country exempt from these perils, with a climate corresponding exactly in range to that of their native land? We ourselves are the only reason why none of this precious game can ever live in our wild

plains. So intent are we on destruction that we have become the wonder of the world. We have dynamited our fish, killed all our buffalo, carried off even his bones in train loads, then came back with herds of cattle, tramped out and ate out the finest natural grass ever known. When it was eaten level with the ground, for fear it might, with its great recuperative powers, renew itself, we have put that curse of God, the sheep, to tear it up by the roots and gnaw to death every little shrub left by the cattle. I have seen forest fires 40 miles wide burning in the Sierras to make early grass for herds of sheep. If it were known that a herd of eland were on the Rio Grande, a thousand guns would be after them and their hides sold to the nearest tannery; even a rare bird would surely be slaughtered. Again and again I have known of individuals trying to introduce useful birds and animals; their fate is always the same. Only a national law and a changed public opinion can make it possible to ever either save what animal life we have or introduce new and valuable additions.

The man with the natural and wholesome love for sport and all forms of sturdy life is confronted by the ruthless pot hunters, who gather the eggs and feathers of every bird that flies, and trap, poison, and kill every animal within reach for the immediate gain. To this class must be added a small number of simply destructive men who kill and kill and let the game rot where it falls; men who use a stick of dynamite to get a mess of trout, killing one hundred and catching, maybe, three or four. All these men naturally hate game laws. Still another class looks upon all sport and pastime, especially hunting and fishing, as so much time wasted. I remember an old farmer in Iowa saying he would be glad when the last duck was shot and the last fish caught, as then, maybe, he could get his boys to attend to the plowing. Well, he has his wish. His house now stands where it did in my boyhood. Not a duck, nor a goose, nor a plover ever passes by. Scarcely a bird, save the ominous raven, ever breaks the silence. The prairie chicken and quail are all killed; they sometimes ate the corn. The once clear stream is now the wallow of his favorite breed of hogs. Everything is as he planned it. Hogs and corn, barbed wire, more hogs, more corn. His wife is dead, his boys long years ago left the farm. His one happiness is when he goes into the hog pasture and calls "Suke, Suke, Sook, Sook," in quavering voice, more dismal to hear than the caw of the crow. Naturally he is against any game laws, and will poison the first covey of quail that cross his cornfield. Another element that opposes every form of hunting and fishing is the supersensitive people who are teaching the rising generation that all life is sacred and that animals should not be sacrificed to the demands of man. These people would find in India this conceit of protection to life carried out to the full. Even the vermin that infest the natives may not be killed. When they become intolerable they are picked off and laid in the hot dust, their belief being that if God intended the pests to live He would cool the dust; otherwise they perish at His will, not theirs.

In the animal world nature seems to work out the essential end by means apparently harsh. If it were not for the natural enemies of the great game herds, they would increase so fast that there would be no food supply, and starvation would be their end. The greater part of the grass-eating animals are not long-lived. With the heat of summer the old must die of thirst and weakness. But as it is now arranged, the lion and leopard and many other enemies kill in one instant, or, at most, in a short, sharp fight, in which the animal can feel no pain. Its not yet emaciated body gives food and life to others. Furthermore, it is among the sick and weak that disease is spread, and infection there may reach a point that endangers the whole healthy herd. Always when some unnatural increase occurs, some disease sweeps them off. So even the lions and tigers, vultures and eagles, serve a merciful and proper purpose. In the countries where they are found, any animal that is born deficient in its faculties, or becomes ill or aged or wounded, is at once usefully destroyed as a means of preserving the high average of the herd.

STATEMENT OF HON. ROBERT F. BROUSSARD, REPRESENTATIVE FROM LOUISIANA.

Mr. BROUSSARD. Mr. Chairman, just one word. It is nearly 12 o'clock. This bill provides for an appropriation of money with the view of having the Secretary of Agriculture investigate the conditions of government reservations and unused lands in this country with the view of bringing to these lands animals coming from similar

countries abroad, no matter where they may be found. It directs him to investigate the question as to the possibility of their thriving in this country, and their propagation, with a view to adding to the meat supply of the country. There is not any provision for bringing here any specific animal. But, as I understand the question, it is possible in almost every part of this country to get some kinds of animals to thrive that are useful to man in many ways and will add to the supply of meat for the country.

The Department of Agriculture shows that the population of this country is increasing at the rate of about 20 per cent annually, and the meat supply is decreasing in almost every line. That calls for some action with a view of supplying the deficiency. With the natural and proper encroachment upon the grounds formerly used for ranges by the farmer, who goes out and enters the land in order to till it, the question whether we can keep up the supply of meat so as to hold down the price to the consumer (an important factor in producing a sturdy, strong, hardy race of people) is, I think, one that is of the utmost importance for the consideration of the people of this country. It is particularly important to this committee, to which Congress has delegated the right to investigate this matter and find a solution for the conditions now existing.

The figures fixed in the bill are purely arbitrary. The committee probably would want better information than I have been able to furnish. I have merely set down these figures as a basis upon which the committee may act. I think, however, that it is very important and very essential that some action be taken at this time, with a view of starting this investigation, looking to the introduction of other animals besides the three or four kinds that we now use as a meat supply for the people of this country.

Of course the question of these same animals being used for beasts of burden is quite apart from the subject of the meat supply. At the same time, while one investigation is going on, it is possible without any additional expense for that matter to be looked into as well as the question of food.

I do not know how this matter will be received. It is a question of educating the people up to it. Very few people have given any thought to the subject until recently, when the price of meat has gotten so high that everyone is turning his attention to the reason for it.

My attention was directed to these investigations by men who started some years ago to give study to the situation. Doctor Irwin has done so; and my acquaintance with Captain Duquesne, and my recent acquaintance with Major Burnham, and conversations with them, suggested to me the possibility of using a lot of waste stuff in this country that is now producing nothing at all, but is rather an impediment to the development of the country. I refer to such vegetation as the lily in Florida and in Louisiana and in the southern part of California, which is impeding the streams, destroying the fish, and stopping the drainage.

The Government is spending a large sum of money annually to destroy this vegetation. In the present river and harbor bill there is an appropriation of forty or forty-five thousand dollars looking to the destruction of the lily. I have to contend with it all through my district. The engineers of the War Department are using their best efforts and their best men in seeking to destroy this water plant,

which is of recent importation into the country, and has taken possession of all our streams. It covers them as a blanket. But they have only been partially successful. They clean a stream to-day, and in a month it is covered all over again with the same plant.

We have tried throwing oil on the plants. It destroys them. The oil does not penetrate below the surface of the water; the plant sinks to the bottom, and then it throws out another bulb and again rises to the surface in full bloom. And very soon, before the boat has worked many miles from the place, the plant is there just as luxuriant as it was before the boat passed.

The effect of it is very serious in Bayou Teche. Some of you probably have been there. Most of you have read "Evangeline." It is a show place in our State. It is a very productive country. Millions and millions of tons of freight go over that little stream. It is a beautiful little stream. The lilies have gotten in there recently and the waters have become polluted. For some time we have been trying to ascertain the reason that the fish in that stream are dying by the thousands and floating on top of the water, creating a stench all over the country, bringing sickness, and making the water unfit for use. The state board of health has undertaken an investigation of the matter. The United States engineer located in that section was added to the board, and men of different vocations with knowledge of these situations have looked into the matter. Recently they reported that the lily had as much to do with the destruction of fish in that stream as any other agency that they have been able to discover. So that we are losing the fish, we are polluting the water, and we are bringing about an unhealthy condition of things down there, all growing out of the fact that this lily is covering that stream and making it impossible for the fish to live.

I thought that if there was an animal which could destroy this lily, improving navigation, and saving money in the direction of having boats and men constantly at work cleaning this stream of these lilies, and which at the same time would furnish a meat that I am told is very good to eat, it would be a good thing to introduce it. At any rate, its meat is produced in very, very large quantities, and is made into bacon out in Africa and used as bacon. I thought that in this way at one and the same time we might be able to do away with the lily, which is such a nuisance to us, and add to the meat supply. Doctor Irwin tells me that in Florida and Louisiana alone 100,000,000 pounds of meat can be produced in these streams, and at the same time the hippopotami will be destroying the lilies.

It is just so in the desert lands. I have hunted considerably in the West, in Mexico. I have not been abroad to hunt. But the wild animals thrive where domestic animals will not live. The deer and the various kinds of animals that we have in this country thrive in some portions of Texas where there is no water. I have seen them there. They get out of range of water, and are able to subsist on smaller things, useless things in other respects as applied to domestic animals. I thought that if all of these animals could be utilized, at least the subject was worthy of investigation with a view of reaching some conclusion that would add to the possibilities of development in this country.

The CHAIRMAN. Mr. Broussard, it occurred to me that it might be interesting to the department if some one representing it could be present, and also that members of the committee might like to make

inquiries of some such representative. I have therefore asked Doctor Farrington to be here this morning. If the committee will remain in session perhaps ten minutes longer, I should like to hear any statement that the doctor may have to make, and particularly to hear his answers to a few questions that the committee may wish to ask him.

Mr. BROUSSARD. Mr. Chairman, may I ask whether that article will be incorporated in the record?

The CHAIRMAN. Without objection, the article to which Mr. Broussard refers will be included as a part of the statement of Major Burnham.

(The paper referred to will be found at the end of Major Burnham's statement.)

STATEMENT OF DR. ARTHUR M. FARRINGTON, ASSISTANT CHIEF OF THE BUREAU OF ANIMAL INDUSTRY, AGRICULTURAL DEPARTMENT.

The CHAIRMAN. Doctor Farrington, you have been present and heard the statements which have been made by the gentlemen who have preceded you?

Doctor FARRINGTON. Yes, sir.

The CHAIRMAN. What I should like to ask you particularly is whether you, or, so far as you know, any other officials connected with the department, have ever given consideration to such a proposition as is contained in the bill, and whether you would regard it as practicable or advisable, and whether in case the bill should be passed the department is equipped with men to carry its provisions into effect.

Doctor FARRINGTON. Mr. Chairman, I have not had an opportunity to examine this particular bill. I am connected with the Bureau of Animal Industry. As you know, that bureau has been in existence for twenty-five years. It was brought into existence for the purpose of excluding disease from the United States. We had a disease in this country known as contagious pleuro-pneumonia, which was brought from foreign countries; and the first work of the bureau was to exterminate that disease. We have always been on the watch for disease from foreign countries ever since.

Of course I can not say very much with relation to the good to be accomplished by bringing in these animals; but I think there might be a good deal of harm done by bringing them in without proper precautions. For instance, we do not allow the water buffalo to be brought in from the Philippine Islands. They have rinderpest, and sura, and other diseases. No warm-blooded wild animal is allowed to be brought into the United States from the Philippine Islands or from other foreign countries.

The CHAIRMAN. Is that under the provisions of the law, or is it merely a regulation of the bureau?

Doctor FARRINGTON. That is under the provisions of the law, which prevent the importation of animals exposed to disease or infected with disease.

The CHAIRMAN. Would that law prohibit the importation of hippopotami?

Doctor FARRINGTON. The law as it reads at present applies to horses, cattle, sheep, and other ruminants, and swine.

The CHAIRMAN. That is pretty broad. That would cover every animal.

Doctor FARRINGTON. I do not know what race of animals the hippopotamus belongs to; but we have not, of course, had any opportunity to examine the diseases of those animals. They did bring in some buffalo from Africa; but they were required to be placed in quarantine, and we examined the blood of those animals, to ascertain whether it was safe to bring them in.

Mr. LAMB. That applies just to diseased animals.

Doctor FARRINGTON. We have to test them first to know whether they are diseased or not. Some of these animals that may appear healthy externally may carry in their blood some of the microscopic animals which render them harmful to the domestic animals of the United States. So any importations of this kind should be under proper precautions to prevent bringing in disease which would be detrimental to the live-stock industry of the United States. That is the first thing—to preserve the industry we already have.

Mr. BROUSSARD. Mr. Chairman, may I ask the Doctor a question or two?

The CHAIRMAN. Certainly.

Mr. BROUSSARD. Doctor, this bill provides that the Secretary of Agriculture shall investigate and import wild and domestic animals whose habitats are similar to government reservations and lands at present unoccupied and unused, "provided that in his judgment said animals will thrive and propagate and grow useful either as food or as beasts of burden." Your objection to the introduction of these animals, as I understand it, is that they should not be introduced unless proper examination is had?

Doctor FARRINGTON. That is it.

Mr. BROUSSARD. Under the wording of this bill, would not the matter rest entirely with the Department of Agriculture to determine these facts before the animals were brought in?

Doctor FARRINGTON. I suppose it would; yes, sir.

Mr. BROUSSARD. So that these examinations would be had; and of course if any animal were offered to be introduced here that showed any signs of disease that might spread to domestic animals, under this law the Secretary of Agriculture or your department would exclude that animal; would it not?

Doctor FARRINGTON. Yes, sir. I think an investigation would have to be made to some extent in the country where the animals came from, to see what diseases were prevalent there; and then, of course, the animals would be placed in quarantine after they arrived in this country before they could be turned loose.

Mr. BROUSSARD. That would be your method of doing the thing if Congress were to appropriate any money for the purposes provided in this bill?

Doctor FARRINGTON. Yes, sir.

Mr. BROUSSARD. And this bill would not compel you to do any other thing but just what your judgment might direct in that respect?

Doctor FARRINGTON. Yes, sir. Our province would be to protect the live stock of the United States.

Mr. BROUSSARD. And you would do that if the discretion was vested in you?

Doctor FARRINGTON. Yes, sir.

The CHAIRMAN. I should like to ask you just a little further in relation to the present law. I have not read it recently. Do you think that law would have to be amended in order to make this one consistent with it? Does the present law actually prohibit the importation of the animals you name into the United States, or does it merely declare that they shall only be imported when free from disease?

Doctor FARRINGTON. The provision is, "That the importation of meat, cattle, sheep, and other ruminants, and swine, which are diseased or infected with any disease, or which have been exposed to such infection within sixty days before their exportation, is hereby prohibited."

The CHAIRMAN. That applies only to those that are diseased or have been exposed or infected?

Doctor FARRINGTON. Yes. Of course they would have to be examined to see whether they were infected or had been exposed.

The CHAIRMAN. Yes; we understand that.

Mr. BROUSSARD. Mr. Chairman, I studied this law very closely before drawing this bill. It only applies to animals that are diseased. Whether they are cows, or horses, or whether they are elephants, or anything else (even the human animal is amenable to this principle), if they are diseased they are to be excluded. But the law does not preclude the bringing in of animals that are proven to the department to be healthy and sound.

The CHAIRMAN. I think you can take it for granted that the Agricultural Department would not let in diseased animals.

Mr. BROUSSARD. That is why, in drawing this bill, we have left all the discretion in the Secretary of Agriculture to do as he thinks best.

Mr. CHAPMAN. I should like to ask Captain Duquesne a question.

Mr. BROUSSARD. The captain wishes to ask Doctor Farrington a question.

Mr. CHAPMAN. All right; excuse me. Go ahead.

Captain DUQUESNE. It is this: You know that Barnum & Bailey and all the menagerie people have brought in a great number of animals from Africa. What provision is made for quarantining those animals?

Doctor FARRINGTON. They are quarantined under the officers of the Bureau of Animal Industry.

Captain DUQUESNE. Those animals associate with horses and cattle and various other animals, and are led all over the country. Many of them are just merely led at the end of a string—camels, giraffes, elephants, etc.—all over the country. So you see the machinery you already have in operation prevents disease coming in; and there is no disease in this country that has been brought in in that way so far as I know. I have read a good deal about the matter; and so far as I know (I may have overlooked some of the documents) there is no disease in this country now that has been imported by menagerie animals. Yet these menagerie animals walk all through New York State from village to village, and the horses associate with them, and so on.

Doctor FARRINGTON. Since 1890 these animals have all been inspected and quarantined and examined before they have been allowed to be admitted. Of course in menageries and zoological parks they are kept separate, and do not mingle with the animals in general.

Captain DUQUESNE. Yes; but there were circuses before 1890, and they were pretty lax over that inspection. Yet there is no disease on record that they have brought in.

Mr. BROUSSARD. You have the machinery now for that inspection?

Doctor FARRINGTON. Yes, sir.

Mr. BROUSSARD. So that if this bill passes, you will use that machinery in so far as animals are being brought here by the Government?

Doctor FARRINGTON. That is it. I simply wanted to bring that fact to the attention of the committee.

Mr. CHAPMAN. I wanted to ask the captain if there is any disease that is peculiar to the hippopotamus?

Captain DUQUESNE. Not that have been found. Your department might find some; but Mr. Hornaday has never found any, up in New York. He is an expert in the matter of breeding them. In nine years he bred eight hippopotami. His female hippopotamus there ("Miss Murphy," they call her) bore eight, and he raised seven, and he is making money out of them. He is selling them to other zoos, and thus making them pay a considerable amount of revenue. The hippopotamus has to breed. She has to make love one season of the year, and naturally the result is a calf. It is just as easy to do as not; and so he sends them around and sells them.

The Doctor here was speaking of water buffalo in the Philippines. The water buffalo in the Philippines is absolutely different from the buffalo of Africa. They are not related to one another within the ordinary limits; so they can not be compared.

The CHAIRMAN. The African buffalo is a land animal, is it not?

Captain DUQUESNE. Yes; surely.

The CHAIRMAN. It is not necessary for it to find a mud puddle every afternoon?

Captain DUQUESNE. No; but they do find them. Our African buffalo will run around marshes and parts of the country where the ordinary domestic cattle will not go.

In my talk I did not suggest anything that would conflict in any way at all with the domestic animals, because you might as well have domestic animals as wild animals. So far you have only the domestic animals here; but there is a vast expanse of territory in this country that at present will produce nothing but frogs and rattlesnakes that can be inhabited by dozens and dozens of different species of African animals.

The CHAIRMAN. Are buffalo domesticated there?

Captain DUQUESNE. They can be domesticated. They have never had them domesticated, for the simple reason that they grow wild, and when you want some meat you go out and pot one. You send the daughter or the son out on his way to school, and give him a couple of cartridges and tell him to bring home some buffalo meat for the house and the Kaffirs. He brings in the best meat for the house, and the Kaffirs go out and cut their part off. So what is the use of taking the trouble of breeding them?

The CHAIRMAN. I thought perhaps they used them as beasts of burden, as the ox is used.

Captain DUQUESNE. As beasts of burden they use an imported animal with a hump, like the sacred cattle of India.

The CHAIRMAN. Is not the African buffalo used at all as a beast of burden in Africa?

Captain DUQUESNE. In German East Africa they cross them with ordinary cattle, and they ride them there. I have seen German cavalry going over the country on oxen. In fact, the postal department of German East Africa is run in some places with camels and in other places with oxen.

If you could make an arrangement so that I could show you these beasts of burden, I have them all on a moving-picture film that I took down there. I can show you the donkeys and camels and oxen and human beings all acting as beasts of burden. I have pictures of a great number of these animals that I have spoken about, taken in their various habitats in the different countries where they live. Of course I have all these pictures on transparencies, and there is no use in trying to bring them up here to pass around. But all the animals I mention make their habitats where nothing else will live. Even in Africa different species make their habitats in different places from others. Some will go right out on the mountain side.

For instance, the wart hog could be easily introduced into this country. It is a wild animal and it is a splendid animal for keeping the undergrowth out of the forests—the undergrowth that strangles the forests. They keep that undergrowth down and let the air through.

I went up the side of one of the mountains there, where if it had not been for the wart-hog tracks I would have had to hack my way at the rate of perhaps 3 or 4 feet a day through the vines and undergrowth; but as it was, I followed the wart-hogs tracks. They make tracks everywhere; and they are used by all the other animals—lions, and leopards, and all that sort of thing. Even human beings follow those tracks. Where the undergrowth is very thick, they make tracks underneath the stuff. The wart hogs could be put into the swamps down there; and the wart hog is good food. Of course I am not a very good judge of good food, because I have eaten snake and crocodile; but I have lived in Washington, too, and I can make a comparison. [Laughter.]

The CHAIRMAN. You have given us a very interesting morning, Mr. Broussard.

Mr. BROUSSARD. I simply want to say that if the committee desires it, the captain would be very glad to show to the committee the pictures he has of all of these animals in their normal size. He would be very glad to do that, if it will add information to what we have said to the committee in regard to them.

Captain DUQUESNE. It will amuse you, also.

The CHAIRMAN. It is certainly very kind of you to offer it, I am sure; but I do not know of any arrangement that could be made. The difficulty would be in darkening any room sufficiently. All of these rooms are well lighted. How long will you be in the city?

Captain DUQUESNE. I do not know. It all depends on whether you are going to get those animals or not. I will come and tell you some more about it if you want me to.

(The committee thereupon adjourned.)